

**STATE OF CONNECTICUT
DEPARTMENT OF INFORMATION TECHNOLOGY
101 East River Drive
East Hartford, CT 06108**

**RFP #06ITZ0114
Replacement of The Air Emissions Inventory System**

February 13, 2007

AMENDMENT # 4
provides the following:

1. Answers to remaining Vendor Questions with appendices as follows:
 - Appendix 1, A/R (available in Word format on the IT Contracts and Purchasing homepage in the Notice to Vendors section)
 - Appendix 2, Part 1 - Title V Billing (included with Amended RFP document)
 - Appendix 2, Part 2 - OPM Report (included with Amended RFP document)
 - Appendix 3, SIMS Architecture (included with Amended RFP document)
 - Appendix 4, PAMS (available in Word format on the IT Contracts and Purchasing homepage in the Notice to Vendors section)

2. Extends the RFP response due date to Tuesday, March 6, 2007 at 2:00 p.m. (ET)

NOTE: A signature line has been included below. A copy of this page signed in ink is required with the Proposal to show that vendors have received this Amendment.

VENDOR'S SIGNATURE ACKNOWLEDGING RECEIPT
(This page should be signed and returned WITH PROPOSAL. If vendor fails to submit signed Amendment, vendor will still be responsible for adhering to its content)

APPROVED: _____

JACQUELINE SHIRLEY
DIRECTOR
CONTRACTS AND PURCHASING DIVISION

Amendment # 4 – RFP # 06ITZ0114
Response to Outstanding Vendor Questions

Q.1. Deferred from Amendment # 2 RFP Reference: Att. 6, 3.0.4. Can the Accounts Receivable (A/R) System file layouts and requirements be made available to prospective vendors?

A.1. Please refer to Appendix 1 of this Amendment 4 for A/R information.

Q.4. Deferred from Amendment # 2 RFP Reference: Foreword to Sections 5 through 8, last paragraph. Please clarify the DEP “public face” versus the “temporary solution” that will be used until the “public face” is fully defined and implemented.

A.4. DEP’s public face is not yet fully defined. This answer will clarify DEP’s anticipated temporary public face solution. DEP requires the use of web-based, fillable forms. The forms will be auto-populated based on the prior year’s report. Completed forms will need to be submitted for a DEP QA/QC review prior to the data automatically populating the Air Emissions Inventory database.

Q.19. Deferred from Amendment # 3 In section 5.11 of Attachment 6, the RFP notes that the “fee invoicing and tracking functions for the emissions fee program are in the process of being integrated into SIMS.” What is the current status of the DEP AR System and when will this integration with SIMS be completed?

A.19. The A/R component of SIMS is scheduled to be in production in the early Fall of 2007.

Q.20. Deferred from Amendment # 3 Section 5.11 in Attachment 6 mentions the replacement Emissions Inventory System must “generate the report describing the calculation of the inventory stabilization factor and calculate the emission fee for each Title V source”. Can we obtain a sample of the paper form/report that is currently generated today?

A.20. Yes, please refer to Part I of Appendix 2 of this Amendment 4 for pertinent information. In addition, DEP regulations require that a report be submitted to the CT Office of Policy and Management (OPM) on an annual basis that summarizes the actual emissions from all Title V sources. Data elements that comprise the current report are as follows: Town ID, Premises ID, Company Name, Location Town, and the total tons per year for VOC, NO_x, CO, SO_x, PM₁₀, Lead and Total Emissions. Please refer to Part II of Appendix 2 of this Amendment for a sample of the OPM Report.

Q.21. Deferred from Amendment # 3 What are the required interface specifications for the DEP Accounts Receivable (A/R) interface (frequency, protocols, file formats, message sizes, etc.)?

A.21. Please refer to Appendix 1 of this Amendment 4 for A/R information.

Q.22. Deferred from Amendment # 3 Is it envisioned that the new system will interface directly to the Exchange Node or will an interface between SIMS and the Exchange Node be leveraged?

A. 22 When the selected vendor creates the data flow for the Exchange Node, the new system will likely transmit data from both SIMS and the air emissions inventory system to the Exchange Node. Please refer to Appendix 3 of this Amendment 4 for details on the Exchange Node.

Q.24. Deferred from Amendment # 3 Are the SIMS capabilities of browser-based GIS mapping, spatial analysis, address cleaning, and geocoding available to other systems in a callable interface? If so, is the proposed system required to use these features or can these GIS capabilities exist within the solution?

A. 24 The DEP has extensive integrated GIS capabilities. Hence, the preferred solution will rely primarily on those. DEP would not reject added GIS functionality or capability.

Q.29. Deferred from Amendment # 3 What is the SIMS interface technology?

A.29. Please refer to Appendix 3 of this Amendment 4 for a summary of the SIMS technical architecture.

Q.37. Deferred from Amendment # 3 Could we obtain an Entity Relationship Diagram (ERD) for the Permit Tracking System?

A.37. Please refer to Appendix 4 of this Amendment 4 for information on the Permit Application Management System (PAMS).

Q.44. Deferred from Amendment # 3 Will the existing SIMS database be the “database of record” for air emissions-related “Facility,” “Feature,” “Permit,” “Client” and “Enforcement” information? If so, how will the CFI database be populated with this data?

A.44. SIMS will be the master DEP repository and database of record for Facility, Feature, Permit, Client and Enforcement information, which can only be populated by the PAMS application.

Q.45. Deferred from Amendment # 3 Please clarify the extent and nature of the desired integration between the new air emissions inventory system, and the other redeveloped systems at DEP, such as SIMS, PAMS, and AR. Is DEP requesting “application integration” (i.e., re-use of existing forms within the SIMS/PAMS/AR systems in order to view/maintain data), “data integration” (i.e., the new air system will read/write directly against the tables in the SIMS/PAMS/AR systems), or both “data” and “application” integration?

A.45. DEP is requesting both; however, as new program and regulatory requirements emerge, new forms may be developed.

Q.47. Does DEP plan to accept payment of Title V fees by credit card?

A. 47. No; not at this time.

Q.48. If a proposal offers a system written in a language other than Visual Basic, will it be scored less favorably?

A.48. DEP is committed to standardizing the agency's software to enhance OIM staff's ability to be proficient in maintaining the DEP's numerous systems and applications. Any alternative to Visual Basic used in DEP applications that are maintained by OIM staff must be easy for OIM staff to adapt to, and integrate with agency operations. If DEP, in concert with DOIT, determines that the proposed language supports the agency goal of standardizing DEP-maintained systems and software, loss of Technical, Business and Operational points will not occur.

Q.49. Will DEP consider extending the Proposal Due Date beyond the current date of Monday, February 26, 2007 at 2:00 p.m., Local Hartford Time?

A.49. Yes. The Proposal Due Date has been changed to Tuesday, March 6, 2007 at 2:00 p.m., Local Hartford Time.

RFP # 06ITZ0114

Amendment # 4

Part I - Appendix 2

Response to Question # 20

**Title V Invoice, Equipment Detail
& Billing System Parameter Screen**

State of Connecticut
Department of Environmental Protection
79 Elm St., Hartford, CT 06000

Bureau of Air Management

Invoice #; A/R-06-0001
May 22, 2006

To: Fred Jones
ABC Power Co, LLC
100 Main St.
Any Town, Ct 06000

Payment Due: July 1, 2006

Description of Items

Amount

Annual Emissions Fee

\$7,265.00

Total Amount Due \$7,265.00

Agency: DEP43500 Fund: 12060

SID: 35213

Make checks payable to :
And remit to:

"Department of Environmental Protection"
Central Processing Unit
Department of Environmental Protection
79 Elm Street, Hartford, CT 06000-0000

Fee is due on the payment due date. Minimum 10% penalty for late payment and 1.25% per month interest

Please Return with Payment

Rpt. Single Detail
State of Connecticut
Department of Environmental Protection
Bureau of Air Management
Telephone 860-424-0000

Company: ABC Power, LLC
Invoice #: A/R-6-0001

Title V Premise Inventory

Premise Address:

100 Main Street
Any Town, CT 06000

<u>Town</u>	<u>Premise</u>	<u>Tons/Yr</u>	<u>Unit #</u>	<u>Source Description</u>
105	14	0.000	1E	NGS-01 Nat Gas Blr.
105	14	0.000	2E	NGS-02 Nat Gas Blr.
105	14	22.506	40	Blr. Springfield 2B
105	14	5.217	40P	GE LM6000 Turbine #11
105	14	3.596	41P	GE LM6000 Turbine #12
105	14	4.544	42P	GE LM6000 Turbine #13
105	14	5.530	43P	GE LM6000 Turbine #14
105	14	0.000	55	Blr. C.E. #7
105	14	0.000	58	Blr. C.E. #8

Premise Summary

Total Tons/Yr. 41.393
Billed Tons/Yr. 42.000

DEP AIR - Emissions Billing System - System Parameters(Read Only)

Billing Dates

Billing Year	<input type="text" value="2006"/>	20yy, yy => current year
Invoice Date	<input type="text" value="5/22/2006"/>	mm/dd/yy
Bill Due Date	<input type="text" value="7/1/2006"/>	mm/dd/yy

Please Note

Please be extremely careful when entering these system parameters. Check the Billing Dates! Review your calculations and check the Fee Information. Check the Accounting Information. Check the Late Fee and Interest Rate Information. Any mistakes made here will have the most profound effect upon the process! It could mean that you may have reprint and remail all the bills! Be careful, please!

Emission Fee Information

Per Ton Fee	<input type="text" value="\$39.40"/>	(Adjusted for Inflation)
Adjustment Factor	<input type="text" value="4.39"/>	
Current Fee Cap	<input type="text" value="\$788,122.00"/>	(Adjusted for Inflation)

Parameter Cut Off Dates

Parameter Edit Cut Off Date	<input type="text" value="5/18/2006"/>
Invoice Loading Cut Off Date	<input type="text" value="8/31/2006"/>

DEP Air - Accounting Information

Agency	<input type="text" value="DEP435"/>
Fund	<input type="text" value="12060"/>
SID	<input type="text" value="35213"/>

Late Fee and Interest Rate Information

Minimum Late Fee	<input type="text" value="\$50.00"/>	
Late Fee Rate	<input type="text" value="10.000%"/>	(Percent)
Monthly Interest Rate	<input type="text" value="1.250%"/>	(Percent)

Close

Form View

NUM

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Amendment # 4

Part II - Appendix 2

Sample OPM Title V Emissions Report

11:10 Tuesday, May 10, 2005 1
 2004 ACTUAL EMISSIONS FROM TITLE V SIZE SOURCES

TOWN ID	PREM ID	COMPANY NAME	LOCATION TOWN	VOC(tpy)	NOx(tpy)	CO (tpy)	SOx(tpy)	PM10(tpy)	LEAD(tpy)	TOTAL(tpy)
061	0003	85 POND MILL, LLC	FAIRFIELD	0.14	4.75	1.96	9.20	0.51	0.000	16.56
107	0044	A E S THAMES, LLC	UNCASVILLE	55.28	494.35	550.60	2212.22	23.26	0.062	3,335.78
034	0002	ALGONQUIN GAS TRANSMISSION CO	CHAPLIN	0.20	6.69	6.01	0.03	0.74	0.000	13.66
043	0005	ALGONQUIN GAS TRANSMISSION CO	CROMWELL	26.32	193.72	28.89	0.16	2.29	0.000	251.39
213	0001	ALGONQUIN WINDSOR LOCKS LLC	WINDSOR LOCKS	49.17	292.59	216.75	8.44	9.04	0.000	575.99
189	0005	ALLEGHENY LUDLUM CORP	WALLINGFORD	16.36	35.93	3.68	7.64	14.55	0.000	78.16
150	0012	AMERICAN REF FUEL CO OF SE CT	PRESTON	2.98	501.55	95.65	92.10	9.84	0.040	702.15
067	0008	ARNOLD FOODS COMPANY	GREENWICH	30.97	5.91	5.68	0.03	0.42	0.000	43.01
105	0020	BIC CONSUMER PROD. MANU. CO.	MILFORD	19.18	3.81	0.95	8.64	0.45	0.001	33.04
109	0011	BOROUGH OF NAUGATUCK	NAUGATUCK	2.05	35.74	32.71	90.15	3.97	0.088	164.70
015	0862	BRIDGEPORT ENERGY LLC	BRIDGEPORT	13.42	190.64	106.60	6.70	11.17	0.000	328.52
051	0008	BROWNELL & COMPANY, INC	MOODUS	22.94	0.00	0.00	0.00	0.00	0.000	22.94
075	0158	C R R A / MID-CONNECTICUT	HARTFORD	6.25	898.83	421.42	13.50	41.19	0.048	1,381.23
075	0766	CAPITOL DISTRICT ENERGY CENTER	HARTFORD	1.14	26.51	6.15	0.17	1.61	0.000	35.58
200	0032	COATS NORTH AMERICA	WATERTOWN	24.60	2.33	1.96	0.01	0.18	0.000	29.08
155	0015	CONN NATURAL GAS CORP	ROCKY HILL	0.02	0.25	0.32	0.00	0.03	0.000	0.62
104	0016	CONN VALLEY HOSPITAL	MIDDLETOWN	1.34	49.44	18.02	113.39	8.71	0.001	190.90
067	0017	CONNECTICUT JET POWER, LLC	GREENWICH	0.00	5.19	0.03	0.79	0.09	0.000	6.10
026	0202	COVANTA BRISTOL, INC	BRISTOL	2.02	320.97	25.86	11.16	2.10	0.025	362.13
189	0178	COVANTA PROJECTS OF WALLINGFRD	WALLINGFORD	0.72	181.69	14.71	4.82	2.91	0.015	204.87
189	0050	CT ACQUISITIONS LLC DBA DANVER	WALLINGFORD	11.04	0.00	0.00	0.00	0.00	0.000	11.04
189	0027	CYTEC INDUSTRIES INC	WALLINGFORD	195.89	66.49	48.53	81.62	17.36	0.001	409.89
044	0158	DANBURY /DPW (LANDFILL)	DANBURY	5.14	4.16	7.46	2.46	2.03	0.000	21.26
110	0036	DEBURRING LABORATORIES INC	NEW BRITAIN	0.52	0.00	0.00	0.00	0.00	0.000	0.52
105	0014	DEVON POWER, LLC	DEVON	2.68	74.41	13.08	128.86	2.90	0.002	221.92
199	0003	DOMINION NUCLEAR CT., INC.	WATERFORD	1.14	24.82	6.33	5.64	0.95	0.000	38.88
092	0002	DOW CHEMICAL CO	GALES FERRY	1.30	13.72	10.99	5.31	1.11	0.000	32.44
070	0005	ELECTRIC BOAT CORP	GROTON	21.37	44.59	12.44	131.05	5.88	0.001	215.33
176	0005	EXETER ENERGY L.P.	STERLING	64.44	108.01	101.38	90.73	0.67	5.143	370.37
200	0026	EYELEMATIC MFG CO	WATERTOWN	24.55	0.95	0.71	0.01	0.07	0.000	26.29
192	0034	EYELET DESIGN, INC	WATERBURY	6.57	0.60	0.53	0.01	0.18	0.000	7.90
044	0275	FLAGSHIP CONVERTERS, INC	DANBURY	13.57	0.14	0.12	0.00	0.01	0.000	13.84
089	0065	FRITO-LAY INC	DAYVILLE	5.05	45.76	34.12	77.99	29.68	0.001	192.59
071	0003	GUILFORD GRAVURE INC	GUILFORD	6.13	0.72	0.19	0.83	0.03	0.000	7.90
117	0088	GULF OIL L.P.	NEW HAVEN	57.16	0.00	0.00	0.00	0.00	0.000	57.16
104	0180	HABASIT ABT, INC	MIDDLETOWN	33.35	1.13	0.24	2.30	0.05	0.000	37.06
213	0002	HAMILTON SUNDSTRAND CORP	WINDSOR LOCKS	21.74	40.59	5.74	143.06	9.57	0.001	220.70
178	0223	HAMPFORD RESEARCH INC	STRATFORD	28.84	0.57	0.13	0.60	0.03	0.000	30.17
202	0067	HAR-CONN CHROME CO	WEST HARTFORD	0.09	1.53	1.26	0.08	0.12	0.000	3.07
075	0143	HARTFORD STEAM COMPANY	HARTFORD	2.19	52.14	31.45	6.40	3.38	0.001	95.57
145	0006	INTERMARK FABRIC CORP	PLAINFIELD	4.68	1.68	1.08	0.26	0.11	0.000	7.81
100	0020	J.E.M. INC.	MERIDEN	0.05	0.71	0.53	0.01	0.05	0.000	1.35
011	0006	JACOBS VEHICLE SYSTEMS, INC	BLOOMFIELD	9.14	24.30	8.96	2.90	0.75	0.000	46.07
130	0006	KIMBERLY-CLARK CORP	NEW MILFORD	39.63	54.49	25.68	6.41	13.16	0.001	139.36
044	0226	KINGSWOOD KITCHENS INC	DANBURY	29.06	0.50	0.12	1.08	2.99	0.000	33.75
089	0080	LAKE ROAD GENERATING CO, L.P.	KILLINGLY	10.12	68.32	63.49	4.58	53.10	0.000	199.61
075	0505	M D C /HARTFORD WPCF	HARTFORD	29.84	20.44	22.96	17.97	2.45	1.862	95.52
117	0212	MAGELLAN TERMINALS HOLDINGS,LP	NEW HAVEN	21.25	0.09	0.02	0.02	0.00	0.000	21.39
117	0519	MAGELLAN TERMINALS HOLDINGS,LP	NEW HAVEN	44.37	0.08	0.02	0.02	0.00	0.000	44.49
015	0017	MOTIVA ENTERPRISES LLC	BRIDGEPORT	59.82	0.00	0.00	0.00	0.00	0.000	59.82
117	0053	MOTIVA ENTERPRISES LLC	NEW HAVEN	62.13	0.49	2.37	0.08	0.12	0.000	65.19
117	0120	NEW HAVEN TERMINAL / TITLE V #15	NEW HAVEN	12.13	0.39	0.33	0.00	0.03	0.000	12.88
137	0003	NORWALK HOSPITAL ASSOCIATION	NORWALK	6.69	30.61	11.51	3.67	2.19	0.000	54.67
104	0024	NRG MIDDLETOWN OPERATIONS, INC	MIDDLETOWN	19.08	771.99	93.33	1046.94	19.79	0.027	1,951.15
107	0005	NRG MONTVILLE OPERATIONS, INC	UNCASVILLE	7.22	227.13	34.02	496.24	7.57	0.010	772.19

2004 ACTUAL EMISSIONS FROM TITLE V SIZE SOURCES

TOWN	PREM	ID	COMPANY NAME	LOCATION TOWN	VOC(tpy)	NOx(tpy)	CO (tpy)	SOx(tpy)	PM10(tpy)	LEAD(tpy)	TOTAL(tpy)
137	0014	NRG NORWALK HARBOR OPERATIONS	SOUTH NORWALK		12.94	358.06	61.38	748.92	6.62	0.018	1,187.93
105	0251	MILFORD POWER CO, LLC	MILFORD		1.08	42.29	21.39	5.10	35.11	0.001	104.97
070	0004	PFIZER INC	GROTON		31.82	330.83	82.84	307.96	38.27	0.011	791.73
172	0051	PITNEY BOWES INC	STAMFORD		0.64	11.18	2.51	11.68	0.73	0.000	26.75
172	0667	PITNEY BOWES INC	STAMFORD		0.06	1.52	0.85	1.75	0.14	0.000	4.32
189	0114	PPL WALLINGFORD ENERGY	WALLINGFORD		1.06	8.75	4.67	0.16	2.20	0.000	16.83
053	0009	PRATT & WHITNEY DIV UTC	EAST HARTFORD		8.54	183.87	58.43	58.65	10.01	0.002	319.50
053	0010	PRATT & WHITNEY DIV UTC	EAST HARTFORD		0.55	13.19	2.55	1.33	0.41	0.000	18.03
104	0007	PRATT & WHITNEY DIV UTC	MIDDLETOWN		25.91	419.77	109.38	217.00	30.92	0.003	802.98
117	0551	PSEG FOSSIL LLC/ POWER CT LLC	NEW HAVEN		19.13	431.08	89.07	870.16	3.78	0.027	1,413.25
015	0045	PSEG PWR CT LLC/BPT HARBOR STA	BRIDGEPORT		45.56	2254.77	372.78	2867.10	38.85	0.002	5,579.05
180	0002	QUALITY ROLL & DEBUR / TITLE V #12	THOMASTON		0.37	10.75	1.17	30.92	2.10	0.000	45.31
135	0021	QUEBECOR,NORTHEAST GRAPHIC INC	NORTH HAVEN		39.31	4.17	3.51	0.03	0.32	0.000	47.33
107	0003	RAND-WHITNEY CONTAINERBOARD LP	MONTVILLE		1.41	21.59	64.90	0.39	3.00	0.000	91.28
044	0009	RISDON-AMS COSMETIC CONT DIV	DANBURY		11.52	1.31	1.10	0.01	0.10	0.000	14.04
187	0005	ROCKVILLE GENERAL HOSPITAL	ROCKVILLE		0.07	2.05	0.50	10.58	0.42	0.000	13.61
178	0008	ROSS & ROBERTS INC	STRATFORD		13.18	8.25	0.91	28.42	2.13	0.000	52.89
026	0064	ROWLEY SPRING & STAMPING CORP	BRISTOL		5.60	0.00	0.00	0.00	0.00	0.000	5.60
178	0167	SARTOMER CO INC	STRATFORD		58.62	0.34	0.29	0.00	0.03	0.000	59.27
152	0008	SCA PACKAGING NO AMERICA INC	PUTNAM		33.76	2.14	1.75	0.23	0.16	0.000	38.04
178	0005	SIKORSKY AIRCRAFT	STRATFORD		26.32	105.38	10.34	221.42	16.66	0.003	380.13
117	0464	SIMKINS INDUSTRIES INC	NEW HAVEN		1.18	102.01	14.83	480.53	31.56	0.004	630.12
192	0053	SOMERS THIN STRIP	WATERBURY		4.54	3.93	3.24	0.02	0.30	0.000	12.03
172	0091	SPARTECH POLYCAST, INC	STAMFORD		23.35	5.30	4.22	0.05	0.38	0.000	33.31
163	0086	SPONGEX CORPORATION	SHELTON		142.38	3.77	1.62	9.97	0.66	0.000	158.41
170	0002	SPRAGUE PAPERBOARD INC	VERSAILLES		5.28	354.91	35.70	483.98	40.46	0.009	920.34
172	0059	STAMFORD HOSPITAL	STAMFORD		0.22	3.92	1.21	5.91	0.42	0.000	11.68
110	0282	STANLEY TOOLS DIV	NEW BRITAIN		59.99	1.38	0.46	1.23	0.06	0.000	63.12
107	0004	STONE CONTAINER CORP	UNCASVILLE		20.51	0.13	0.11	0.01	2.71	0.000	23.46
168	0110	SUPREME LAKE MFG CO	PLANTSVILLE		6.60	0.00	0.00	0.00	0.00	0.000	6.60
047	0033	THE CARLON PRODUCTS CO	DERBY		1.73	0.04	0.00	0.00	0.00	0.000	1.78
075	0571	THE HARTFORD STEAM CO	HARTFORD		1.34	33.66	25.98	0.84	2.90	0.000	64.73
116	0012	THE HITCHCOCK CHAIR CO LTD	NEW HARTFORD		11.59	0.38	0.05	0.51	0.04	0.000	12.57
189	0217	THERMOSPAS INC	WALLINGFORD		22.78	0.00	0.00	0.00	0.00	0.000	22.78
070	0028	U S NAVAL SUBMARINE BASE/PWR P	GROTON		19.71	42.53	34.44	16.59	4.85	0.001	118.13
098	0015	UNIV OF CT / STORRS	STORRS		2.85	91.75	34.47	12.49	3.33	0.001	144.88
106	0019	VISHAY VITRAMON,INC	MONROE		42.42	0.00	0.00	0.00	0.00	0.000	42.42
146	0084	WASLEY PRODUCTS INC	PLAINVILLE		4.15	0.00	0.00	0.00	0.00	0.000	4.15
130	0067	WASTE MANAGEMENT OF CT INC	NEW MILFORD		1.71	24.31	25.30	0.88	4.78	0.000	56.98
192	0065	WATERBURY /WATER POLL. CTRL F.	WATERBURY		1.36	11.92	5.28	40.70	2.31	0.000	61.57
172	0026	WATERSIDE POWER LLC	STAMFORD		0.06	1.27	0.97	0.00	0.11	0.000	2.40
015	0765	WHEELABRATOR BRIDGEPORT LP	BRIDGEPORT		7.27	1243.54	40.72	172.15	14.76	0.091	1,478.53
093	0014	WHEELABRATOR LISBON INC (WM)	LISBON		3.37	271.18	15.46	43.83	1.68	0.004	335.52
180	0005	WHYCO FINISHING TECH,INC.	THOMASTON		24.97	3.59	2.46	0.02	0.23	0.000	31.27
117	0049	YALE UNIV,SCHOOL OF MEDICINE	NEW HAVEN		5.91	76.20	46.90	54.69	7.29	0.001	190.99
117	0048	YALE UNIVERSITY / TITLE V #272	NEW HAVEN		16.05	15.30	8.07	7.84	11.41	0.001	58.67
					=====	=====	=====	=====	=====	=====	=====
					1901.86	11434.76	3268.90	11550.31	631.54	7.508	28,794.86

N = 101

RFP # 06ITZ0114

Amendment # 4

Appendix 3

Response to Question # 29

Regarding the SIMS Interface Technology

Connecticut Department of Environmental Protection

Site Information Management System

Technical Architecture

January 26, 2007

Version: Final 1.4

Version Control

Date	Author	Changes	Version
10/7/05	Keith Fraser	Broken out from the Final 1.0 version of the DDD. Please refer to the version control section of the preceding document (DDD Final 1.0) for information on changes made to the Technical Architecture up to this date.	Final 1.1
6/5/06	Mark Chmarny	Updated the overall architecture based on modifications made during the most recent integration tests. Included changes and modifications required to accommodate the PAMS and AR deployments.	Draft 1.3
8/21/06	Tom Feliz	Final edits and refinement.	Final 1.3
1/26/07	Tom Feliz	Revised to reflect n-tier physical deployment.	Final 1.4

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Purpose of this Document

The purpose of this document is to outline the technical architecture utilized in the development and deployment of the Site Information Management System (SIMS) for the Connecticut Department of Environmental Protection (DEP). This document will describe the physical infrastructure of the overall solution, as well as the different application layers of individual subsystems. This document will also address the issue of overall architectural integration between the following subsystems of SIMS:

- Core SIMS Application
- Document Management System
- Geospatial Components

The above components, although tightly integrated into the SIMS solution and virtually transparent to the end-user, do represent unique elements of the overall solution. It is the goal of this document to outline these elements and the approach of integrating these elements into the overall solution based on the available information gathered in workshops and user sessions.

In addition, this document will address the technical architecture of Permitting Application Management System (PAMS) and Accounts Receivable (AR) systems. Although these applications were not originally part of the document, their architecture follows the same approach as SIMS.

Furthermore, portions of the PAMS and AR systems (e.g. Site and Client information or Security) are integrated and tightly coupled with some of the features and services of the SIMS solution. This document will address the specific architecture of these systems only when they differ from that of SIMS.

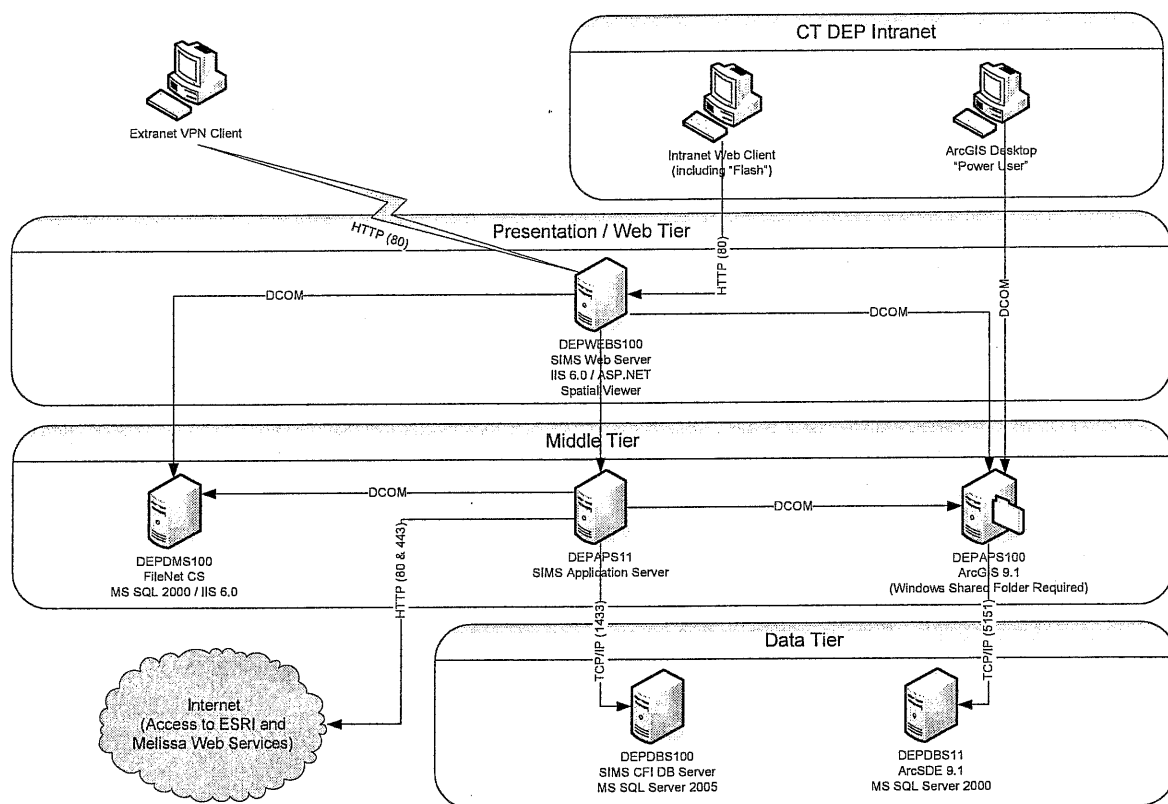
For detailed functional descriptions of the functional integration of PAMS and AR systems into SIMS, please see their respected design documents.

Physical Architecture

The SIMS solution is intended to provide a coherent, robust and user-friendly interface to all agency data for the purpose of inquiry and reconciliation. To accomplish this task, the SIMS solution manages remote data from multiple source data stores (independent program databases); local data resulting from data entry or reconciliation as well as data residing on other distributed systems (documents, maps, images etc.).

To fulfill these requirements, the SIMS solution is based on an n-physical-tier, loosely coupled architecture. In this design, the user interfaces and application services are represented by independent logical components and are deployed on separate physical machines. In addition, to increase the scalability and performance of the overall solution, the data stores will also be hosted from separate machines.

The following deployment diagram illustrates the main physical components of the overall architecture and the transport mechanism used in communications between these components.



This loosely coupled architecture will allow for an additional level of flexibility. In addition, as the overall SIMS solution matures and new components are being added, this architecture will assure the necessary performance scalability.

Physical Environments Overview

To facilitate the need for isolation across the physical deployments during development and to assure adequate testing facility in an environment mirroring the production, we recommend the following three physical environments are configured:

	Production	Test	Development
Web Server	1	1	1
Application Server	1	1	1
ArcGIS Server	1	1	1
FileNet CS	1	1 (Shared)	
RDBMS (CFI)	1	1	1
RDBMS (GIS)	1	1	1

It is our recommendation that the Production and Test environments are mirrored in both hardware and software configuration to provide a true test-bed for the pre-production applications as well as to serve as a possible stand-by machine for the production environments. For detail hardware and software requirements, please see the following sections.

Hardware and Software Requirements

Hardware Requirements

The above-described physical infrastructure will utilize the following hardware requirements:

Web Server (SIMS, PAMS, AR, DMS, and CAAS)

The SIMS, PAMS, AR, DMS, and CAAS applications will be hosted from a single web application server. The minimum recommended hardware configuration is as follows:

- Dual Xeon 3.0 GHz CPU
- 2 GB RAM
- 40 GB RAID 5 Disk Storage
- 1 GB NIC
- CD-ROM Drive

Application Server (ArcGIS)

The minimum recommended hardware configuration is as follows:

- Dual Xeon 3.0 GHz CPU
- 4 GB RAM
- 80 GB RAID 5 Disk Storage
- 1 GB NIC
- CD-ROM Drive

Application Server (FileNET CS)

The minimum recommended hardware configuration is as follows:

- Dual Xeon 3.0 GHz CPU
- 2 GB RAM
- 100 GB RAID 5 Disk Storage (actual storage requirement will increase over time)
- 1 GB NIC
- CD-ROM Drive

Database Server (SIMS, PAMS, AR, DMS, and CAAS)

The SIMS, PAMS, AR, DMS, and CAAS databases will be hosted from a single server. The minimum recommended hardware configuration is as follows:

- Dual Xeon 3.0 GHz CPU
- 4 GB RAM
- 2 x 160 GB Storage (actual storage requirement will increase over time)
- Hardware RAID5
- 1 GB NIC
- CD-ROM Drive

Database Server (ArcSDE)

The minimum recommended hardware configuration is as follows:

- Dual Xeon 3.0 GHz CPU
- 4 GB RAM
- 500 GB RAID 5 Disk Storage (actual need will increase over time)
- 1 GB NIC
- CD-ROM Drive

Database Server (FileNET)

The minimum recommended hardware configuration is as follows:

- Dual Xeon 3.0 GHz CPU
- 4 GB RAM
- 2 x 160 GB Storage (actual need will increase over time)
- Hardware RAID5
- 1 GB NIC
- CD-ROM Drive

Client Workstation

To assure a high level of consistency across user workstations and to minimize future development costs, the proposed solution will require at minimum the following software on user's workstation:

- PC with Pentium III-class, 600 MHz.
- 256 MB RAM
- 800 x 600, 265 colors video
- 10 MB NIC
- Mouse

Software Requirements

To provide the necessary runtime environment, the application servers, databases, and client workstations must be configured at minimum with the following software:

Workstation

To assure a high level of consistency of experience across all user workstations and to minimize future development costs, the proposed solution will require at minimum the following software on user's workstation:

- Windows 2000 (W2K) w/ SP 4
- Internet Explorer 6 w/ latest service packs
- Flash 8 plug-in (already configured in the default install of the IE 6)
- The users responsible for maintaining the SIMS ETL will require an ETL Admin Console.

Admin Workstation

In addition to the requirements outlined in the Workstation section above, the users responsible for performing administrative and maintenance tasks will need to be configured with the following software.

- ETL Admin Console
- .NET Framework 2.0

Web Server (SIMS, PAMS, AR, DMS, and CAAS)

To provide the necessary runtime environment, the web application server must be configured at minimum with the following software:

- Windows Server 2003 (WS2003) with SP1
- Internet Information Server 6 (Included with WS2003)
- .NET Framework 1.1 (Sp 1) (Included with WS2003)
- .NET Framework 2.0
- FileNET IDM Web Services 4.0
- FileNET OpenClient API

In addition, this Web Server will be configured with the following Web Applications:

- SIMS Reconciliation Application (SIMS RA)
- SIMS Inquiry Application (SIMS Inquiry)
- GIS Map Viewer (GIS)
- GIS Web Services (GISWS)
- Document Management Solution (DMS)
- Common Authentication & Authorization System (CAAS)
- Permitting Application Management System (PAMS)
- Accounts Receivable System (AR)

Database Server (SIMS, PAMS, AR, DMS, and CAAS)

To provide the necessary runtime environment, the SIMS, PAMS, AR, DMS, and CAAS database server must be configured at minimum with the following software:

- Windows Server 2003 Enterprise Edition (WS2003) w/ SP1
- SQL Server 2005 Enterprise Edition with SP1

To provide scheduling services for the applications this server will also be configured with a Scheduling Service that will be responsible for managing all backend processes. In addition, several SQL Server Agent jobs will be configured to support batch processing.

Application Server (FileNET CS)

To provide the necessary runtime environment, the FileNET CS application server must be configured at minimum with the following software:

- Windows Server 2003 (WS2003) with SP1
- Internet Information Server 6 (Included with WS2003)
- .NET Framework 1.1 (Sp 1) (Included with WS2003)
- .NET Framework 2.0
- SQL Server 2000 Standard Edition (SQL 2K) with SP4
- FileNET content server 5.3

Database Server (FileNET)

To provide the necessary runtime environment, the FileNET database server must be configured at minimum with the following software:

- Windows Server 2003 (WS2003) with SP1
- SQL Server 2000 Standard Edition (SQL 2K) with SP4
- .NET Framework 2.0

Application Server (ArcGIS)

To provide the necessary runtime environment, the ArcGIS application server must be configured at minimum with the following software:

- Windows Server 2003 (WS2003) with SP1
- Internet Information Server 6 (Included with WS2003)
- .NET Framework 1.1 (Sp 1) (Included with WS2003)
- .NET Framework 2.0
- Web Services Enhancements 2.0 (Free download from Microsoft)

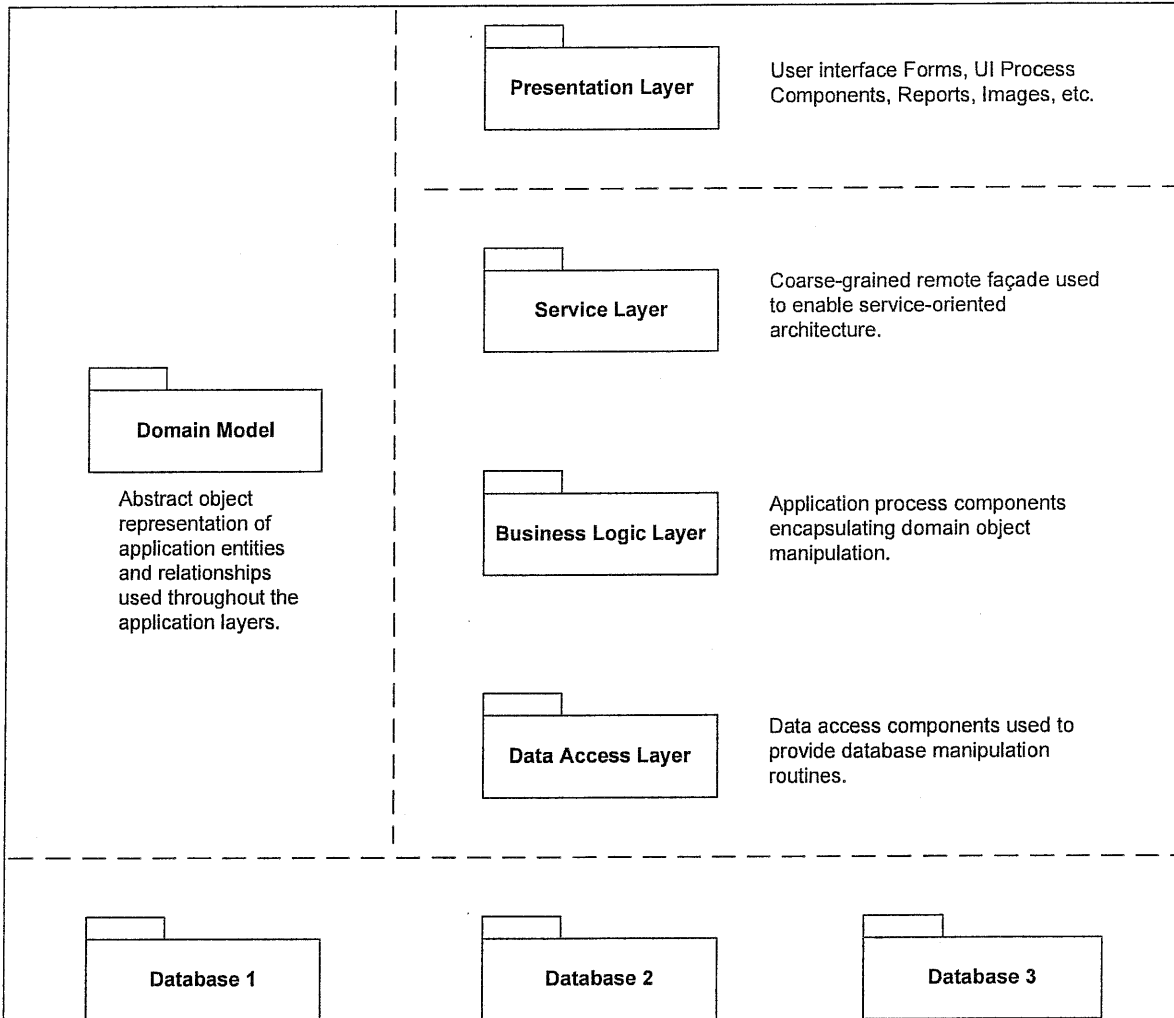
Database Server (ArcSDE)

To provide the necessary runtime environment, the ArcSDE database server must be configured at minimum with the following software:

- Windows Server 2003 (WS2003)
- SQL Server 2000 (Sp 4)
- Internet Information Server 6 (Included with WS2003)
- .NET Framework 1.1 (Sp 1) (Included with WS2003)
- .NET Framework 2.0
- Web Services Enhancements 2.0 (Free download from Microsoft)
- ArcGIS Server 9.1

Logical Architecture

While the SIMS, PAMS, AR, DMS, and CAAS applications are divided by logical application boundaries and can be considered separate applications in their own right, the logical layers of each application is describable by the logical layers common to all.



Layering is among of the most common and fundamental approaches of modularization in complex software systems. By breaking the overall architecture into a hierarchy of specific areas of responsibility, the overall architecture will benefit in two main ways:

- Increased encapsulation: maintaining a single layer requires little knowledge of the dependent layer implementation.
- Minimize dependencies: Allowing modifications of specific components to impact smaller sets of dependent components.

Presentation Layer

The presentation layer, also known as the user service layer, calls the service layer through remote service invocations. The presentation layer is responsible for providing clients with the primary interface to the application. This layer is implemented through a series of web forms and services developed in

ASP.Net. The web pages are implemented using numerous web user controls and other supporting presentation components along with static content in the form of images and CSS style sheets to allow for user interaction with the application functionality provided by the lower layers.

Service Layer

The service layer is a thin façade that provides a coarse-grained interface and infrastructure to support the physically distributed application tiers. The service layer exposes application functionality using .Net Remoting or SOAP web services.

Business Logic Layer

The business logic layer (BLL) will encapsulate most business logic for the applications and is called by the presentation layer via the service layer. The BLL components are developed with a maximum emphasis on code reusability through the use of object oriented programming (OOP) principles. The encapsulated BLL components are capable of serving content to both the web pages and web services.

Data Access Layer

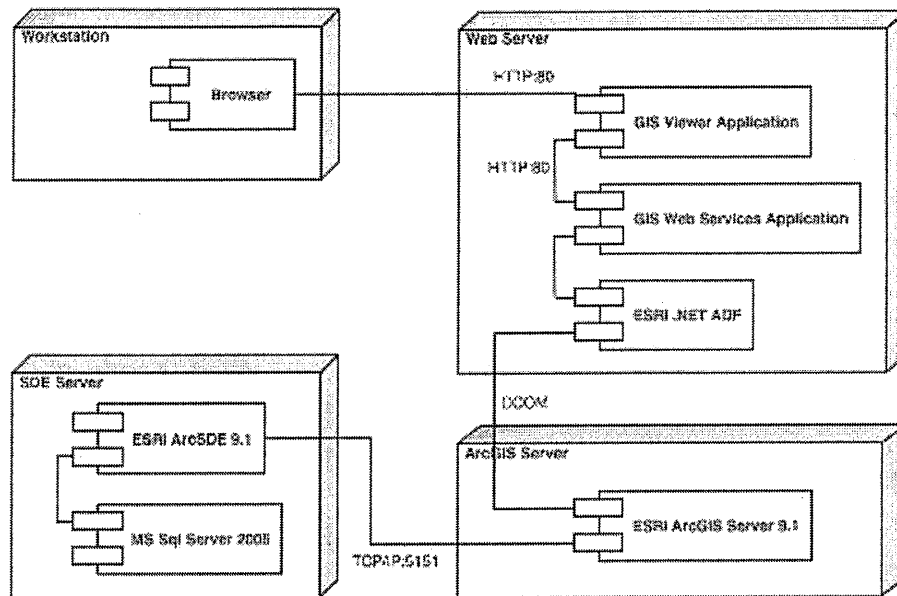
The data access layer (DAL) provides all database services to the BLL. The layer is implemented as a series of data access components used to manipulate data for the entities of the domain model. The DAL provides the standard CRUD functionality (Creation, Read, Update and Delete) as well as any data shaping and modeling required by the requesting business logic layer. Serving as an abstraction of the underlying RDBMS, the data access layer will shield the invoking components from changes made to the underlying database schema.

Geospatial Viewer Integration

Overview

The Geospatial Viewer (the Viewer) provides the mapping services to the SIMS, PAMS, and AR applications. The Viewer may also be invoked independently of these applications.

The following is a deployment diagram detailing the main components required for the Viewer.



Viewer Components and Supporting Services

The web server hosts the Viewer, the web services required to support the viewer and the ESRI .NET ADF. Because the Viewer is hosted from the same web server as are the rest of the applications, the viewer requires only a few additional technologies to provide its functionality. The Viewer requires the following technologies:

Geospatial Viewer

- Macromedia Flash 8 Professional
- ASP.NET (part of the .NET Framework)
- JavaScript

Web Services

- ASP.NET (part of the .NET Framework)
- .NET ADF (Collection of assemblies and classes that provide the functionality necessary to communicate with the underlying ArcGIS Server)

Geospatial Viewer

The Viewer contains all the user interface logic for the application. This includes handling user interaction and requesting information from ArcGIS Server via Web Services. The Geospatial Viewer is composed of a map container written in Flash and hosted from an ASP.NET application. The map container will be responsible for displaying the map image, navigation, drawing custom graphics and placing annotation. The map container exposes a JavaScript API to the host that is utilized by the hosting ASP.NET application. In this manner Flash can request functionality from the ASP.NET application and vice versa.

Both Flash and the ASP.NET application can request functionality from ArcGIS Server directly via web services. The compiled Flash executable will be located on the Web Application Server in the same folder as the ASP.NET Geospatial Viewer application.

Web Services

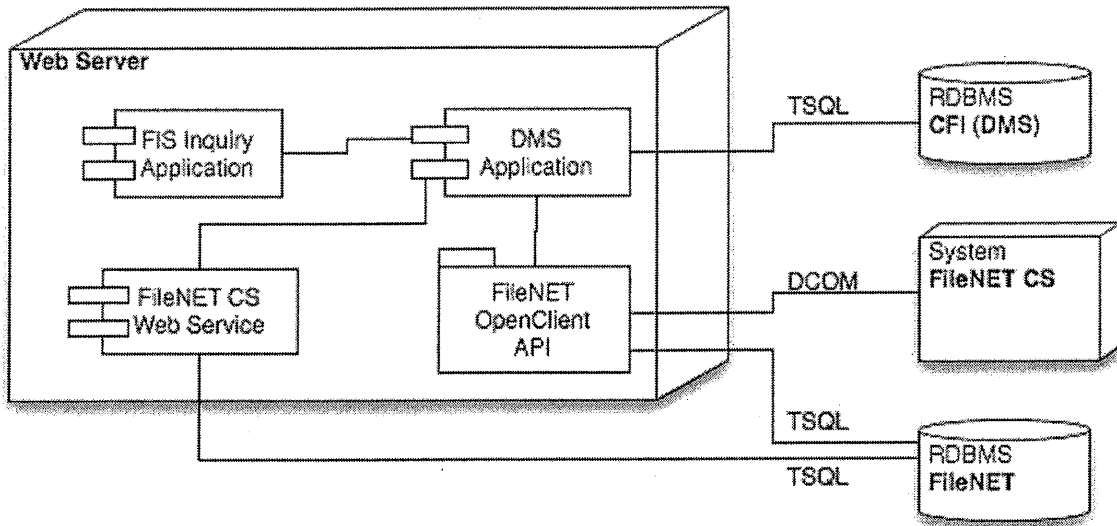
The web services abstract all GIS functionality from Flash and the Geospatial Viewer. This allows to the geospatial viewer to be implemented in any technology that can communicate via HTTP and SOAP. The web services are written in .NET and utilize the ESRI .NET ADF (Application Developer Framework) to create, use and manipulate ArcObjects in a distributed environment in conjunction with ArcGIS Server.

Document Management and FileNET Integration

Overview

The Document Management Solution (DMS) represents a portion of the SIMS solution responsible for management of the binary documents and the metadata associated with these documents.

While the overall architecture of the DMS subsystem does adhere to the SIMS architecture, this section of the technical architecture document will focus on the specific integration of FileNET components into the DMS system.



FileNET Configuration

The DMS subsystem uses the Content Server (CS) from FileNET as a binary content repository. Its integration with the CS is mostly limited to the CS API. To install the necessary CS API, the Web Server has to be configured with the FileNET client, which will install and register all the necessary components. In addition, the DMS subsystem will require the following components to be installed on that server:

- FileNET Web Services Application¹
- Open Client 3.3 (for .NET integration)

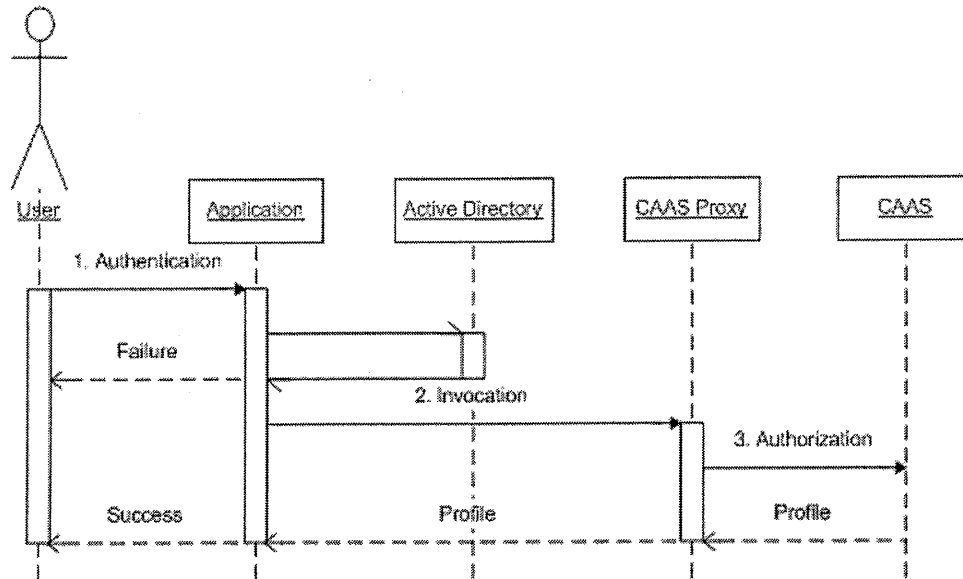
DMS Viewer

The DMS functionality of viewing documents stored in CS is provided by a server-side implementation of the ViewONE viewer, which is embedded into the DMS viewer page through HTML. ViewONE enables viewing and markup of single and multi-page documents.

¹ FileNET Web Services does not actually contain Web Services in their normal sense. This is just a name of the FileNET Find client installed on that application which does not expose any services.

Security Model

SIMS, PAMS, AR, and DMS security models are based on the use of Common Authentication and Authorization System (CAAS). Each application within the solution utilizes the services provided by CAAS in different ways but they are all based on the three primary steps (For detailed description of the CAAS system, its functionality and services please see the CAAS Design Document):



1. **Authentication** – Authentication is a process, which answers the question “Who is the user?” This process initiates the Windows Challenge/Response sequence in which the actual credentials of the individual user are not exchanged but a common hash algorithm is passed between the invoking workstation and the Windows Server where the IIS application is configured. The outcome of this process is a user context that is defined by an Active Directory identity which is used in all subsequent stages of this process.
2. **Invocation** – Once the user’s identity has been established, the host application invokes the CAAS proxy (.NET assembly) with the application security key along with the user identity. The proxy will parse all the provided information and prepare a message which is used in the subsequent stage.
3. **Authorization** – Once the remoting message is prepared, the CAAS proxy initializes a remote call to the CAAS service where that message is parsed and depending on the outcome of the authorization process against the information contained in CAAS, either the user profile message is returned or the necessary exception defining the reason why the authorization process could not be performed.

For subsequent authorization, the CAAS system exposes a series of authorization processes. Each process can be queried in a context of the calling system with the addition of the specific resource identification. These services are mostly implemented in a form of binary (true/false) methods that, when executed in a context of a calling system and current resource, return either a success or failure messages.

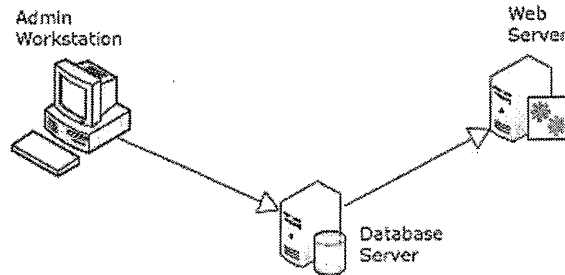
Reporting Services

While the reporting needs of the SIMS Inquiry and Reconciliation applications are able to be addressed using standard output technology like HTML, the more elaborate reporting needs of AR and PAMS require an alternative approach. To support these needs, *SQL Server Reporting Services* will be utilized to provide the following architectural features:

- Web-based report viewing hosted from a stand-alone application with built-in export and print capabilities.
- Support for multiple data sources (primarily stored procedures, direct query, and web services).
- Ad-hoc reporting and a criteria building interface (Note: custom ad-hoc reporting is out-of-scope for this project).
- Capability to display reports in real time and also processed in batch mode.

Scheduling Service

The SIMS Scheduling Service (the Scheduler) is responsible for most back-office functionality (SQL Server Agent will also be used for database maintenance tasks). The Scheduler is based on a robust scheduling architecture developed by Windsor Solutions and provides all necessary task management and batch processing support in PAMS and AR.



This service is responsible for the execution of all predefined tasks that are associated with the ongoing operation of the SIMS solution.

The management of these processes is performed through the *Desktop Administration Utility*, which can be installed on multiple workstations as long as these workstations are configured with the necessary access to the database server. During this process the *Desktop Administration Utility* manages the metadata about the ongoing processes in the database. This metadata is then read and parsed by the *Scheduling Engine* installed on the application server which interprets these commands and reports back to the underlying database server the status of the processes and the outcomes.

**STATE OF CONNECTICUT
DEPARTMENT OF INFORMATION TECHNOLOGY
101 East River Drive
East Hartford, CT 06108**

**RFP #06ITZ0114
Replacement of The Air Emissions Inventory System**

January 30, 2007

AMENDMENT # 3
provides the following:

1. Answers to questions submitted by vendors in writing, including additional reference information

NOTE: A signature line has been included below. A copy of this page signed in ink is required with the Proposal to show that vendors have received this Amendment.

VENDOR'S SIGNATURE ACKNOWLEDGING RECEIPT

(This page should be signed and returned WITH PROPOSAL. If vendor fails to submit signed Amendment, vendor will still be responsible for adhering to its content)

APPROVED: _____

JACQUELINE SHIRLEY
DIRECTOR
CONTRACTS AND PURCHASING DIVISION

Amendment 3 # - RFP 06ITZ0114
Responses to Vendors' Written Questions

1. Would a proposal for a “transfer and modify” of an existing Air Emissions Inventory System with no associated license fees be acceptable to Connecticut?

A. Yes. In such event, the prospective vendor should provide a response of “no” to item 6 on Attachment 1 and attach an explanation.

2. Was Connecticut’s existing Air Emissions Inventory System developed by a contractor in 1984?

A. No. It was written in-house and maintained in-house since then.

3. Has Connecticut evaluated any emissions inventory systems that are currently used in other states?

A. DEP has made an effort to research many emissions inventory systems to assess available products. DEP contacted EPA Headquarters, EPA Region 1, the states of Wyoming, Nevada, Pennsylvania, Hawaii and Minnesota, as well as the Great Lakes Commission and the Institute for Tribal Environmental Professionals in Arizona. We have not examined or evaluated any “state systems” in detail.

4. Will Connecticut utilize existing hardware contracts to procure hardware required for the Air Emissions Inventory System?

A. If it is found to be cost-effective and efficient. Hardware may also be purchased from the selected vendor.

5. Are vendors required to specify all hardware required for the implementation of the system, including associated costs? In addition to the production environment, is it required to specify the hardware / software for the other environments (development, system testing, user acceptance testing, and disaster recovery)?

A. Yes, vendors must specify all hardware required for implementation, including costs. Hardware and software costs for other environments do not need to be specified if they are included in the cost of the system modifications.

6. For work that must be performed on site at Connecticut DEP, how much cubicle space will be provided by DEP? Will Internet access be provided in those cubicles?

A. Cubicle space can be provided for up to 5 FTEs. Internet access equal to that available to state employees can be provided. Any user of the state's internet will need to sign and agree to the state's Internet Acceptable Use Policy, which can be seen at: <http://www.ct.gov/doit/cwp/view.asp?a=1245&Q=314686>. Certain functionality, such as access to shopping and sports sites is blocked; personal e-mail is not permitted.

7. What is the cost of the open lot parking that may be secured and paid by the contractor one block from Connecticut DEP?

A. At present, the cost of parking is a flat rate of \$8.00 per day, subject to availability. The price is also subject to increase.

8. The agreement included in the RFP specifies that travel expenses will be reimbursed. Should travel expenses be itemized separately in our cost proposal?

A. No, since travel is reimbursed only if specifically requested by and approved in advance by the Department in advance of the trip(s). Any such travel will be reimbursed at the rates applicable to state of Connecticut managers. Rates may be seen at:

http://www.das.state.ct.us/HR/Regs/Travel_Reimbursement_Reference_Chart.htm, in the far left hand column of the chart.

Travel associated with the system modification, implementation and warranty should not be itemized.

9. Can we obtain a sample of the paper form(s) that are used today to collect point source emissions data from facilities?

A. Emission Statement forms are at:

<http://www.dep.state.ct.us/air2/emissionstatement/index.htm> . Until approximately February 1, 2007. After that time, a new link must be used, which is:

http://www.ct.gov/dep/cwp/view.asp?a=2684&q=322074&depNav_GID=1619

10. In Attachment 6, Section 6.2, Capture Descriptive Data Elements, bullet #2 states that the system must capture “restriction”. Please clarify what is referred to by the term “restrictions”.

A. The intent of the word 'restrictions' in bullet #2 of Section 6.2 was to recognize that a few area source categories are regulated in our Air Regulations as part of our pollution reduction control strategies. For example: cutback asphalt use has some time of year use restrictions; and some Leaking Underground Storage Tank soil remediation processes within the state use controls to reduce vapors from contaminated soils and we would consider the control efficiencies of these processes as activity restrictions.

11. Does Connecticut store historical area source data for Connecticut for every year, or every 3 years for the period of 1993 to 2002?

A. Area source data is compiled for every three (3) year period as part of the Ozone Periodic Inventory Document.

12. In Attachment 6, Section 6.6, Process Survey Questionnaires and Related Data, bullet #1 refers to the submission of survey questionnaires using an electronic process. Can we obtain a sample of the survey questionnaire?

A. Yes. Please refer to Appendix 1 of this Amendment # 3 for this information.

13. In Attachment 6, Section 7.2, Capture Descriptive Data Elements, bullet #11 refers to “Descriptions of control equipment”. What type of information is Connecticut interested in having in this field for mobile sources?

A. DEP anticipates that EPA-verified emerging technologies, such as particulate traps, will be incorporated in the inventory program in the future for both on road and non-road emissions estimation.

14. Does Connecticut store historical mobile source emissions data for Connecticut for every third year during the period of 1993 to 2002?

A. Mobile source data is compiled for every three (3) year period as part of the Ozone Periodic Inventory Document.

15. In Attachment 6, Section 7.6, Process Survey Questionnaires and Related Data, can we obtain a sample survey questionnaire for a mobile source category?

A. Yes. Please refer to Appendix 2 of this Amendment # 3 for this information.

16. On page 25 Section 8.9 of Attachment 6 - Business, Technical and Operational Requirements it lists numerous technical documentation requirements. Is it correct to assume that the vendor will deliver this documentation as a part of the standard system documentation package required to describe the system?

A. Yes

17. Is SIMS on schedule to be operational during 2007? If so, what is the expected full production date or project completion date?

A. SIMS. Phase I, is in production now. It will continue to be expanded and enhanced, adding additional business processes and functionality, in the future.

18. Given the level of effort required to create a complete work plan and schedule for Connecticut's review in response to this RFP, is it safe to assume that CT is requiring the vendors to create one plan and schedule that for the implementation of the system that supports all three source categories (point, area, and mobile) for the purposes of the response? Of course vendors will provide the pricing options separately as noted in the RFP. Please advise.

A. The assumption is correct.

19. In section 5.11 of Attachment 6, the RFP notes that the "fee invoicing and tracking functions for the emissions fee program are in the process of being integrated into SIMS." What is the current status of the DEP AR System and when will this integration with SIMS be completed?

A. This will be answered in a subsequent Amendment.

20. Section 5.11 in Attachment 6 mentions the replacement Emissions Inventory System must "generate the report describing the calculation of the inventory stabilization factor and calculate the emission fee for each Title V source". Can we obtain a sample of the paper form/report that is currently generated today?

A. This will be answered in a subsequent Amendment.

21. What are the required interface specifications for the DEP Accounts Receivable interface (frequency, protocols, file formats, message sizes, etc.)?

A. This will be answered in a subsequent Amendment.

22. Is Connecticut's Exchange Network Node operational at this point? If not, when is it expected to be in production? Is it envisioned that the new system will interface directly to the Exchange node or will an interface between SIMS and the Exchange node be leveraged?

A. The Exchange Network Node is not operational. It is expected to be in production on February 19, 2007. The interface question will be answered in a subsequent Amendment.

23. For the GHG XML file described in Appendix F, how frequently must this be produced and how is it currently transmitted (FTP, web service, etc.)?

A. Appendix F represents a draft of the GHG Reporting requirements. GHG reporting is part of a multi-state effort through the Eastern Climate Registry. No transmission has yet taken place. Reporting, when implemented, is likely to be annual. This effort is expanding and evolving to (potentially) a new partnership with California and a national reporting concept and format.

24. Are the SIMS capabilities of browser-based GIS mapping, spatial analysis, address cleaning, and geocoding available to other systems in a callable interface? If so, is the proposed system required to use these features or can these GIS capabilities exist within the solution?

A. This will be answered in a subsequent Amendment.

25. Does Connecticut currently aggregate emissions data at the 'site' or 'premise' level?

A. Yes, in our prem.ssd SAS data table. NOTE: The DEP Air Bureau uses the words 'site' and 'premises' interchangeably to mean the same thing. Generally, this would represent the piece of property on which the owner or operator would be operating one or more pieces of equipment and conducting other emitting activities, such as storage of materials, at the site. In cases where two or more businesses are operating at the same location, our current business practice would be to isolate each company (and their equipment) by a unique 'client' ID number, even if for regulatory purposes these would be aggregated as one premises. This allows us to calculate the premises' emissions in both ways dependent on the simultaneous demands of applicable programs with different site-related definitions.

26. In Section 5.2 of Attachment 6, it is noted that some of the Descriptive Data Elements are stored in SIMS. For those elements that are not identified as stored in SIMS, are they stored in another system or are they new elements that Connecticut is seeking to begin storing? Please advise for each of the 27 elements in this list that are not identified as stored in SIMS.

A. Most of the elements not stored in SIMS are presently stored in our SAS system. This list also includes elements we would like the new system to capture, (e.g. NAICS, associated fugitive emissions).

27. Are there multiple versions of the SAS applications that currently store legacy emissions inventory data?

A. No.

28. What are short and long term emissions?

A. Short term emissions refer to typical ozone daily summer emissions; long-term emissions are typically annual emissions. However, DEP will also have to capture peak day emissions.

29. What is the SIMS interface technology?

A. This will be answered in a subsequent Amendment.

30. In section 5.1 of Attachment 6, the RFP states that the database contains information from approximately 14,110 active facilities with another 409 inactive facilities. Is this data aggregated at the site level? If so, how many active sites are currently reporting emissions inventories in Connecticut?

A. Our current point source database contains NSR permits or registrations issued at around 2,350 individual sites with, again, years of data that could go back to the early 1990's or before. Resource issues limit our ability to contact many small emitters and that is why the 'year of data' tag on each piece of equipment becomes significant. There are about 156 sites that are routinely contacted on an annual basis through the Emission Statement program.

All sites identified by the Air Bureau over the years are recorded in a site level table called 'prem.ssd' in SAS. About 14,000 are considered active facility records. By this we mean that once a site/premises (presumably with one or more structures on it) is identified, it is presumed in use until we learn otherwise (e.g., the buildings are torn down and it becomes a vacant lot - an inactive site). The currency of the data regarding that identified site may be years old, but it historically contains some

significance regarding a past enforcement action or a NSR permit or registration issued (as far back as 1973) to equipment at that site.

31. In Attachment 5, section 22.3, Liquidated Damages, letter b for Failure to Return to Normal Operating Conditions, the RFP notes that if the “Contractor fails to return the System to normal operating condition, or activate interim manual operations as per the business and technical requirements, within four (4) hours following notification, the Department may assess a liquidated damage of \$1,000 per hour”. Since this language implies a service level agreement that is not specifically stated or described elsewhere in the RFP, please clarify the intent of this section of the agreement.

A. Please refer to Section 11 of Attachment 5, “System Reliability.” That is the service level the state expects.

32. How many area sources does Connecticut currently collect emissions data for?

A. We currently try to assess emission estimates for about 70 area source categories. We 'collect' data for about 10 of these categories and use surrogate data (e.g., census) for the remaining categories.

33. Does Connecticut DEP utilize a paper form in the emissions fee collection process? If so, can we obtain a sample copy of this paper form?

A. Please see the response to Question 20, which will be answered in a subsequent Amendment.

34. Is it required that the system be capable of running the MOBILE and NONROAD models explicitly, or is it acceptable to run these models only through NMIM?

A. Presently, running the MOBILE and NONROAD models individually allows us more flexibility in addressing custom inputs for Connecticut's purposes.

35. Do these historical emissions data contain the activity, control, and emissions factor data used to calculate emissions?

A. The area source data is maintained in MS-Access 2000. For migration purposes, NIF formatted files could be generated.

36. The RFP mentions CEM data as an input source for the new system. What types of CEM data sources are expected to be inputs for the system?

A. We receive CEM data from sources identified by the Acid Rain and NSPS programs, Resource Recovery Facilities and NOx budget sources. These include boilers, gas turbines and incinerators (e.g., trash, sludge and soil). Currently DEP receives input from approximately forty (40) sources that represent over 280 individual analyzers. Evolving EPA, Connecticut and regional initiatives are likely to increase the number and types of facilities with CEMs in the future.

37. Could we obtain an Entity Relationship Diagram (ERD) for the Permit Tracking System?

A. This will be answered in a subsequent Amendment.

38. What is the source(s) of funding for this project?

A. The project will be funded with special revenue from the Connecticut Department of Environmental Protection's operating budget.

39. How many staff members are currently supporting the existing Emissions Inventory software and processes? What are the specific roles and responsibilities of the staff members? Can we obtain an organization chart for the Air Quality division?

A. Four (4) FTEs, three (3) engineers and one (1) supervisor. Please refer to Appendix # 3 of this Amendment # 3 for a high level organizational chart of the Bureau of Air Management.

40. Does CT DEP have an existing standard approach for electronic reporting that has been certified as CROMERR compliant?

A. No, not at this time.

41. Attachment 6, page 24, requires that help desk and technical support services be provided following implementation. Should our cost proposal include these services for only the one-year warranty period and four-year maintenance period?

A. Yes, since future year maintenance and support costs will be governed by the contract negotiated with the successful vendor. See section 3.d of Attachment 5.

42. Attachment 11, page 3 requires the overall percentage of cost attributable to Title V funding be specified. Can DOIT provide guidance on how this percentage should be calculated?

A. No.

43. Would DEP accept a project timeline beyond 6 months, if valid reasons for this are explained in the Response?

A. Yes, but calendar year 2007 reporting must take place in the replacement system, beginning in January of 2008.

44. Will the existing SIMS database be the “database of record” for air emissions-related “Facility”, “Feature”, “Permit”, “Client”, and “Enforcement” information? If so, how will the CFI database be populated with this data?

A. This will be answered in a subsequent Amendment.

45. Can CT DEP clarify the extent and nature of the desired integration between the new air emissions inventory system, and the other redeveloped systems at DEP, such as SIMS, PAMS, and AR? Is DEP requesting “application” integration” (i.e. in-line re-use of existing forms within the SIMS/PAMS/AR systems in order to view/maintain data), “data” integration (i.e. the new air system will read/write directly against the tables in the SIMS/PAMS/AR systems), or both “data” and “application” integration.

A. This will be answered in a subsequent Amendment.

46. As a privately held company, our financial details are not publicly available. What materials can we provide in response to the RFP in such a way that confidentiality can continue to be assured?

A. A privately held company may submit its last three audited financial statements with a request to exempt this material from disclosure under the Freedom of Information Act. See section 2.2.18 of the Main Body of the RFP for additional detail

RFP # 06ITZ0114

Amendment # 3

Appendix 1

Response to Question # 12

Area Source Survey Questionnaires

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT
COMPLIANCE ANALYSIS AND COORDINATION UNIT**

Cutback/Emulsified Asphalt Reporting and Record Keeping Forms

Printed on recycled paper



Instructions for the Cutback/Emulsified Asphalt Reporting and Record Keeping Forms

Section 22a-174-20(k) of the Regulations of Connecticut State Agencies (RCSA) prohibits the storage, use, or application of cutback asphalt from June through September, unless five (5) percent or less of the total solvent within the asphalt evaporates at 500° F or lower, as determined by ASTM Method D-402.

Definitions

Class 8 Bituminous Concrete means the material specified in the most current version of the State of Connecticut, Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction.

Cutback Asphalt means asphalt which has been liquefied by blending with more than seven percent of petroleum distillates, by volume, as determined by The American Society for Testing and Materials, Distillation Test D-244.

Emulsified Asphalt means asphalt blended with water and an emulsifier, generally soaps or detergents.

Medium Curing Cutback Asphalt means the material which meets the specifications of the American Society for Testing and Material Designation D-2028.

Summer time means the months of June, July, August and September.

Tack Coat or Penetrating Prime Coat means an application of low-viscosity liquid asphalt to an absorbent surface (i.e., pre-existing roadway or gravel), to prepare an untreated base before the application of an asphalt surface.

Part I: Exemptions

The following are exempt from RCSA Section 22a-174-20(k) and may be used from June through September:

1. Medium-curing cutback asphalt (which meets the specifications of ASTM Designation D-2028) used solely as a penetrating prime coat for aggregate bases prior to paving;
2. Medium-curing cutback asphalt used for the manufacture of materials for long-term storage or stockpiling of patching mixes used in pavement maintenance; and
3. Class 8 bituminous concrete used for crack filling, relief joints, minor leveling, pothole patching, and surface treatments with a depth of less than one inch.

Part II: Cutback/Emulsified Asphalt Reporting and Record Keeping Forms

Every three years, the Department of Environmental Protection (DEP) reports to the United States Environmental Protection Agency (EPA) on the air pollutant emission reductions attributable to RCSA Section 22a-174-20(k). The DEP has mailed these Reporting and Record Keeping Forms to collect information on cutback asphalt and emulsified asphalt use during 2005. The information you provide will be used in the DEP's report to the EPA.

If you have any questions about the Reporting or Record Keeping Forms, please call Dennis Demchak at 860-424-3702.

a. Reporting Form

Each municipality must complete the Reporting Form, even if it did not use cutback or emulsified asphalt during 2005.

You should be able to complete the Reporting Form in approximately 15 minutes. To complete the Reporting Form, you will need the following information:

1. The total amount of cutback and emulsified asphalt used, respectively, during 2005;
2. The total amount of cutback and emulsified asphalt used, respectively, from June through September, 2005;
3. The total amount of cutback asphalt used as a tack coat or penetrating prime coat from June through September, 2005; and
4. Whether any cutback asphalt used meets the standard for use from June through September.

Patching mixes purchased by the ton, regardless of whether they were made with cutback or emulsified asphalt, should **not** be included on the Reporting Form.

By October 30, 2006, please submit the completed Reporting Form to:

COMPLIANCE ANALYSIS & COORDINATION UNIT
BUREAU OF AIR MANAGEMENT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET, FIFTH FLOOR
HARTFORD, CT 06106-5127

b. Record Keeping Form

Each municipality that used cutback asphalt during 2005 must complete the Record Keeping Form. You must also keep the following records:

1. The name and address of all asphalt suppliers used by the municipality;
2. A record of the date, amount (in gallons), and formulation of all cutback asphalt purchases;
3. Test records or the supplier's certification confirming low solvent volatility, if applicable; and
4. A record of all cutback asphalt used during from June through September, including the date of use, the formulation, the amount used (in gallons), and a brief description of the use.

Examples of cutback/emulsified asphalt uses are:

Chip sealing
Crack filling
Leveling
Manufacturing of patching mixes used for pavement repair
Penetrating prime coat before paving
Pothole patching
Relief joints
Sand sealing
Tack coat for curbing or curb repair
Tack coat for new paving

Emulsified asphalt is not restricted and may be used anytime for any purpose.

Patching mixes purchased by the ton, regardless of whether they were made with cutback or emulsified asphalt, should **not** be included on the Record Keeping Form.

The use of cutback asphalt that meets the low volatility standard (less than 5% of the total solvent content evaporates at a temperature up to and including 500° F as determined by ASTM Method D-402) is not restricted. However, you must show that the cutback asphalt meets the low volatility standard with a copy of the appropriate ASTM test as performed by the supplier or a certification from the supplier that the cutback asphalt meets the low volatility standard. The municipality must record the purchase of cutback asphalt that meets the low volatility standard on the Record Keeping Form and retain proof that it meets the low volatility standard.

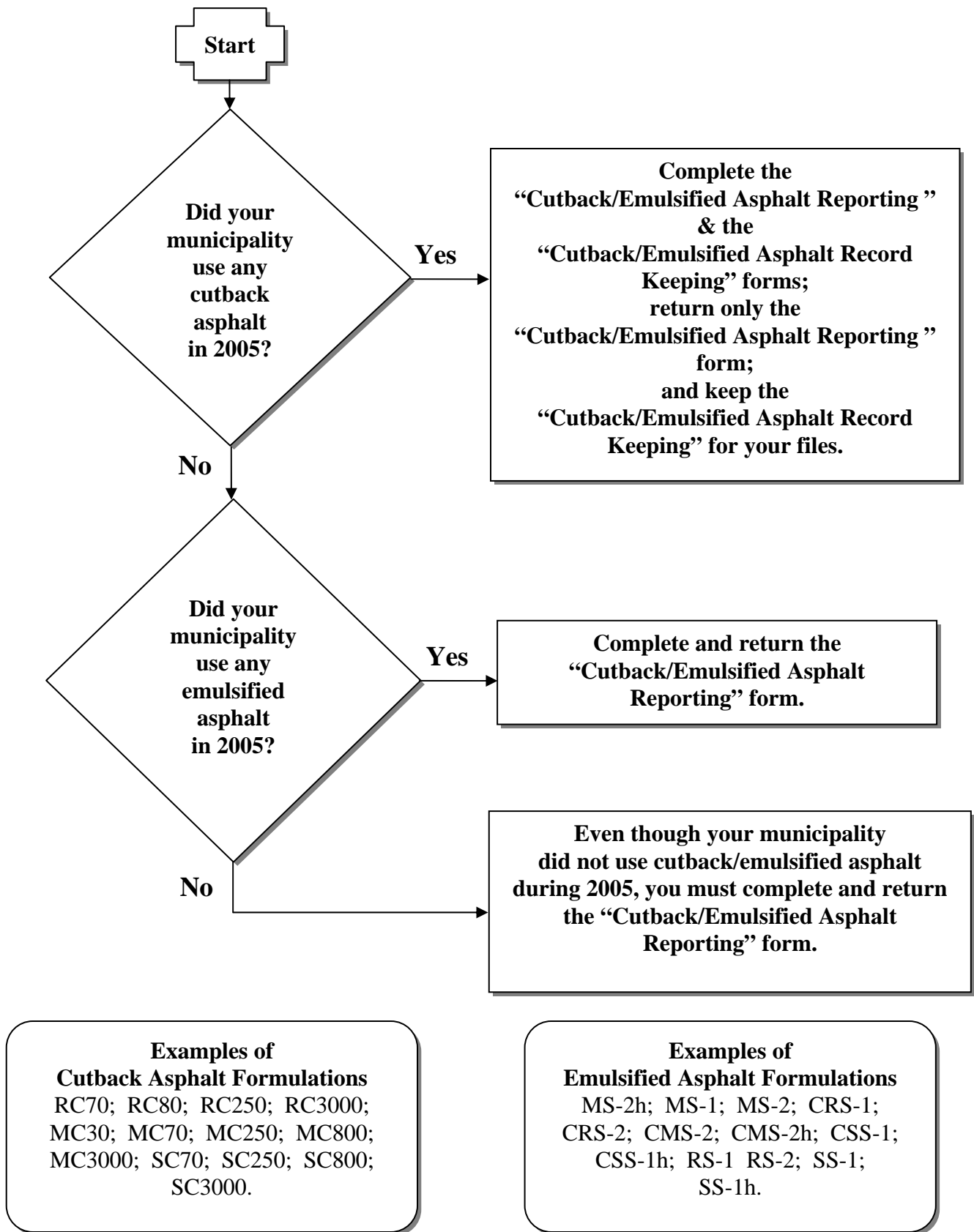
Each municipality must complete and maintain Record Keeping Forms at the municipal offices for five (5) years. **Please do not mail Record Keeping Forms to the DEP, unless specifically requested.**

Worksheet

This worksheet includes most formulations of cutback and emulsified asphalts; it may not include all formulations. The municipality has the responsibility to confirm asphalt content with its supplier.

- a. If your municipality used **any** of the following formulations of cutback asphalt during 2005, then you **must complete the entire** Reporting Form and the Record Keeping Form:
RC70; RC80; RC250; RC3000;
MC30; MC70; MC250; MC800;
MC3000; SC70; SC250; SC800;
SC3000.
- b. If your municipality used **any** of the following formulations of emulsified asphalt during 2005, **and** did not use any cutback asphalt, then you **must complete only** pages 1 and 2 of the Reporting Form:
MS-2h; MS-1; MS-2; CRS-1;
CRS-2; CMS-2; CMS-2h; CSS-1;
CSS-1h; RS-1; RS-2; SS-1;
SS-1h.

Cutback/Emulsified Asphalt Decision Tree





Cutback/Emulsified Asphalt Reporting Form

Town # _____

Part I: General Information

Municipality: _____

Mailing Address: _____

City/Town: _____ State: _____ Zip Code: _____

Business Phone: _____ ext. _____ Fax: _____

Contact Person: _____ Title: _____

Part IIA: Compliance Assurance

Please answer the following questions, reporting *only* asphalt, either emulsified or cutback. Do not include patching mix that was purchased by the ton.

1. Emulsified Asphalt Usage

Did the municipality use, or have a contractor use, emulsified asphalt during 2005?

Yes No

If yes, please provide the following:

a. State the amount used during the months of June, July, August, and September: _____ gallons

Attach a list of each asphalt formulation used showing quantity (gallons), manufacturer, name of product as it appears on Material Safety Data Sheet (MSDS) and, if available, VOC content (% weight).

b. State the amount used during all of 2005: _____ gallons

c. State the contractor's company name and telephone number:

Contractor's Name: _____

Business Phone: _____ ext. _____ Fax: _____

2. Cutback Asphalt Usage

Did the Municipality use, or have a contractor use, cutback asphalt during 2005?

Yes No

If *no*, **STOP**. Please sign the certification in Part III below and return this form. You do not have to complete the Record Keeping Form.

If yes, provide the information requested below, complete Part IIB, and sign the certification in Part III. You must complete the Record Keeping Form.

a. State the total amount of all cutback used during the months of June, July, August, and September: _____ gallons

b. State the total amount of all cutback used during all of 2005: _____ gallons

c. State the contractor's company name and telephone number:

Contractor's Name: _____

Business Phone: _____ ext. _____ Fax: _____

Part IIB: Compliance Assurance (continued)

Each municipality that used *cutback asphalt* during 2005 *must* complete the following section.

<p>1. Please indicate the amount of cutback asphalt that the municipality used or applied as a tack coat during June, July, August and September, 2005. Include any cutback asphalt used as a tack coat for curb repair.</p> <p>Cutback used as tack coat _____ gallons</p> <p>2. Cutback asphalt that meets the low volatility standard (less than 5% of the total solvent contained evaporates at a temperature up to and including 500° F as determined by ASTM Method D-402) may be used from June through September.</p> <p>Does the municipality have a copy of the ASTM test results or a certification from the supplier that the cutback asphalt used from June through September meets the low volatility standard?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>3. Cutback asphalt that does not meet the low volatility standard (as stated in Part IIB, Item 2) may be used from June through September for the following purposes:</p> <ul style="list-style-type: none">a. Medium-curing cutback asphalt used as a penetrating prime coat (tack coat) for aggregate bases prior to paving (including curbs);b. Medium-curing cutback asphalt used for the manufacture of patching mixes; orc. Class 8 Bituminous Concrete used for crack filling, minor leveling, pothole patching or other surface treatments less than one inch. <p>Did the municipality use cutback asphalt that does not meet the low volatility standard for these purposes?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>4. Did the municipality have any cutback asphalt in storage during June, July, August or September, 2005?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>5. Does the municipality have any cutback asphalt in storage as of the date you completed this Reporting Form?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Municipalities that use cutback asphalt must complete the Record Keeping Form. Please read the instructions before completing the Record Keeping Form.</p>
--

Part III: Certification (must be signed by a municipal representative)

<p>“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.</p> <p>I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b of the General Statutes, and in accordance with any other applicable statute.</p> <p>I certify that this reporting form is on complete and accurate forms as prescribed by the commissioner without alteration of the text.”</p>	
Signature _____	Date _____
Name (print or type) _____	Title (if applicable) _____



Cutback/Emulsified Asphalt Record Keeping Form

Town # _____

Part I: General Information

Municipality: _____

Mailing Address: _____

City/Town: _____ State: __ Zip Code: _____

Business Phone: _____ ext. _____ Fax: _____

Contact Person: _____ Title: _____

Part II: Asphalt Supplier Information

Please provide the name and address of the asphalt supplier used by the municipality during 2005:

Asphalt Supplier: _____

Mailing Address: _____

City/Town: _____ State: __ Zip Code: _____

Business Phone: _____ ext. _____ Fax: _____

Contact Person: _____ Title: _____

Check here if the municipality used more than one asphalt supplier. If so, label and attach additional sheet(s) with the required information to this sheet.

Part II: Cutback Asphalt Purchase Records

Please record the following information for all cutback asphalt purchases made during 2005. If you do not know if the cutback asphalt is **summer time compliant*** you must respond "No."

Check here if additional sheets are necessary, and label and attach them to this sheet.

Date of Purchase	Formulation of Cutback	Amount Purchased (gallons)	Is the cutback summer time compliant? Yes/No	If Available: VOC Content (%weight)

- **Summer time compliant** means that less than five (5) percent of the total solvent contained within the cutback asphalt evaporates at a temperature up to and including 500° Fahrenheit. Copies of ASTM Method D-402 tests or the supplier's certification confirming such must be attached to this form.

RFP # 06ITZ0114

Amendment # 3

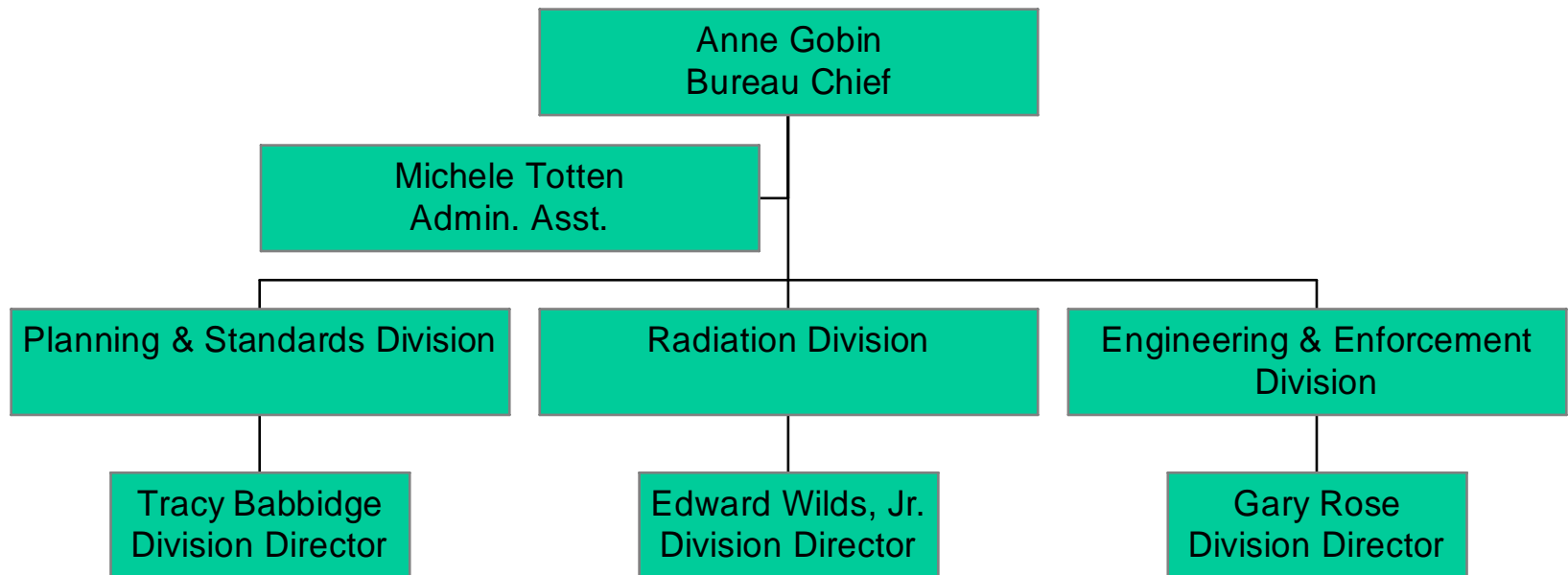
Appendix 2

Response to Question # 15

Mobile Source Survey Questionnaire

RFP # 06ITZ0114, Appendix 3 to Amendment # 3

Bureau of Air Management



**STATE OF CONNECTICUT
DEPARTMENT OF INFORMATION TECHNOLOGY
101 East River Drive
East Hartford, CT 06108**

**RFP #06ITZ0114
Replacement of The Air Emissions Inventory System**

January 26, 2007

AMENDMENT # 2
provides the following:

1. Answers to Vendor Questions

NOTE: Any questions not answered as part of Amendment #2 will be answered in a subsequent Amendment to follow shortly.

NOTE: A signature line has been included below. A copy of this page signed in ink is required with the Proposal to show that vendors have received this Amendment.

VENDOR'S SIGNATURE ACKNOWLEDGING RECEIPT
(This page should be signed and returned WITH PROPOSAL. If vendor fails to submit signed Amendment, vendor will still be responsible for adhering to its content)

APPROVED: _____

JACQUELINE SHIRLEY
DIRECTOR
CONTRACTS AND PURCHASING DIVISION

Amendment # 2
RFP # 06ITZ0114
Responses to Vendor Questions

Q.1. RFP Reference: Att. 6, 3.0.4. Please clarify the goal of interfacing with the DEP's Accounts Receivable System. Can the Accounts Receivable System file layouts and requirements be made available to prospective vendors?

A.1. This will be answered in a subsequent Amendment.

Q.2 RFP Reference: Att. 6, 3.0.6. Is all of the historical air emissions data that you wish to have imported into the replacement system in the NIF format? If not, what is its format?

A.2. Since the NIF is essentially a more structured csv flat file, we could produce import files of NIF format from our SAS database for each year. We would like to enhance the transfer of historical data beyond NIF to keep things like our historical record of site ownership, which EPA's NEI has never dealt with. Another group of data which we would want to preserve would be the limitations which we know were set by NSR, i.e., annual fuel use, limits on hourly material feed and/or emission rates, annual allowable/potential emissions. These types of data would presumably be handled in a supplemental csv flat file format.

Q.3. RFP Reference: Att. 6, 3.0.9. Please clarify the requirement to export GHG data to the Regional Eastern Climate Registry (ECR). What is "...the appropriate XML format?"

A.3. Please refer to Appendix F of the RFP for details. Appendix F is a draft of the ECR schema, and may not represent the final format.

Q.4. RFP Reference: Foreword to Sections 5 through 8, last paragraph. Please clarify the DEP "public face" versus the "temporary solution" that will be used until the "public face" is fully defined and implemented.

A.4. This will be answered in a subsequent Amendment.

Q.5. RFP Reference: Att. 6, 5.2.22-23. Are GPLPE entities Title V permit holders?

A.5. No.

Q.6. RFP Reference: Att. 6, 5.13.8 and 6.10.9. How extensive is the public query capability expected to be?

A.6. The public is to have access to a summary view of air emissions inventory data in order to make general queries on this high level data.

Q.7. RFP Reference: Att. 6, 7.4. Please expand on Attainment Planning and Policy Development. Can you define "growth factors?" Does Connecticut do SIP modeling? Does Connecticut need an extraction capability? What models are preferred?

A.7. Growth factors are indicators of changes (increases or decreases) in emission-generating activity level between two years for a given source category. Typically, growth factors are applied to current or past emission estimates to project emission levels in some

future year. Examples of activity surrogates used to develop growth factors are fuel use, employment levels, industry earnings, population, and vehicle miles traveled.

Connecticut uses models for SIP development, permitting, and other applications. Examples of regional models currently used for SIP development include CMAQ, CALGRID, and CALPUFF. Models used for permitting include AERMOD and CAL3QHC. Examples of emission models include MOBILE6.2, NONROAD, NMIM, and SMOKE. Growth factors are sometimes developed using E-GAS. Information on most of these models can be found using links at the following EPA web sites:

<http://www.epa.gov/scram001/aqmindex.htm>

<http://epa.gov/otaq/models.htm>

<http://www.epa.gov/ttn/chief/emch/projection/>.

Additional models are also used. They are as follows: AERMOD, as a steady-state dispersion model, using AERMET, AERMAP, ARESURFACE modules. BPIPRIME, a multi-building dimensions program, is used in conjunction with AERMOD; CALPUFF is used, including sub-modules CALMET and CAL GRID; ISC is used as a steady-state dispersion model; PTMTPA-CONN, a Connecticut steady-state complex terrain screening dispersion model is used; and SCREEN3, an EPA-recommended screening dispersion model is used.

Q.8. RFP Reference: Att. 6, 8.2.1. If a prospective vendor adheres to the requirements for system security that are outlined in Appendix K, will this be considered sufficient by Connecticut?

A.8. Yes.

Q.9. RFP Reference: Att. 6, 8.5.3. Will the DEP accept a proposal for a system written in a language other than Visual Basic?

A.9. All complete proposals that are submitted in a timely fashion will be accepted.

Q.10. RFP Reference: Att. 6, 8.10.2. How often does the software need to be updated to remain in compliance with EPA's rule changes?

A.10. Periodic updates are acceptable. Vendors should propose the periodicity they believe is an industry standard that will meet EPA's expectations.

Q.11. RFP Reference: Att. 6, 6.9 (for area sources) and 7.9 (for mobile sources). Does Connecticut have customized input values for area and mobile sources?

A.11. Yes, in many cases, customized input values are available. In the event that there is nothing available, DEP would expect the system to use default information.

Q.12. RFP Reference: Main Body of the RFP, 2.2.8. Will Connecticut consider modification of the Holdback Requirement percentage.

A.12. This issue may be addressed through the contract negotiation process with the successful vendor. Prospective vendors are advised to follow the instruction in RFP Attachment 2, 3.3 with regard to any provisions in Attachment 5 that they wish to negotiate. The suggested replacement language is to follow the Business, Technical and Operational Transmittal Letter.

Q.13. Will Connecticut reveal the budget for this project?

A.13. No; other than to assure prospective vendors that it is funded.

Q.14. RFP Reference: Att. 1, item 6. Please define “an existing product.”

A.14. DEP considers “an existing product” to be an Air Emissions Inventory System that is in use by at least one governmental entity in the US or Canada.

Q.15. RFP Reference: Main Body of the RFP, 3.1.1 and Att.2, 3.13.6. Please explain the discrepancy between the October, 2007 date for the “Expected Completion of the Air Emissions Inventory System” versus the implementation date noted in Attachment 2.

A.15. DEP would like the replacement system in place during October of 2007 in order to allow sufficient time for users to be trained in and familiar with the system in time for the inventories that must be initiated early in calendar year 2008.

Q.16. RFP Reference, Att. 2, 1-2. How many parts or sections will make up the full Proposal submitted in response to the RFP?

A.16. Two (2); One is the Business, Technical and Operational Proposal. The second is the Cost Proposal.

Q.17. RFP Reference: Main Body of the RFP, 2.2.22. Please clarify the provisions regarding “Ownership of the System.”

A.17. Connecticut does not expects to own any software programs , intellectual property or systems proposed for the project that are owned by the prospective vendor on the date of contract execution. The state does expect to own any software modifications or programs developed for the state and paid for with state funds.

Q.18. Will Connecticut accept a proposal for a custom solution?

A.18. All complete proposals that are submitted in a timely fashion will be accepted.

VENDOR CONFERENCE ATTENDEES

For

Air Emissions Inventory Vendor Conference

RFP 06ITZ0114  **January 19, 2007**

Attendee	Company Name & Address	Phone No.	E-Mail Address
Steven J. Anderson	Applied Geographics, Inc. 48 Purnell Place, Ste 16 Manchester, CT 06040	(860) 643-4401 x302	sanderson@appgeo.com
Maria Marcella	CIBER, Inc. 650 Wilson Lane Mechanicsburg, PA 17055	(717) 691-5500	MMarcella@ciber.com
Bruce Balliet	CIBER, Inc. 650 Wilson Lane Mechanicsburg, PA 17055	(610) 262-7047	bballiet@ciber.com
Adam Langmaid	Eastern Research Group 110 Hartwell Ave. Lexington, MA 02421	(781) 674-7232	Adam.Langmaid@erg.com
Len Shokum	Eastern Research Group 110 Hartwell Ave. Lexington, MA 02421	(781) 674-7354	Len.shokum@erg.com
Jesse L. The	Lakes Environmental 419 Phillip Street, Unit 3 Waterloo, Ontario N2L 3X2 Canada	(519) 746-5995	jesse@weblakes.com
Nancy Marx	ORACLE 54 Shady Hill Lane Middletown, CT 06457	(860) 632-8329	nancy.marx@oracle.com
John Oulton	SAS Institute Inc. 111 Huntington Ave., Ste 2800 Boston, MA 02199	(617) 262-4201 x3256	john.oulton@sas.com
Keith Fraser	Windsor Solutions 4000 Kruse Way Place Building 2, Ste 285 Lake Oswego, OR 97035	(503) 675-7833 x208	Keith_fraser@windsorsolutions.com
Scott Remick	Windsor Solutions 4000 Kruse Way Place Building 2, Ste 285 Lake Oswego, OR 97035	(503) 675-7833 x201	scott@windsorsolutions.com

**STATE OF CONNECTICUT
DEPARTMENT OF INFORMATION TECHNOLOGY
101 East River Drive
East Hartford, CT 06108**

**RFP #06ITZ0114
Replacement of The Air Emissions Inventory System**

January 5, 2007

AMENDMENT # 1
provides the following:

1. Appendix F (pages 283-294)
2. Appendix K (pages 333-390)

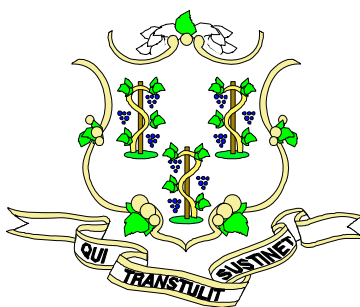
NOTE: The above referenced appendices have been inserted into the RFP document accordingly and can be found on the page numbers indicated.

NOTE: A signature line has been included below. A copy of this page signed in ink is required with the Proposal to show that vendors have received this Amendment.

VENDOR'S SIGNATURE ACKNOWLEDGING RECEIPT
(This page should be signed and returned WITH PROPOSAL. If vendor fails to submit signed Amendment, vendor will still be responsible for adhering to its content)

APPROVED: _____

JACQUELINE SHIRLEY
DIRECTOR
CONTRACTS AND PURCHASING DIVISION



STATE OF CONNECTICUT
DEPARTMENT OF INFORMATION TECHNOLOGY
(<http://www.ct.gov/doit>)

REQUEST FOR PROPOSALS

RFP # 06ITZ0114

Replacement of The Air Emissions Inventory System

Date Issued: December 29, 2006

Due Date & Time: February 26, 2007 @ 2:00 p.m. Eastern Time

Send all sealed responses to:

**State of Connecticut
Department of Information Technology
Contracts & Purchasing Division
Attn: Jacqueline Shirley
101 East River Drive, 4th Floor
East Hartford, CT 06108**

REQUEST FOR PROPOSAL

DOIT-CPD-25 Rev. 02/06

APPROVED _____

Jacqueline Shirley
Director, IT Contracts & Purchasing Division
(Original Signature on Document in CPD Files)

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1 FOREWORD

1.1 PREFACE

The Department of Information Technology (DOIT) is responsible for “The purchase and provision of supplies, materials, equipment and contractual services, as defined in section 4a-50” (CGS Sec 4a-2). Within DOIT, the Contracts and Purchasing Division (CPD) is responsible for processing and authorizing all procurement activities for information technology, including micrographic hardware, equipment, software and contractual services.

The DOIT vision is “That the State of Connecticut’s information technology is integrated, eliminating duplication and redundancy, while allowing for the sharing of information and the consolidation of reports throughout all the State agencies.” This vision is the umbrella under which all State purchases will be governed.

1.2 OBJECTIVE

The State of Connecticut’s Department of Information Technology (DOIT), IT Contracts & Purchasing Division (CPD), is issuing this Request for Proposal (RFP) on behalf of the Department of Environmental Protection (DEP or the Department) to purchase, modify, implement and warranty a browser-based Air Emissions Inventory System for, at a minimum, stationary point sources. Ideally the system design will incorporate area and mobile sources as part of an integrated system. The system must be capable of interfacing with the DEP’s Site Information Management System (SIMS), which will be operational during 2007. Additional detail on the SIMS Project and implementation may be found in Appendices C, D and E of this RFP. The selected contractor must be able to support the ongoing processing and maintenance tasks associated with the active use of an Air Emissions Inventory System. The agency uses this database to satisfy many of its regulatory mandates and public information responsibilities. It is expected that this RFP will result in a contract for the purchase, modification, implementation and warranty of the system, as well as maintenance for four additional years, resulting in an initial contract period of approximately five and one half years from contract initiation.

1.3 BACKGROUND

DEP has relied on an Air Emissions Inventory System for the core data storage and retrieval required for Connecticut’s air pollution control program since 1984. The existing system was created on what is now an outdated software platform. The current design does not have the flexibility to support the expansion and modification required to accommodate continually changing business needs (e.g., additional pollutants, new permitting programs, etc.) and new program requirements. The current system does not support the growing need to query and generate ad hoc reports. In order to streamline data collection and improve data quality assurance, the State of Connecticut (State) is seeking a vendor to provide a replacement Air Emissions Inventory System using an “e-Government” approach to the project.

1.4 EVALUATION

An evaluation team will review all vendor responses to this RFP. The evaluation team shall review the entire Business, Technical and Operational Proposal first, without reference to the Cost Proposal. The Business, Technical and Operational Proposal will be scored in accordance with a weighting scheme established and approved prior to the opening of any proposal. The Cost Proposal will only be scored for vendors whose Business, Technical and Operational Proposals achieve a predetermined minimum score. The State reserves the right to infer or add costs, which in the State’s opinion, have not been included in the vendor’s proposal that may contribute to the State’s total cost of ownership. Refer to *Attachment 11, “Evaluation and Selection Criteria,”* for additional detail.

1.5 IMPLEMENTATION

As a result of the evaluation process, if the proposal of a given vendor is found to be most advantageous, the State shall select that vendor to negotiate a contract with the State for the implementation of the vendor's proposal.

2 ADMINISTRATIVE REQUIREMENTS

2.1 VENDOR INSTRUCTIONS

2.1.1 CONFORMITY TO INSTRUCTIONS

Vendors must conform with all RFP instructions and conditions when responding to this RFP. The State, at its discretion, may reject any nonconforming proposal.

2.1.2 PROPOSAL RESPONSES TO THIS RFP

Vendors desiring to participate in this RFP process must submit proposals with the format and content as detailed in *Attachment 2, "Vendor Proposal Format and Content Requirements."* Vendors must respond to all requirements set forth in this RFP.

Additional requirements for this RFP are found in *Attachment 6, "Business, Technical and Operational Requirements,"* and *Attachment 3 "Cost Proposal Worksheets."*

2.1.3 IDENTIFYING RFP COMMUNICATIONS

All proposals and other communications with the State regarding this RFP must be submitted in writing in sealed envelopes or cartons clearly identifying:

- ◆ The appropriate RFP reference, such as "RFP # 06ITZ0114,"
- ◆ The applicable proposal due date and time –February 26, 2007 @ 2:00 PM (ET)
- ◆ The name and address of the originating vendor, and
- ◆ An indication of the envelope contents (e.g., "Business, Technical and Operational Proposal," "Negative Response," "Cost Proposal" and so forth).

Any material received that does not so indicate its RFP related contents will be opened as general mail, which may not ensure timely receipt and acceptance.

2.1.4 VENDOR QUESTIONS AND STATE REPLIES

The DOIT Contracts and Purchasing Division will reply to any written vendor questions received in accordance with *Section 3.1.3* no later than the vendor questions due date specified in *Section 3.1.1*.

Copies of this RFP will be made available only on the Internet, from the Department of Administrative Services (DAS) web page (<http://www.das.state.ct.us>) and the DOIT web page (www.ct.gov/doit). Access the RFP from the DOIT site by selecting the IT Contracts & Purchasing tab and then click on "Bid/Proposal Notices." The State may, in its sole discretion, orally communicate responses to vendors if it is likely that written responses will not reach them prior to the proposal due date. However, oral communications notwithstanding, the State shall be bound only by the written document which follows.

2.1.5 ACCEPTANCE OF ADMINISTRATIVE REQUIREMENTS

Vendor proposals must include unequivocal statements accepting the administrative requirements of this RFP, and must reflect compliance with such requirements. Any failure to do so may result in the State's rejection of the proposal. These statements must be included in the transmittal letter.

2.1.6 DEVIATING FROM RFP SPECIFICATIONS

The State will reject any proposal that deviates significantly from the specifications of this RFP. Vendors submitting proposals with any minor deviations must identify and fully justify such deviations for State consideration.

2.1.7 EXCLUSION OF TAXES FROM PRICES

The State of Connecticut is exempt from the payment of excise and sales taxes imposed by the Federal Government and/or the State. Vendors remain liable, however, for any other applicable taxes.

2.1.8 VENDOR CONTACT(S)

The proposal must provide the name, title, address, telephone number and e-mail address of the contact person(s) responsible for clarifying proposal content and for approving any agreement with the State. This information must be included in the transmittal letter.

2.1.9 VALIDATION OF PROPOSAL OFFERINGS

The proposal shall be a binding commitment which the State may include, at its sole discretion, by reference or otherwise, into any agreement with the vendor. Therefore, each proposal copy must be validated by the signature of a person having the authority to commit the vendor. The signer's authority in this regard must be authenticated by a signed statement to that effect by an appropriate higher-level company official. A Vendor Proposal Validation and Authentication Statement, attached to this RFP as *Attachment 4*, must be used for this purpose.

2.1.10 PROPOSAL COMPLETENESS

To be acceptable, proposals must contain all required information and statements in the form requested by this RFP. Vendor proposals must submit "none" or "not applicable" responses to any RFP question and information request, when such a response is the only appropriate response, *Attachment 2, "Vendor Proposal Format and Content Requirements,"* for additional detail on responding to requirements.

2.1.11 RESTRICTIONS ON CONTACTS WITH STATE PERSONNEL

From the date of release of this RFP until the right to negotiate a contract is awarded as a result of this RFP, all contacts with personnel employed by or under contract to the State of Connecticut are restricted. During the same period, no prospective vendor shall approach personnel employed by or under contract to the State, any other State agency participating in the evaluation of proposals, or any other related matters. One exception to this restriction will be made for vendors who, in the normal course of work under a current and valid contract with other State agencies, may need to discuss legitimate business matters concerning their work with the contracting agency. A second exception allows prospective vendors to submit questions relative to this RFP to the contact person noted in *Section 3.1.3, "Vendors' Questions,"* of this RFP.

Violation of these conditions may be considered sufficient cause by the State to reject a vendor's proposal, irrespective of any other consideration.

2.2 OTHER CONDITIONS

2.2.1 OTHER RIGHTS RESERVED

The State, at its sole discretion in determining that its best interests would be served, reserves the right to:

1. Amend or cancel this RFP at any time prior to contract award;
2. Modify deadlines through amendments to this RFP;
3. Refuse to accept, or return accepted proposals that do not comply with procurement requirements;
4. Reject the proposal of any vendor in default of any prior contract or for misrepresentation of material presented;
5. Reject any vendor's response that is received after the deadline;
6. Reject any proposal which is incomplete or in which there are significant inconsistencies or inaccuracies;
7. Accept or reject any or all proposals submitted for consideration *in whole or in part*; and to waive technical defects, irregularities, or omissions;
8. Allow no additions or changes to the original proposal after the due date specified herein, except as specifically requested and authorized by the State;
9. Require organizations, at their own expense, to submit written clarification of proposals in a manner or format that the Department may require;
10. Require organizations, at their own expense, to make oral presentations at a time selected and in a place provided by the Department. Invite vendors, but not necessarily all, to make an oral presentation to assist the Department in their determination of award. The Department further reserves the right to limit the number of vendors invited to make such a presentation. The oral presentation shall only be permitted for purpose of proposal clarification and not to allow changes to be made to the proposal;
11. Negotiate separately any service in any manner necessary;

12. Contract with one or more vendors who submit proposals;
13. Consider cost and all factors in determining the most advantageous proposal for the Department; and,
14. Contract for any or all any portion(s) of the scope of work or tasks within this RFP.

2.2.2 REMEDIES AND LIQUIDATED DAMAGES

Remedies associated with nonperformance, substandard performance, or unacceptable performance will include liquidated damages and non-financial remedies. Examples of remedies include, but are not limited to:

1. Corrective action plans to be developed and implemented by the vendor, subject to Department approval;
2. Accelerated monitoring of vendor performance by the Department or its designee, including access to vendor facilities, records, and personnel;
3. Additional or ad hoc reporting by the vendor, at no cost to the Department, to address performance issues;
4. Pass-through of a proportional share of federal disallowances and sanctions/penalties imposed on the State and resulting from the vendor's performance or non-performance under the system services agreement; and,
5. Liquidated damages.

2.2.3 SYSTEM NON-ACCEPTANCE

Failure of the system to be accepted by the State as proposed by the vendor may result in the forfeiture of the holdback by the vendor to the State, as specified below, or other remedies or measures permitted by contract or by law.

2.2.4 CONTROL OF RFP EVENTS AND TIMING

The timing and sequence of procurement events associated with from this RFP will be determined solely by the State.

2.2.5 PROPOSAL EXPENSES

The State of Connecticut assumes no liability for payment of any costs or expenses incurred by any vendor in responding to this RFP.

2.2.6 OWNERSHIP OF PROPOSALS

All proposals submitted in response to this RFP and upon receipt by the State shall become the sole property of the State.

2.2.7 ORAL AGREEMENT OR ARRANGEMENTS

Any alleged oral agreements or arrangements made by vendors with any State agency or employee will be disregarded in any State proposal evaluation or associated award.

2.2.8 HOLDBACK REQUIREMENTS

Payments for deliverables accepted by the Department shall be subject to a twenty-percent (20%) holdback. The Department shall hold the ten-percent until the Department has accepted the deliverable and thereafter, releasing one-half the holdback. Once the warranty period has expired, in accordance with the provisions of *Attachment 5, "Information Processing Systems Agreement,"* the Department will release the remaining holdback.

The successful vendor will be required to complete milestones by due dates presented in the vendor's response to the RFP requirements. If the vendor fails to complete a milestone by the agreed upon due date, the Department shall have the discretion to withhold any payment due until the vendor has completed a subsequent milestone in accordance with its proposed due dates or the Department has accepted the deliverable whichever occurs first.

2.2.9 VENDOR PRESENTATION OF SUPPORTING EVIDENCE/SURETY

Vendors must be prepared to provide any evidence of experience, performance ability, and/or financial surety that the State deems to be necessary or appropriate to fully establish the performance capabilities represented in their proposals.

2.2.10 VENDOR DEMONSTRATION OF PROPOSED PRODUCTS

Vendors must be able to confirm their ability to provide all proposed services. Any required confirmation must be provided at a site approved by the State and without cost to the State.

2.2.11 VENDOR MISREPRESENTATION OR DEFAULT

The State will reject the proposal of any vendor and void any award resulting from this RFP to a vendor who materially misrepresents any product and/or service or defaults on any State contract.

2.2.12 STATE FISCAL AND PRODUCT PERFORMANCE REQUIREMENTS

Any product acquisition resulting from this RFP must be contingent upon contractual provisions for cancellation of such acquisition, without penalty, if the applicable funds are not available for required payment of product and/or service costs or if the product and/or service fails to meet minimum State criteria for acceptance.

2.2.13 CONFORMANCE OF AWARDS WITH STATE STATUTES

Any award resulting from this RFP must be in full conformance with State of Connecticut statutory, regulatory and procedural requirements.

2.2.14 ERRONEOUS AWARDS

The State reserves the right to correct inaccurate awards, including canceling an award and contract, resulting from its clerical errors.

2.2.15 CORPORATE REPORTING

Upon request by the Department and/or DOIT, the vendor must provide:

1. A Certificate of Authority, Certificate of Legal Existence or Certificate of Good Standing, as applicable, from the Connecticut Secretary of the State's Office, prior to the execution of the contract;
2. A tax clearance statement from the Department of Revenue Services within sixty (60) days of the execution of the contract; and,
3. A statement from the Department of Labor regarding employee contributions within sixty (60) days of the execution of the contract.

2.2.16 JOINT VENTURES

Proposals requesting joint ventures between vendors will not be accepted. The State will only enter into a contract with a prime vendor who will be required to assume full responsibility for the delivery/installation of equipment, wiring, software and related services identified in this RFP whether or not the equipment, products and/or services are manufactured, produced or provided by the prime vendor. The prime vendor may enter into written subcontract(s) for performance of certain of its functions under the contract only with written approval from the State prior to the effective date of any subcontract.

The prime vendor shall be wholly responsible for the entire performance of the contract whether or not subcontractors are used.

2.2.17 PREFERRED USE OF LOCAL CONSULTING RESOURCES

As referenced in *Section 2.2.16, "Joint Ventures,"* in responding to this RFP, responding vendors may, as a prime vendor, desire to enter into contractual relationships with other vendors to secure the availability of appropriate resources with the necessary skills and expertise required to fulfill the requirements of this RFP.

The State prefers that responding vendors who elect to augment their staff do so with local, Connecticut-based resources, obtained from any of the four (4) approved vendors currently part of the State's master IT consulting agreement (# 04ITZ0007). Responding vendors who are seeking to augment their technical resource pool are strongly encouraged to use this existing agreement to augment their staff. This agreement may be found on the DOIT web site (<http://www.ct.gov/doit/cwp/view.asp?a=1306&q=254992> - Consulting).

Responding vendors who chose to rely on resources obtained through any of the vendors approved as part of # 04ZIT0007 **must do so at the State approved rate schedule**. The approved rates may be obtained through any of the four approved local vendors.

2.2.18 FREEDOM OF INFORMATION ACT

Due regard will be given for the protection of proprietary information contained in all proposals received; however, vendors should be aware that all materials associated with the procurement are subject to the terms of the Freedom of Information Act (FOIA) and all rules, regulations and interpretations resulting therefrom. **It will not be sufficient for vendors to merely state in general terms that the proposal is proprietary in nature and, therefore, not subject to release to third parties. Any proposal that makes such a general or overarching claim may be subject to disqualification. Those particular sentences, paragraphs, pages or sections which a vendor believes to be exempt from disclosure under the Act must be specifically identified as such.**

Convincing explanation and rationale sufficient to justify each exemption consistent with the §1-210 of the Connecticut General Statutes, must accompany the proposal. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the vendor that would result if the identified material were to be released and the reasons why the materials are legally exempt from release pursuant to the above-cited statute. Please refer also to *Section 2.2.2, "Ownership of the System."*

Between the vendor and the State, the final administrative authority to release or exempt any or all material so identified rests with the State.

ALL SUCH MATERIAL MUST BE SUBMITTED IN A SEPARATE SEALED ENVELOPE AND MARKED "CONFIDENTIAL". THIS INCLUDES ANY INFORMATION REQUESTED IN AN ELECTRONIC FORMAT.

2.2.19 SECURITY CLEARANCE

A vendor receiving an award from this RFP must understand that all employees, including subcontracted personnel, shall be subject to all applicable Federal, State and DEP security procedures.

2.2.20 AUTHORIZED TO WORK ON PROJECT

A vendor receiving an award from this RFP must certify that all personnel are legally authorized to work on the project, pursuant to State and Federal guidelines, policy, mandates, and statutes, and further attest, under penalty of perjury, that all proposed project staff, whether named in the proposal or not, are one of the following:

1. A citizen or national of the United States;
2. A Lawful Permanent Resident; or
3. An Alien authorized to work until all project responsibilities have been fulfilled.

The vendor must agree that each individual proposed at any time to perform activities on the project will be subject to an individual certification of authorization to work on the project. Any individual on the proposed project team that is eligible to work in the United States under an H-1B or E-3 Visa must have sufficient time remaining on the Visa to ensure that such individual is able to complete the requirements of this RFP before the Visa expires. For submitted personnel to be eligible to actively participate in the project, they must be able to successfully pass a U.S. or Canadian background check, a State background check and, if required, must complete a DEP background check.

2.2.21 KEY PERSONNEL

The vendor must certify that all personnel named in their proposal shall actually work on the contract in the manner described in their proposal. No changes, substitution, additions or deletions shall be made unless approved in advance by the State, which approval shall not be unreasonably withheld. In addition, these individuals shall continue for the duration of the contract, except in the event of resignation disability or death. In such event, the substitute personnel shall be approved by the State.

During the course of the contract, the State reserves the right to approve or disapprove the vendor's or any subcontractor's staff assigned to the contract, to approve or disapprove any proposed changes in staff, or to require the removal or reassignment of any contractor employee or subcontractor employee found unacceptable by the State. Replacement of personnel who leave the project shall be made within thirty (30) days. Replacement of any personnel shall be with personnel of equal or superior ability and qualifications and subject to approval by the State.

2.2.22 OWNERSHIP OF THE SYSTEM

All data, technical information, materials gathered, originated, developed, prepared, used or obtained in the performance of any resultant agreement, regardless of the state of completion, which are prepared for or are the result of the services required under any resultant agreement shall be and remain the property of the State of Connecticut. With respect to software computer programs and/or source codes developed for the State, the work shall be considered "work for hire," i.e., the State, not the contractor, shall have full and complete ownership of all software computer programs and/or source codes developed. To the extent that any such materials may not be an operation of law, be a work made for hire in accordance with the terms of the agreement, the contractor will assign the State all right, title and interest in and to any such material, and the State shall have the right to obtain and hold in its own name copyrights, registrations and any other proprietary rights that may be available. The contractor's pre-existing intellectual property, programs, systems and software (collectively IP) proposed for the project, owned by a proposing vendor on the date of the contract execution, as well as any modifications, upgrades or adaptations thereto, shall remain the property of the vendor. Upon contract award, the vendor or contractor shall grant the State a non-exclusive, royalty-free license to use any of the vendor's/contractor's IP delivered to the State for the purposes contemplated by the agreement during the term of the agreement and any extensions thereof.

2.2.23 RIGHTS TO AUDIT

Proposers agree to provide the Auditors of Public Accounts and responsible federal agencies and/or their representatives access to State agency documents, papers or other records pertinent to the project and/or the Agreement in order to conduct audits or examinations or to make excerpts or transcripts.

2.2.24 WARRANTY

The vendor shall represent and warrant in the proposal that the system shall function according to the RFP requirements and vendor's written specifications and that it shall be free from defects in materials and workmanship for a minimum period of one year after the Department's acceptance of the system.

The vendor shall represent and warrant that the vendor shall modify, adjust, repair and/or replace said system as the Department deems it to be necessary or appropriate to have it perform in full accordance with the terms and conditions of the RFP.

2.2.25 INDEPENDENT PRICE DETERMINATION

The vendor must warrant, represent, and certify in the transmittal letter that the following requirements have been met in connection with this RFP:

1. The costs proposed herein have been arrived at independently, without consultation, communication, or agreement with any organization or competitor for the purpose of restricting competition as to any matter relating to such process;

2. Unless otherwise required by law, the costs quoted have not been knowingly disclosed by the vendor on a prior basis directly or indirectly to any other organization or to any competitor for the purpose of restricting competition;
3. No attempt has been made or will be made by the vendor to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition; and,
4. The vendor did not participate in the RFP development process, had no knowledge of the specific contents of the RFP prior to its issuance, and that no employee of the Department participated directly or indirectly in the vendor's proposal preparation.

2.2.26 OFFER OF GRATUITIES

The vendor must warrant, represent, and certify in the transmittal letter that no elected or appointed official or employee of the State of Connecticut has or will benefit financially or materially from this procurement. Any contract and/or award arising from this RFP may be terminated by the State if it is determined that gratuities of any kind were either offered to or received by any of the aforementioned officials or employees from the vendor, the vendors agent(s), representative(s) or employee(s).

2.2.27 READINESS OF OFFERED PRODUCTS

The vendor must warrant, represent and certify in the Transmittal Letter that all System products (software, hardware, operating system, etc.) offered to the State in the proposal must be currently manufactured and available for general sales, lease, or licenses on the date the proposal is submitted. Any proprietary products must be identified as such.

2.2.28 INSPECTION OF WORK PERFORMED

The vendor will prepare and maintain all financial records and records of services performed as are necessary to substantiate claims for payment under this award/contract. The State of Connecticut, the Auditors of Public Accounts, federal EPA auditors or their duly authorized representatives, shall have the right at reasonable times, upon reasonable notice to the vendor, to examine all books, records, and other compilations of data which pertain to the performance and/or charges applicable to the provisions and requirements of this award/contract.

The vendor will preserve and make available such books, records and data for a period of three years from the date of final payment under the resultant award/contract.

The vendor will further retain such documents which are pertinent to any actions, suits, proceedings or appeals commenced during the three year period or until they have reached final disposition. The vendor shall also make this a requirement of any subcontractors whom the vendor engages and, accordingly, this requirement shall be included in the contract and shall survive the termination or expiration of the contract. During and after the installation of the products and System, the State, and its authorized representatives, shall be allowed access to inspect all vendor materials, documents, work papers, equipment or products, deliverables, or any such other items which pertain to the scope of work for this RFP and contract. This requirement also applies to any subcontractors who may be engaged by the vendor.

2.2.29 DATE/TIME COMPLIANCE

The vendor warrants that hardware, software and firmware products or each developed, modified or remediated item of hardware, software, firmware ("item") or each service delivered under any resultant agreement shall be able to:

**State of Connecticut, Department of Information Technology
Request for Proposals
Replacement of the Air Emissions Inventory System**

1. Accurately assess, present or process date/time data (including, but not limited to, management, manipulation, processing, comparing, sequencing and other use of date data, including single and multi-century formulae and leap years) before, during and after January 1, 2000;
2. Properly exchange date/time data when used in combination with other information technology, provided that other information technology not covered by any resultant is Year 2000 Compliant;
3. Perform as a System, as so stipulated in any resultant agreement, and the warranty shall apply to those items as a System; and,
4. Where appropriate, respond to two-digit date input in a way that resolves the ambiguity as to century in a disclosed, defined and predetermined manner.

Notwithstanding any provision to the contrary in any warranty or warranties, the remedies available to the State under this date/time compliance warranty shall include the obligation to repair or replace any product and/or item whose non-compliance with this warranty or defect is discovered by the vendor or the State, all at the expense of the vendor. If the State becomes aware thereof it must be made known to the vendor in writing.

This warranty remains in effect through the 365 days following the termination of any resultant agreement. This provision shall not be construed to extend the warranty term of any resultant agreement, except for services required to correct defects in the system or products.

Nothing in this warranty shall be construed to limit any rights or remedies the State may otherwise have under any resultant agreement with respect to defects.

In addition, the vendor warrants that products or items modified or remediated to achieve date/time compliance shall remain unaffected with respect to their functioning or performance except for processing and exchanging date data. The vendor further warrants that Products or items not being modified or remediated directly shall remain unaffected with respect to their normal functioning or performance.

2.2.30 CORPORATE GOVERNANCE

The vendor must state in the transmittal letter whether it complies fully with the August 2002 corporate governance rules proposed by the New York Stock Exchange (www.nyse.com/pdfs/corp_gov_pro_b.pdf). Any non-compliance must be identified and explained.

3 TYPICAL ACTIVITIES CONDUCTED AFTER RFP ISSUANCE

3.1 VENDOR COMMUNICATION

3.1.1 PROCUREMENT SCHEDULE

The following schedule has been established for this procurement; however, the ultimate timing and sequence of procurement events resulting from this RFP will be determined by the State.

Event Date	Event
12/29/2006	RFP Issued
01/19/2007	Vendor Conference – 1:30 p.m., Local Hartford Time
01/22/2007	Question Submission Deadline – 3:00 p.m., Local Hartford Time
02/26/2007	Proposal Submissions Deadline – 2:00 p.m., Local Hartford Time
03/05/2007	Estimated Start of Contract Negotiations
04/02/2007	State Review of Proposals Concludes
05/07/2007	Estimated Project Start Date
October, 2007	Expected Completion of Air Emissions Inventory System

3.1.2 OPTIONAL VENDORS' CONFERENCE

An optional Vendors' Conference will be held on January 19, 2007 at the Department of Information Technology offices located at 101 East River Drive, East Hartford, CT 06108, in Room 4214-A. The conference will begin at 1:30 p.m., Local Hartford Time. Vendors planning to attend said conference are requested to contact Ms. Jacqueline Shirley, no later than two business days prior to the conference at Jacqueline.Shirley@ct.gov, so the DOIT Contracts and Purchasing Division can arrange for adequate space. Vendors planning to submit a proposal are not required to attend this conference. The State would prefer that the vendors restrict attendance to two if possible. Oral questions raised at the Vendors' Conference may be answered; however, responses will not be official, and may not be relied upon, until a written reply is issued through the DOIT Contracts and Purchasing Division.

3.1.3 VENDORS' QUESTIONS

The State intends to answer questions from any vendor that is considering a response to this RFP. Questions received by the Contracts and Purchasing Division (CPD) up to the deadline of January 22, 2007 at **3:00 p.m., Local Hartford Time** will be answered. Address any inquires to Ms. Jacqueline Shirley. Only written inquiries will be accepted. Send questions by e-mail to Jacqueline.Shirley@ct.gov.

To properly process vendor questions, vendors shall ensure that the RFP number is on the subject line of the electronic mail message. Questions shall be included as Microsoft Word or compatible format, in the form of an attachment.

3.2 RFP RESPONSE COORDINATION AND REVIEW

The State will open only those proposals received by the date and time specified in *Section 4.1, "Proposal Submission."*

Proposals received after the due date will be returned unopened. Vendors who are hand-delivering proposals will not be granted access to the building without a photo ID and should allow extra time for security procedures. Immediately upon opening, the State will review each proposal for vendor compliance with the instructions and conditions set forth in this RFP and the attachments hereto. DOIT, at its option, may seek vendor retraction and clarification of any discrepancy/contradiction found during its review of proposals. The Evaluation Team will evaluate only proposals complying with the submission and formatting requirements of this RFP.

3.3 PROPOSAL EVALUATION

3.3.1 EVALUATION TEAM

A State Evaluation Team will be established to review vendor responses to this RFP. See also *Section 5, "State Project Team."*

3.3.2 EVALUATION PROCESS

The State will conduct a comprehensive, fair and impartial evaluation of proposals received in response to this procurement. The evaluation process will include not only evaluations of the entire vendor RFP response, but may include evaluations of vendor references, on-site demonstrations and other relevant sources of information regarding a vendor, its products and services.

The State will evaluate requested proposal information against all RFP requirements, using criteria and methodology pre-established in coordination with the planned users of a given service. Proposals will be evaluated in accordance with *Attachment 11, "Evaluation and Selection Criteria."* Additionally, the Department will also evaluate:

1. The vendor's understanding of the RFP as shown by the thoroughness of the vendor's proposal and the vendor's ability to provide software for an Air Emissions Inventory System as specified;
2. How well the vendor's product functionality matches defined business requirements;
3. How well the vendor's proposed product design and technology matches defined Business, Technical, and Operational Requirements;
4. The vendor's plan for converting historical data from the existing Air Emissions Inventory into the replacement system. This evaluation will include, but not be limited to, the vendor's plan for supervision of all subcontractors and suppliers as well as utilization of existing equipment and software; and,
5. The vendor's ability to perform the contractual services as reflected by technical training and education, general experience, and specific experience, if any, of other projects of similar scope and complexity as well as the qualifications and abilities of the personnel proposed to be assigned to perform the purchase, customization, implementation and maintenance of the replacement Air Emissions Inventory System.

3.3.3 ESTABLISH AND CONDUCT APPLICABLE VENDOR BENCHMARKS

The State will determine the nature and scope of any benchmarking that it may deem to be necessary or appropriate to the evaluation of vendor system proposals.

3.3.4 BENCHMARKING PURPOSE AND SCOPE

The State may use benchmarks to demonstrate and validate a vendor's proposal, to satisfy given operating requirements, and to ascertain the adequacy and timeliness of vendor responses to user requirements.

The State may employ two benchmark phases:

1. Vendor conducted and documented tests which are not monitored by the State, and/or
2. Actual demonstrations to the State of the vendor's ability to perform as required.

3.3.5 UNMONITORED VENDOR-DOCUMENTED BENCHMARKS

State benchmarks often require vendors to conduct and document, within set time frames, the actual operation of their proposed service and the operation of sample functional sequences using State supplied information.

3.3.6 LIVE DEMONSTRATION OF BENCHMARKS TO STATE

The State typically requires vendors to conduct benchmark demonstrations at a mutually agreed upon site and at no cost to the State. Such demonstrations may be conducted at the site where the vendor conducted the unmonitored tests described above, or at a more convenient operating site which meets minimum State demonstration requirements. The evaluation of any and all live demonstrations that shall be subject to a review and approval by the Office of State Ethics.

Vendors must indicate agreement that the State will be permitted to videotape demonstrations, inspections, and/or benchmarks. The State will limit the use of such videotapes to staff training, retraining, etc.

Further, the State reserves the right to request that vendors make additional presentations, either in person or by telephone, to the Evaluation Team to clarify their proposal and respond to questions from the Evaluation Team regarding their proposal. The State also reserves the right to require additional written documentation to support and clarify information provided in the proposal. Failure to respond to such requests may, at the discretion of the Evaluation Team, result in disqualification of the vendor from further consideration.

3.4 IMPLEMENT NECESSARY AGREEMENTS

The offered agreement, *Attachment 5, "Information Processing Systems Agreement,"* shall be the agreement pertaining to this issued RFP. In that the State's offered agreement is viewed as being most reasonable to the vendor, the State will not accept any request by the vendor to modify a specific provision unless there are compelling reasons for doing so, and that without the provision being modified, the vendor will not consider contract approval. In any such case, vendor should state the rationale for the specific provision's unacceptability (define the deficiency); provide recommended verbiage (consistent with verbiage used throughout the agreement) for the State's consideration; and state how such recommended verbiage corrects the claimed deficiency and maintains fairness to both parties.

It is not acceptable to simply replace a State provision with a vendor’s “preferred” provision. Any vendor-recommended or requested changes to Attachment 5 are to be included in the Business, Technical and Operational Proposal **directly following the transmittal letter.**

If for some reason the Contracts and Purchasing Division (CPD) cannot reach consensus with the vendor within a reasonable time, CPD shall offer the agreement to the next best proposal and so on until either the agreement is executed or the State decides to start the RFP process again.

The State reserves the right to make any decisions concerning the awarding of this contract at any time without notice.

3.5 NOTIFICATION OF AWARDS

The State will notify vendors who submit proposals as to any award issued by the State as a result of this RFP.

4 PROPOSAL REQUIREMENTS

4.1 PROPOSAL SUBMISSION

Vendor proposals in response to this RFP #06ITZ0114 MUST be received at:

**Department of Information Technology
Division of Contracts and Purchasing
Attention: Jacqueline Shirley
101 East River Drive, 4th Floor
East Hartford, CT 06108**

No later than February 26, 2007, at **2:00 p.m. (local Hartford time)** in order to be considered. Postmark dates will not be considered as the basis for meeting any submission deadline. Therefore, any vendor proposal received after the deadline will not be accepted. Receipt of a proposal after the closing date and/or time as stated herein shall not be construed as acceptance of the proposal, as the actual receipt of the document is a clerical function. If delivery of proposals is not made by courier or in person, the use of certified or registered mail is suggested. Proposals will not be publicly opened.

The submission of a proposal shall constitute, without any further act required of the vendor or the State, acceptance of the requirements, administrative stipulations and all of the terms and conditions of the RFP and all its attachments.

5 STATE PROJECT TEAM

5.1 MANAGEMENT TEAM

Project Sponsor	Chief, DEP Bureau of Air Management
Business Manager	Director of the Planning and Standards Division, DEP Bureau of Air Management
Business User	Supervising Air Pollution Control Engineer, DEP Bureau of Air Management
OIM Advisor	Agency IT Manager, DOIT

Additional technical advisors and subject matter experts from the DEP Bureau of Air Management, the DEP Office of Information Management and the Department of Information Technology will participate as needed.

Attachment 1 – Mandatory Vendor Questionnaire

In order to respond to this RFP and have your proposal included in the evaluation process, a vendor should be able to answer "Yes" to the following questions.

If a proposal is submitted with any "No" response, if the Questionnaire is returned incomplete, or is missing altogether, the State may reject the proposal.

Vendor Name: _____

Vendor Address: _____

	Yes	No
1. Is your company, including any agents or subcontractors, free from any pending civil litigation, arbitration or other similar action as a result of work performed by the company, its agents or subcontractors?		
2. Has your company been free from premature termination of any project, award or contract for cause?		
3. Has your company been free from being the subject of any liquidated damages at anytime during the last three (3) years?		
4. Is your company free from any suspensions or disbarments?		
5. Does your company have experience with Air Emissions Inventory Systems?		
6. Is your company proposing an existing product that can be purchased and modified to meet Connecticut's unique needs?		

If the response to any question above is "No," provide a full explanation after page two (2) of this questionnaire.

**State of Connecticut, Department of Information and Technology
Request for Proposals
Replacement of the Air Emissions Inventory System**

Person certifying the above information:

Name: _____

Signature: _____

Title: _____

Attachment 2 - Vendor Proposal Format and Content Requirements

1 OVERVIEW

This RFP will result in a single award for the purchase, modification, implementation, warranty and maintenance of a replacement Air Emissions Inventory System that is in compliance with State and DEP enterprise information systems architecture standards and principles.

A vendor's proposal must be submitted in two (2) separate sections under separate, bound covers:

- Part I - Business, Technical and Operational Proposal**
- Part II - Cost Proposal**

Note well: Proposals are to be submitted in boxes no larger than 18" x 12" x 10", which is the approximate size of a standard carton of printer / copier paper.

Vendors shall submit their proposal according to the specifications supplied in the section titled *General Format and Content Requirements*, beginning on page three (3) of this section. A valid proposal shall comprise the collection of the two mandatory parts (Business, Technical & Operational, and Cost) of which there shall be:

- A. One (1) signed, printed and bound original Business, Technical and Operational Proposal**
- B. Eight (8) additional printed and bound copies of the original Business, Technical and Operational Proposal**
- C. One (1) signed, printed and bound original Cost Proposal**
- D. Eight (8) additional printed and bound copies of the original Cost Proposal**
- E. Two (2) CD-ROM-based electronic copies of the entire original proposal with the Cost Proposal information submitted separately from the Business, Technical and Operational Proposal**

The entire Proposal must contain, at a minimum, the two parts noted above and must be organized in the sequence indicated in the tables on the following page. Vendors are requested to identify each section and subsections with a clearly distinguished and labeled "tabs" so that specific sections can be easily referenced.

Requirements described with language such as "must," "shall," "will," "will not," "may not," "cannot," "can only," "prohibited," or "required" are to be considered mandatory with respect to the minimum requirements of this procurement.

Requirements described with language such as "should," "may," "could," "suggested," "desirable," or "requested" are to be considered optional, or not mandatory, with respect to the minimum requirements of this procurement.

Please note that while a vendor may cross reference portions of the "Cost Proposal" from within the "Business, Technical and Operational Proposal," any and all specific references to financial information, professional fees or other cost information must reside solely within the "Cost Proposal."

Vendors are required to provide information as described in this RFP Attachment in the following format. Please refer to *Section 3* of this document for a detailed description of each section.

1.1 VENDOR'S RESPONSE - TABLE OF CONTENTS

Responding vendors must restrict and order their responses in each of the two binders in accordance with the following two (2) tables of contents for Parts I and II.

Part I – Business, Technical and Operational Proposal	
3.0	Completed and Executed Mandatory Forms and Documents
3.1	Mandatory Vendor Questionnaire (Attachment 1), followed by any required explanation
3.2	Acceptance of State Terms and Conditions
3.3	Transmittal Letter, followed by any requests for modifications to Attachment 5 and signed face sheets for all RFP Amendments issued from the RFP issuance date forward
3.4	Table of Contents
3.5	Executive Summary
3.6	Company Overview
3.7	Summary of Qualifications – Include Audited Financial Statements as an Appendix to this Section
3.8	Overview of the Proposed Solution
3.9	CHRO Forms (Attachment 7)
3.10	Vendor Validation and Authentication Statement (Attachment 4), followed by an explanation of any deviations from EWTA standards and Guidelines
3.11	Certification Regarding Lobbying (Attachment 9)
3.12	Vendor Affidavits (Gift, Consulting, Ethics – Attachment 10)
3.13	Project Approach
3.14	Business, Technical and Operational Requirements (see Attachment 6)

Part II – Cost Proposal	
Content Requirements for the Cost Proposal may be found in Section 3.15 of this Attachment	
4.0	Table of Contents
4.1	Executive Summary
4.2	Cost Worksheets (See Attachment 3)

2 GENERAL FORMAT REQUIREMENTS

The content of the vendor's response must be exactly the same, between hardcopy and electronic submissions.

2.1 BINDING THE PROPOSAL

The original hardcopy, which must be clearly identified as the original, and each additional hardcopy of the proposal must be bound using loose-leaf style binders; one for each of the three sections described above. **Proposals that are submitted in Spiral, WireForm™, GBC™ or Perfect Bound™ types of binding are not acceptable.**

Each hardcopy binder cover slip must include the responding vendor's name, address and the RFP number (RFP # 06ITZ0114) as reference in the lower right corner. Titles for the appropriate sections shall be centered on the cover slip. The spine of each binder must contain the proper section title, with the RFP number reference and the submitting vendor's name.

2.2 FORMATTING THE PROPOSAL'S CONTENT

The State is providing the following formatting expectations to ensure a uniformity of presentation. The body of the narrative material shall be presented using the following formatting guidelines:

1. Text shall be on 8 ½" x 11" paper in the "portrait" orientation,
2. Text shall be single spaced,
3. Each page in a binder must be numbered in the following format: Section # - Page #, with the pages numbered consecutively using Arabic numerals, from the beginning of each Section,
4. The State prefers a San Serif baseline font for the body of the document with a font pitch no smaller than 11 points,
5. The margin at the binding edge of any document shall be a minimum of one and one half inches (1 ½"), all other margins shall be one inch (1"),
6. Inline graphics or illustrations shall be clean and crisp in appearance and must be captioned appropriately,
7. Any graphics or illustration may have a smaller text spacing, pitch and font size but must be legible,
8. Oversize attachments or appendices should not exceed more than one fold to conform to 8 ½" x 11",
9. Resumes must be in a consistent format; but they do not need to conform to the formatting guidelines for the proposal itself.

2.3 ELECTRONIC VERSIONS (CD-ROM)

The vendor is expected to provide the State with two sets of electronic versions of the proposal. These electronic versions are to be submitted using CD-ROM media, formatted for use with computers using the Microsoft Windows operating system. The two sets are to be submitted in the following manner:

CD-ROM Set 1 CD-ROM 1: Part I – Business, Technical and Operational Proposal
 CD-ROM 2: Part II- Cost Proposal

CD-ROM Set 2 CD-ROM 1: Part I – Business, Technical and Operational Proposal
 CD-ROM 2: Part II- Cost Proposal

Each CD must be submitted in a protective case and must be clearly labeled on the cover and spine in a manner consistent with the hardcopy submission. In addition, the CD itself must be labeled with the RFP reference and the caption “*CD ROM n of 2*”, where *n* is the sequence number of the CD in the set.

Electronic versions of the proposal are to be rendered in the PDF file format, using Adobe Acrobat version 5.x or a compatible product. The PDF document must be created with Fast Web View; tagged PDF must be enabled, and the electronic version must contain a master table of contents supporting hyperlinks to each entry in the table of contents and a link to the master table of contents on each page.

The contents of the CD-ROMs must be organized intuitively. For example, vendors can create a directory and subdirectories to categorize content in a logical way. It is desirable that there are no files in the root directory of the CD-ROM other than the home directory for each of the sections that are appropriate for that CD.

Vendor marketing materials or other information not specifically related to the content of the RFP should not be included as part of the electronic version.

2.3.1 CORRUPT PDF DOCUMENTS

When creating PDF versions of the proposal for electronic submission, vendors shall take care to ensure that all sections of the proposal are properly captured, contain no corrupt text or illustrations and that all necessary fonts are embedded within the PDF document.

Corrupt text can occur when fonts used in a PDF document do not exist on the reader’s computer and font substitution is used by the PDF reader¹. Adobe recommends that: “*For precise control over the appearance of text in a PDF file, you can embed fonts using either Acrobat PDF Writer or Acrobat Distiller. Acrobat viewers can display and print embedded fonts in PDF files, even if they are not installed on the computer on which the files are viewed.*”

¹ Please refer to: <http://www.adobe.com/support/salesdocs/1006759.html> for additional information.

3 CONTENT REQUIREMENTS – PART I

3.1 MANDATORY VENDOR QUESTIONNAIRE

Proposals must include a completed *Mandatory Vendor Questionnaire* found as *Attachment 1* with appropriate responses as defined in that document. Should the response to any of the questions result in a "No," a full explanation of the negative response is to be included directly following this Attachment 1.

3.2 ACCEPTANCE OF STATE TERMS AND CONDITIONS

All proposals in response to this RFP must specify the vendor's unequivocal acceptance of all the requirements of this RFP and must reflect written compliance to all its requirements.

3.3 TRANSMITTAL LETTER

Proposals must include a Transmittal Letter addressed to the Director, Contracts and Purchasing Division, DOIT, which must be in the form of a standard business letter, signed by an individual authorized to legally bind the vendor. The two original proposals (Business, Technical & Operational and Cost) **must bear original signatures of the submitter.**

The letter shall include the name, title, mailing address, telephone number and extension, fax number as well as a valid e-mail address for the person that the State is to contact to resolve questions or issues regarding the submitted proposal. The transmittal letter must contain specific statements, cross-referenced to the State administrative requirements stipulated in *Section 2* of the RFP, to establish the vendor's full acceptance of all such requirements. Any request(s) to modify any language in *Attachment 5*, **along with the suggested replacement language**, is to follow the Transmittal Letter.

Include the completed Vendor Checklist found as *Attachment 8* immediately following the Transmittal Letter, any request(s) to modify Attachment 5 and signed face sheets for any RFP Amendments issued.

3.4 TABLE OF CONTENTS

Proposals must include a Table of Contents that includes sections and subsections with page numbers. Vendors are encouraged to ensure that the Table of Contents is updated prior to publishing the proposal.

3.5 EXECUTIVE SUMMARY

This RFP expects that an Executive Summary will be part of each of the two parts of the RFP response. This is to permit a vendor to briefly summarize the most salient aspects of each part of the proposal in terms of satisfying the requirements presented in this RFP. The Executive Summary must provide a high-level overview of the vendor's proposal in such a way as to demonstrate a broad understanding of the RFP requirements. The vendor must summarize their understanding of the objectives of the State in issuing this RFP, the intended results of the Project, the scope of work and any issues which the vendor believes needs to be addressed in this project. The Executive Summary for the Business, Technical & Operational proposal **shall not** mention the dollar amount proposed for the project.

3.6 COMPANY OVERVIEW

The Agency is seeking organization and client profile information, which may include their resellers or implementation partners.

1. Formal Company Name
2. Company Trade Name (If Different)
3. Physical Address
4. Mailing Address
5. Corporate TIN
6. Company Representative Contact Information
 - a. RFP Response Contact Person
 - b. Title
 - c. Daytime Telephone & Extension
 - d. Electronic Mail Address
 - e. Company Web Site
7. Publicly or Privately Held
8. Stock Symbol (Public Companies)
9. Corporate Status (C Corporation, 501(C) 3, LLC, etc.)
10. Date of Incorporation
11. State of Incorporation
12. Number of Business Locations
13. Address and Description of offsite Development Center(s)
 - a. Address
 - b. Management Structure / Organization Chart
14. Number of Employees
15. Number of Developers
16. Number of Help Desk or Support Staff
17. Number of Active Government Clients or Customers
18. Resellers or Partners & Nature of Partnership
19. References (Name, Title, Mailing Address, Work Phone, e-Mail Address)
20. Last Three (3) Customers Not Renewing Services (Name, Title, Mailing Address, Work Phone, e-Mail Address)

The state desires that this information be provided in a tabled format, for example:

COMPANY PROFILE – SAMPLE SOLUTIONS, INC.	
Formal Company Name	Sample Solutions, Inc.
Company Trade Name	Sample Consulting
Physical Address	123 Easy Street, Suite 1000 Anytown, CA 90266
Mailing Address	P.O. Box 123456 Anytown, CA 90266-1234
Corporate Tax Identification	35-1234567
<i>and so forth...</i>	

3.7 SUMMARY OF QUALIFICATIONS

Vendors are asked to briefly summarize their qualifications relative to the design, development, implementation and support of software applications and solutions that are related to air emissions inventory systems.

Qualifications must contain a detailed description of the proposing firm and subcontractors (if applicable).

3.7.1 FIRM DESCRIPTION

Vendors must provide historical, financial, sales, and organizational information and, if applicable, similar information for proposed subcontractors:

1. **Size and Organization.** A brief summary and organization chart of the company should be included. If the company is a subsidiary of another company, the name and address of the parent company must be provided.
2. **Financial Status.** A complete set of Audited Financial Statements for the three most recent years must be given. All financial penalties and liquidated damages imposed in the last three (3) years must be disclosed. If none, state so. Include the Audited Financial Statements as an Appendix to this section of the proposal.

3.7.2 EXPERIENCE

Vendors must list the most recent systems installed to date, up to a maximum of five (5). Details of other relevant information technology experience, as well as projects involving air emissions inventory systems or other air quality systems that would be valuable in the completion of this project, may be provided. If applicable, provide relevant experience and qualifications for all proposed subcontractors.

3.7.3 REFERENCES

Qualified vendors may be required to provide a demonstration of installed systems. Such systems must be fully operational and similar in scope, function, and complexity to the applications described in this RFP. At a minimum, the demonstration must show the vendor's ability to meet system response time requirements, as well as the performance characteristics for the individual components described in this RFP.

Vendors must provide three (3) Client references with installed systems comparable to that being proposed for the Department. Reference information must include the following:

1. Name and Address of State Agency
2. Contact Person, Current Phone, Address and electronic mail address for the responsible individual on a project of similar size and scope as outlined in this RFP.
3. Date of Installation and Types of Applications Software
4. Configuration/Hardware & Software

3.8 OVERVIEW OF THE PROPOSED SOLUTION

Vendors are asked to briefly summarize the proposed solution. While this narrative should not be lengthy, it should provide the reader with a general understanding of the nature of the proposed solution and, specifically, how the responding vendor believes this will meet the objective of this RFP and the requirements found therein.

3.9 CHRO FORMS

Include completed CHRO forms.

3.10 VENDOR PROPOSAL VALIDATIONS AND AUTHENTICATION STATEMENT

Include a completed Vendor Proposal Validation and Authentication Statement.

3.11 CERTIFICATION REGARDING LOBBYING

Include a completed Certification Regarding Lobbying.

3.12 VENDOR AFFIDAVITS

Include completed Vendor Affidavits for Gifts, Campaign Contribution, Consulting and Acknowledgement of Receipt of Summary of State Ethics Laws.

3.13 PROJECT APPROACH

Vendors must include the following sections in the description of their approach.

3.13.1 GENERAL APPROACH

3.13.1.1 Scope Statement

The vendor must restate the scope of the problem being addressed, and describe the proposed business and technical approach to providing a complete solution.

3.13.1.2 Risk Statement

Describe the risks associated with the Project, the actions that will be taken to address and mitigate the risks, and the role the Department is expected to play in mitigating the risks.

3.13.2 PROJECT MANAGEMENT

3.13.2.1 Project Methodology

Describe the project management methodology to be utilized for all planning and management activities related to the project.

3.13.2.2 Project Tools

Provide a complete list of software tools and respective version numbers the vendor will use to support all project management planning and reporting activities.

3.13.2.3 Proposed Project Plan – Minimum Expected Content

The vendor must provide a detailed proposed Project Plan that clearly articulates the planning horizon for the proposed solution. At a minimum, the plan should contain planning for:

1. Ongoing Project administration tasks and management overhead, such as status meetings, report submissions, cost and quality reviews, project start-up, documentation and other relevant activities.
2. A standard project calendar as well as individual resource calendars that accommodate the proposed resources' personal schedules.
3. The complete software modification process, including, but not limited to, requirements gathering, gap analysis, testing phases, implementation and other relevant activities.
4. Help and Training Curriculum Design and Development lifecycle.
5. Database Conversion activities.
6. Application Pilot or Parallel Operations Phases
7. Deployment
8. Warranty and Support Phase (for the full term of the contract)

It should include, but not be limited to, Gantt charts showing the time lines, recommended tasks, task dependencies, milestones and resource allocations. An electronic version of the Project Plan must be submitted as defined under General Requirements above.

3.13.3 RESOURCES AND ORGANIZATION

3.13.3.1. Organization Chart

The vendor must provide a proposed organization chart that clearly shows roles, reporting relationships, steering level, functional teams, support teams and their participants by titles. In addition, chart must include the names of all vendor-supplied resources.

3.13.3.2. Project Manager

The vendor must describe responsibilities of their proposed project manager and that of the Department's Application Manager or designee. Provide detailed scope and duties information for the vendor's project manager including all administrative activities.

3.13.3.3. Departmental Resources Available

Cubicle space will be available to the selected contractor. Such space may be accessed from Monday through Friday during normal business hours. Limited printing and copying facilities will also be made available to the selected contractor. Open lot parking, **paid by the contractor**, may be secured approximately one block away from the DEP offices.

3.13.3.4. Resource Resumes

Provide full resumes for each named resource the vendor will assign to the project. Each resume is limited to three (3) pages, must contain references, and must be in the same format. The Evaluation Team will not consider any material beyond the three-page limit. Include resource names and the proposed project title on each page.

Please specifically identify any members of your team that rely on any form of Work Visa for their authority to work in the United States; please specify the type of Visa, the Visa's expiration date and the individual's formal sponsor as recognized by the Immigration and Naturalization Service.

Resumes must **clearly indicate the relevant dates of education, each project, the role performed**, and the amount of participation on the project as a fraction of a full-time equivalent. For example, if proposed developer only worked on a project half of this time, this would be reflected as “.5 FTE” whereas a fulltime participant would be “1 FTE”.

3.13.4 SYSTEM TESTING

The vendor must describe the process explaining their test methodology they will use for testing along with examples of their strategy for establishing and maintaining testing environments.

3.13.4.1. Test File Development

The vendor must describe the process to be used for developing and testing test files. Vendors must also clearly define roles and responsibilities for all work involved in the testing process.

3.13.4.2. Additional Test Files

The Department and DOIT can require that certain types of test files and/or transactions be included in the test procedures. Furthermore, State personnel must be allowed to assist in the development of test files and will resolve questions regarding requirements, policies and procedures as required.

3.13.4.3. User Acceptance Testing

The vendor must explain its method for user acceptance testing by the State and take into consideration the following:

After each component is developed, it will be tested and certified by vendor personnel. The vendor will test the application in the areas of systems, usability, and business logic. Once all of the components are modified, validated and finalized, they are assembled into the final product. The final product must meet the following phases of testing including the String Test, System Integration Test, Quality Assurance Test, and the User Acceptance Test.

All testing will be done in a test database with appropriate procedures for version control as the application and database move through the design, test, training, and production phases of the system lifecycle. The vendor will include test conditions, test files/data, expected results, and actual results for each test phase. The vendor will provide assistance and training to DEP personnel in acceptance testing of the new system. Whenever possible, and especially for the systems Acceptance Test, the vendor will use actual data resulting from the conversion of the current system's historical data into the replacement system. The final acceptance and approval of the application will be contingent on the successful completion of these tests.

String Test

Each business function that requires more than one computer program will undergo a string test. The string test is defined as the execution of all computer programs, including interfaces and reports together that are needed to perform a complete business function.

Integration Testing

The application is tested for any conflicts or effects on the existing DEP platform consisting of the servers, network, and desktop computers. The application is tested for concurrent users, server load utilization, and network bandwidth, in addition to ensuring that all hardware and software work together. The vendor will resolve any issues that may arise with the existing environment and make changes respectively.

Quality Assurance Testing

The vendor's quality assurance analyst will devise test plans based on system usability and business logic and conduct a rigorous Quality Assurance Test.

Acceptance Testing

Vendor personnel will assist the core user group in performing this phase of testing. The goal is to test the application for usability, business logic, and needs fulfillment. Approval of the system will be based on this test. The results of each testing component will be documented on a Quality Assurance Result form devised by the vendor and approved by DEP. The vendor will document each step of the testing by test file/scenario, expected results, results achieved, resolution and resolution status using real (converted) data.

3.13.5 DATA CONVERSION/MIGRATION

The vendor must identify, define and show examples of the methodology and tools it proposes to use to fulfill all data migration requirements. The vendor must include plans, conversion program methods, conversion acceptance criteria, a recommended conversion site, and any other elements consistent with its methodology:

1. If conversion is to be performed by a third party, the vendor must specify conversion vendor and include the business address.
2. Vendors should assume a maximum of one (1) State employee FTE equivalent to participate in the actual conversion project for a two (2) week period.
3. Specify all security measures to be employed.
4. Indicate approach to maintaining data integrity and quality assurance during the conversion effort, such as the use of balancing programs.
5. Describe measures to ensure adequate access to live data during the conversion effort.
6. If additional software is planned, identify the package and include the cost in the proposal.

3.13.6 IMPLEMENTATION

The vendor must supply a Project Implementation Plan that outlines the time line for project completion and identifies potential issues or concerns to meeting the time line. This plan must also include a clear definition of deliverables as well as details explaining how discrepancies will be identified and resolved. The current system is fragile and failing. The replacement system is desired as soon as practicable. At the very latest, the replacement system must be fully functional to allow emissions inventory reporting in Calendar Year 2008. The vendor must notify DEP immediately when deadline concerns or issues arise that may potentially delay the "Go Live" date.

It is expected that, within two weeks of being awarded the right to negotiate a contract for the Air Emissions Inventory System, the selected vendor will provide DEP with a thorough Project Implementation Plan that both parties will agree to prior to contract execution. Section 3.13.2.3. of this Attachment outlines the basic elements of such a plan. Additional material may be included at the vendor's suggestion and discretion.

A project team will be created by DEP and may consist of potential users (both internal and external to DEP), the State Department of Information and Technology (DOIT) and vendor key personnel. There will be weekly progress reports from the vendor and at least monthly on-site meetings at DEP to discuss work plans and goals, monitor project status and resolve any issues the encountered by either the vendor or DEP. DEP will have access to the vendor's development environment and provide final approval of each phase of the project.

3.13.7 WARRANTY AND SUPPORT PERIOD

The Vendor must describe their warranty and what it includes. The Vendor must supply DEP with a 12 month warranty period that begins upon system acceptance, during which any and all system defects will be fixed at no additional cost to DEP.

3.14 BUSINESS, TECHNICAL AND OPERATIONAL REQUIREMENTS RESPONSE

This RFP has requirements that are located in Sections 5 through 8 of *Attachment 6, "Business, Technical and Operational Requirements."* Responding vendors are expected to thoroughly review and respond to each of the elements outlined in *section 1.1 of this RFP, Attachment 2.* Vendor responses should provide an understanding of the system and propose a solution to each of the sections noted above. Responding vendors must, in their own words, provide a response that is clear, articulate, accurate and appropriate to the needs of the agency in creating a new Air Emissions Inventory System.

3.15 CONTENT REQUIREMENTS – PART II – COST PROPOSAL

Vendors must offer a Firm, Fixed Price for the purchase, modification, implementation and maintenance of the replacement Air Emissions Inventory application. **Costs for Stationary, Area and Mobile sources must be shown separately and be easily discernable from one another.** A one year warranty must be offered at no additional cost to DEP. Maintenance, support and enhancement services for the four years following the expiration of the warranty period is to be offered on a fixed price basis as well, with inflation no greater than that which is outlined in *Section 3.d of Attachment 5* of this RFP.

3.15.1 GENERAL COST CONSIDERATIONS

3.15.1.1 APPLICATIONS SOFTWARE AND RELATED SERVICES

Vendors must show all costs to the State for their proposed solution. They must also agree that any costs not included in this proposal, for software or service or equipment or any other product or resource necessary to implement a vendor's proposal solution, which was "forgotten" or not included with the proposal submission will be the responsibility of the vendor.

It is required that this information be presented in accordance with *Attachment 3* of this RFP, including:

1. The cost information must include details of unit prices by product component being proposed, quantity, and extended prices by product component, subtotals and any applicable discounts. One time costs such as freight charges and installation charges must be included by product as appropriate.
2. Indicate in the proposal that the proposal is valid for at least one (1) year and prices will be effective for at least one (1) year. A responding vendor further agrees that any across the board price decreases announced by the vendor for any products offered under the proposal will be passed on to the State.
3. Cost Proposals must be submitted on the worksheets found in *Attachment 3*. The pricing worksheets provide the format for presenting item-by-item pricing for hardware, software, conversion, maintenance, etc. Vendors must offer a Firm Fixed Price for the complete system.
4. Pricing worksheets must be provided for any proposed system alternative(s). Vendors must include all necessary software, and maintenance to implement a fully functional system in the cost proposal.
5. All License fees for application and support licenses must clearly indicate the license type(s) i.e. Lump-sum, Perpetual or Periodic Payment License.
6. All Maintenance and Support fees must clearly indicate when such fees are payable, including the commencement and timing following any initial maintenance and support provide under the initial purchase.
7. Vendor must fully disclose and explain any fees, charges, and costs that are dependent upon other factors including but not limited to processor model.

The State reserves the right to acquire hardware, operating and support software through its normal procurement channels for these items.

3.15.2 OTHER SYSTEM COST CONSIDERATIONS

3.15.2.1. PRICE PROTECTION PERIOD

Describe any price protection applicable to product service/maintenance payments during the periods cited in the above system cost worksheets.

3.15.2.2. APPLICABLE DISCOUNTS

Specify the basis and extent of any applicable product discounts (e.g., government, educational, multiple system installations) that may be available to the State but are not already reflected in your system cost worksheets. If your cost offerings already reflect any discounts, specify the type and percent of the discount(s) reflected.

The State reserves the right to make additions or reductions in awards as a result of this RFP. Indicate your agreement to maintain the same discount rate as proposed.

3.15.2.3. REQUIRED SUPPLY COSTS OR SPECIALTY EQUIPMENT

State the source, reusability, and unit cost of any supplies needed for use by any proposed product. Please refer to *Attachment 3* for the worksheet for any such costs.

Request for Proposals – Replacement of the Air Emissions Inventory System

Cost Worksheets Table of Contents

Total Not To Exceed Cost.....2
Five Year Total Cost Summary.....3
Application Software Costs.....4
Software Modification Costs.....5
License Fees.....6
Installation/Implementation Costs.....7
Conversion Costs.....8
Training Costs.....9
Documentation Costs.....10
Maintenance/Support Costs.....11
Warranty Costs.....12
Supplies Cost.....13
Project Management.....14
Other Costs.....15
Personnel Costs.....16

These Worksheets are to be used to complete the required Cost Proposal. The State expects the submitting vendor to modify the actual content of the Cost Worksheets and the Product and Project schedules to reflect the vendor’s specific Proposal. **Costs for Stationary, Area and Mobile sources must be shown separately and be easily discernable from one another.**

The Cost Proposal, as well as the Product Schedule, the Project Implementation Summary and the Project Implementation Schedule will become part of Attachment 5, the Information Processing Systems Agreement between the vendor and the State. **Samples** of the Product Schedule, Project Implementation Summary, and the Project Implementation Schedule are included at the end of this Attachment in the format requested by the State.

Sample Product Schedule.....17
Sample Project Implementation Summary.....19
Sample Project Implementation Schedule.....20

Request for Proposals – Replacement of the Air Emissions Inventory System

Form 1

The respondent shall complete the worksheet forms before entering pricing on form 1. Enter the grand total costs or items for each phase of the proposed project under TOTAL NOT TO EXCEED COST.

TOTAL NOT TO EXCEED COST

Application Software Cost	
Software Modification Cost	
License Fees	
Installation/Implementation Cost	
Conversion Cost	
Training Cost	
Documentation Cost	
Maintenance/Support Cost	
Supplies Cost	
Project Management Cost	
Other Cost	

TOTAL NOT TO EXCEED COST

--

Request for Proposals – Replacement of the Air Emissions Inventory System

Five-Year Total Cost Summary

	Total	Year 1	Year 2	Year 3	Year 4	Year 5
Application Software Cost						
Software Modification Cost						
License Fees						
Installation/Implementation Cost						
Conversion Cost						
Training Cost						
Documentation Cost						
Maintenance/Support Cost						
Supplies Cost						
Project Management Cost						
Other Cost						

PERSONNEL COSTS

PERSON (NAME AND TITLE)	Description of Job Duties	Daily Rate – 8 hour day	Number of days	Discount	Total

Submit as many worksheets as necessary. Provide one total for multiple worksheets, if applicable.

TOTAL

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State of Connecticut Department of Information Technology
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Attachment 3

Product Schedule: Shall mean that document which establishes the products, licensing periods, system maintenance and support, training, other services and their associated pricing then available to the State under the provisions of this Agreement.

Note: The vendor may supplement the Product Schedule at any time, **in accordance with Section 3.c and 3.d of the Agreement**, to make additional Products/Services and their pricing available to the State. The vendor may update any Product Schedule’s pricing by amending the Product Schedule **in accordance with Section 3.d of the Agreement**

SAMPLE PRODUCT SCHEDULE

Development Billable Rates

<u>Labor Category</u>	<u>Hourly Rate</u>
Project Manager	
Business Analyst	
Workflow Analyst	
Systems Analyst	
Team Leader	
Data Modeler	
Programmer/Analysts Sr.	
Programmer/Analysts Jr.	
Technical Support	
Trainer	
Training Analyst	
Conversion personnel	
Documentation Specialist	

Maintenance Billable Rates:

<u>Labor Category</u>	<u>Hourly Rate</u>
Project Manager	
Technical Team Leader	
Documentation Specialist	
Application Team Leader	
Programmer Analyst Sr.	
Programmer Analyst Jr.	
Technical Programmer	
Database administrator.	
Training Analyst	

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Attachment 3

SAMPLE PRODUCT SCHEDULE

<u>Description of License Software:</u>	<u>Qty</u>	Lump Sum Perpetual License Charge	Annual Maintenance & Support Charge
Software - user licenses	X	\$	\$
Modules - user licenses	X	\$	\$
Database – user licenses	X	\$	\$
Tools, database and development – user licenses	X	\$	\$
 <u>Application Development:</u>			
One site		<u>Not-To Exceed Charge</u>	
Maximum of X hours @ \$XX.00 per/hour		\$	
Interface Modules to existing systems		\$	
Maximum X hours @ \$XX.00 per/hour		\$	
 <u>Training & Installation</u>			
At State site, Maximum X hours @ \$		\$	
 <u>Conversion</u>			
At State site, Maximum X hours @ \$		\$	
 <u>DOCUMENTATION</u>	 <u>QTY</u>	 <u>UNIT COST</u>	 <u>ANNUAL UPDATE COST</u>
User Manuals.....	X	\$	\$
Quick reference Cards.....	X	\$	\$
Operations Documentation.....	X	\$	\$
System Documentation.....	X	\$	\$

SAMPLE ----- SAMPLE ----- SAMPLE

State of Connecticut Department of Information Technology

RFP – Replacement of the Air Emissions Inventory System

Attachment 3

Project Implementation Summary: Shall mean that document which itemizes milestone periods and tasks where checkpoints are to be taken to assure the State that the implementation of the Project is proceeding according to schedule.

Sample Project Implementation Summary *

Task Description	Total Days to Complete	Approximate Start Date	Approximate Finish Date	NOT TO Exceed Cost
1. Project Initiation/Management	xx days	xx/xx/xx	xx/xx/xx	
2. Business Requirements	xx days	xx/xx/xx	xx/xx/xx	
3. System Development	xx days	xx/xx/xx	xx/xx/xx	
4. Training	xx days	xx/xx/xx	xx/xx/xx	
5. Data Conversion	xx days	xx/xx/xx	xx/xx/xx	
6. Documentation	xx days	xx/xx/xx	xx/xx/xx	
7. Transition	xx days	xx/xx/xx	xx/xx/xx	
8. System Acceptance Evaluation	xx days	xx/xx/xx	xx/xx/xx	N/C
9. RFP Warranty Support**	xx days	xx/xx/xx	xx/xx/xx	N/C
10. System Enhancements & Support	xx days	xx/xx/xx	xx/xx/xx	

Total Not-to-Exceed \$

* Based on estimated contract start date of xx/xx/xx.

**The system warranty period becomes effective upon the first day of the system acceptance period by the DEP. During this warranty period, all system functionality shall perform according to the RFP requirements and the vendor’s proposal. Vendors shall modify, adjust, repair and/or replace such system components as necessary, at no charge to the DEP, to maintain system functionality according to the Maintenance and Support Reliability provisions of the Agreement.

State of Connecticut Department of Information Technology
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Attachment 3

Project Implementation Schedule: Shall mean that document which further defines the deliverables and tasks of the Project Implementation Summary and may be recognized for the purpose of payment to the vendor.

Sample Project Implementation Schedule

Date	Del #	Deliverable Description	Cost
		PHASE 1 - PROJECT INITIATION/MANAGEMENT	
	1		
	2		
	3		
		Total Phase 1	
		Phase 2 – Business Requirements	
	4		
	5		
	6		
	7		
	8		
	9		
		Total Phase 2	
		Phase 3 - System Development	
	10		
	11		
	12		
	13		
		Total Phase 3	
		Phase 4 - Training	
	14		
	15		
	16		
		Total Phase 4	

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Attachment 3

		Phase 5 – Data Conversion	
	17		
		Total Phase 5	
		Phase 6 - Documentation	
	17		
	18		
	19		
	20		
	21		
		Total Phase 6	
		Phase 7 – Transition (Vendor System Testing)	
	22		
	23		
	24		
	25		
		Total Phase 7	
		Phase 8 – System Acceptance Evaluation	
	26	30 Days in Production, Error Free	N/C
		Total Phase 8	N/C
		Holdback Released for Phases 1-8	

State of Connecticut Department of Information Technology
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Attachment 3

		Phase 9 - RFP Warranty Support	
	27	Warranty Period (No Charge)	N/C
		Total Phase 9	N/C
		Phase 10 – System Enhancements and Support	
	28		
	29		
	30		
		Total Phase 10	
		Totals	

ATTACHMENT 4
VENDOR PROPOSAL VALIDATION AND AUTHENTICATION STATEMENT

Vendor Organization: _____

FEIN # _____ (the "Company").

The person responsible for the validation of the Company's proposal must fully complete and sign this statement where indicated and attach it to your company's response to the RFP. By doing so, the signer attests that the given proposal represents:

1. Full and unconditional acceptance of all stipulated administrative requirements of this RFP, # 06ITZ0114,
2. Complete and valid information as of the proposal due date,
3. Product and term offerings that are valid until such date as the State is specifically notified otherwise, but not less than one (1) year from the proposal due date; and prices that are valid for at least twelve (12) months from the proposal due date,
4. The Company shall comply with all State requirements regarding proposal contents and formats, and
5. The Company has read and understands the principles, standards and best practices of the State's Enterprise – Wide Technical Architecture. As noted in Section 8.4 of Attachment 6, vendors must summarize any non-EWTA compliant proposals or approaches, **a copy of which is to follow the vendor's response to this Attachment.**

Validating Official: _____

Signature

Printed Name and Title

By signing this proposal, I confirm that this proposal constitutes a complete, authentic and bona-fide offer to the State of Connecticut, which the Company is fully prepared to implement as described. The Company official who validated this proposal was authorized to represent the Company in that capacity on the date of his/her signature.

Authenticating Official: _____

Signature

Printed Name and Title

Any modifications to this form will subject the Company's proposal to the risk of being deemed a "contingent" proposal, thus subject to rejection by the State.

ATTACHMENT 5

INFORMATION PROCESSING SYSTEMS AGREEMENT

The State's preferred Information Processing Systems Agreement is included in this Attachment to this RFP. It represents a contract that the State believes is equitable to both the State and the selected contractor.

The State reserves the right to incorporate into this Agreement any and/or all terms and conditions that may be deemed to be fair or beneficial to the State. The State, however, will not waive, modify or entertain modifications to Sections 25-42 of this Attachment as currently written in this RFP.

If contract negotiations cannot be successfully concluded with a selected contractor, the State may, at its sole discretion, proceed to withdraw the offer and offer a contract to another competing firm, or follow any other course of action that it deems necessary or advisable to meet its statutory responsibilities.

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IT PROCESSING AGREEMENT

This Information Processing Systems Agreement hereinafter referred to as the "Agreement" or "contract" is made by and between the **State of Connecticut**, acting herein by its Department of Information Technology/Contracts & Purchasing Division, hereinafter referred to as the "State," located at 101 East River Drive East Hartford, CT 06108, and **XXXXXXXXXXXXXXXXXX**, hereinafter referred to as the "Contractor," having its principal place of business at **XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX**. The terms and conditions of this Agreement are contained in the following sections:

In consideration of the mutual promises and covenants contained in this agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto do hereby agree as follows:

1. TERM OF AGREEMENT

This Agreement shall become effective upon its approval as to form by the Office of the Attorney General of the State of Connecticut and shall continue until terminated in accordance with the provisions of Section 23, TERMINATION OF AGREEMENT.

Notwithstanding any provision or language in this contract to the contrary, the Chief Information Officer may terminate this contract whenever he/she determines in his/her sole discretion that such termination is in the best interests of the State. Any such termination shall be effected by delivery to the Contractor of a written notice of termination. The notice of termination shall be sent by registered mail to the Contractor address furnished to the State for purposes of correspondence or by hand delivery. Upon receipt of such notice, the Contractor shall both immediately discontinue all services affected (unless the notice directs otherwise) and deliver to the State all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by the Contractor in performing his duties under this contract, whether completed or in progress. All such documents, information, and materials shall become the property of the State. In the event of such termination, the Contractor shall be entitled to reasonable compensation as determined by the Chief Information Officer of the Department of Information Technology, however, no compensation for lost profits shall be allowed.

2. DEFINITIONS

- a) "Contracting Agency" as used herein, shall mean the Department of Information Technology.
- b) "Department" as used herein, shall mean the Department of Environmental Protection
- c) "RFP" as used herein, shall mean the Request for Proposal # **06ITZ0114**, issued by the State on December 29, 2006, concerning the **Replacement of the Air Emissions Inventory System**.
- d) "System" as used herein, shall mean Contractor furnished or otherwise supplied hardware, software and documentation that collectively and in an integrated fashion fulfill the business and technical requirements of the RFP and, as may be further defined pursuant to this Agreement.
- e) "Deliverable" as used herein, shall mean any product, whether hardware, software, documentation, license, information or otherwise, or any service, whether development, integration, administrative, maintenance, operations, support, or otherwise, or any warranty, that is an element of the Contractor's overall approach and solution to the requirements of the RFP, whether produced by the Contractor or by a third party as a supplier or subcontractor to the Contractor, that is agreed to be provided to the State by the Contractor pursuant to this Agreement.
- f) "Project Implementation Summary (Exhibit 1)" as used herein, which is attached to and made a part of this Agreement, shall mean that document which itemizes milestones, phases, stages, and

Deliverables by date of completion, including where checkpoints are to be taken to assure the Department that the provision of Deliverables is proceeding according to schedule.

- g) "Project Implementation Schedule (Exhibit 2)" as used herein, which is attached to and made a part of this Agreement, shall mean that document which itemizes agreed invoice amounts by date, as specified in the Project Implementation Summary, Purchase Orders or Change Orders, subject to State acceptance of associated Deliverables.
- h) "Product Schedule (Exhibit 3)" as used herein, which is attached to and made a part of this Agreement, shall mean that document which establishes the component or unit pricing, and price schedules and terms as applicable, for every Deliverable available pursuant to this Agreement.
- i) "Clarification Document (Exhibit 4)" as used herein, which is attached to and made a part of this Agreement, shall be the document which sets forth the clarifications to the Contractor's Proposal requested by and accepted by the Department.
- j) "Alterations" as used herein, shall mean modifications made by the State or the Department to any Deliverable thereby making such Deliverable non-conformant with Contractor design and/or operation specifications.
- k) "Improvements" as used herein, shall mean Contractor changes made to Deliverables from time to time either to provide additional functions for Department use or to correct errors and other performance deficiencies noted by a Department and reported to Contractor.
- l) "Purchase Order" as used herein, shall mean a document issued by the Department for one or more Products or Deliverables in accordance with the terms and conditions of this Agreement.
- m) "Licensed Software" as used herein, shall mean computer program(s) acquired from Contractor under an agreement whereby the State acquires the right to use the product but does NOT acquire the licensor's: (1) title to the product nor, (2) liability for payment of any tax levied upon the product, nor (3) liability for payment of any liability/casualty premium for the product.
- n) "Designated PU" as used herein, shall mean any Processor Unit (PU) or attached processor (AP) complex, including associated peripheral units, specified in the Attachment. The Attachment may designate more than one PU for either different Sites or Site(s) with multiple interconnected PUs.
- o) "Site" as used herein, shall mean a location of a computer system or systems consisting of one processing unit (PU) or multiple interconnected processing units.
- p) "Specifications" as used herein, shall mean the Contractor's published technical and non-technical detailed descriptions of a Deliverable's capabilities and/or intended use.
- q) "POP" (Primary Operation Period) as used herein, shall mean the days and hours of normal system operations and availability, which is to be 18 hours per day, from 6:00 a.m. to 12:00 a.m., Local Hartford, Connecticut time, seven (7) days a week.
- r) "PPM" (Prime Period Maintenance) as used herein, shall mean maintenance services and/or technical support performed between 7:00 a.m. and 6:00 p.m. Monday through Friday, exclusive of published State holidays. Maintenance services and/or technical support performed during any other time is hereinafter referred to as "Non-PPM" (Non-Prime Period Maintenance).
- s) "Warranty Period" as used herein, shall mean the twelve (12) months following acceptance by the Department of the System after successful completion of all Site Acceptance Tests.
- t) "Contracts and Purchasing Division" as used herein, shall mean the division within the Department of Information Technology (DOIT) responsible for the authorization of direct

purchase of all information technology and telecommunications goods and services for DOIT's forty-seven (47) in-scope agencies.

3. ACQUIRING DELIVERABLES

- a) Subject to the terms and conditions of this Agreement, Contractor shall sell, transfer, convey and/or license to the Department any duly ordered Deliverable. Such Deliverables shall be available in the Product Schedule and listed in Purchase Orders issued by a Department. Purchase Orders shall contain, as appropriate, the following related information:
- 1) Delivery Site and Department Contact Person
 - 2) Identity of this Agreement by Reference Number
 - 3) Contractor Contact Person and Contact Information
 - 4) For hardware and software Deliverables
 - a. Installation PU and Operating System
 - b. Product Number, Description and Quantity
 - c. Applicable rate, license term, and quantity extensions
 - d. Applicable installation and other one-time charge rate(s)
 - e. Applicable maintenance and support provisions and rate(s)
 - f. Applicable product maintenance and support zone & surcharge rate(s)
 - 5) For services
 - a. Description of service
 - b. Quantity of hours or days to be purchased, by service level classification
 - c. Applicable Project Implementation and Quality Assurance Plans
 - 6) Implementation Summary, if applicable
 - 7) Current Product Schedule, if applicable
 - 8) Invoice Schedule, if applicable
 - 9) Total Cost
 - 10) Valid authorization from Contracts and Purchasing Division
- b) Any Purchase Order which has been accepted by the Contractor, shall be attached to, and subject to the terms and conditions of, this Agreement and shall remain attached until such time as the Purchase Order obligations are fulfilled or until State acceptance of full performance of all requirements contained therein, or extended or terminated sooner under the terms of this Agreement. During the period of attachment, the Purchase Order shall be known as an "Attachment" and shall hereinafter be referred to as such.
- c) Contractor may supplement the Product Schedule at any time to make additional products, services and related items available to the State, provided that the effective date of each supplement is stated thereon. Any supplement must be transmitted to the State with a cover letter documenting formal approval of the supplement by a Contractor representative then legally empowered to so act.
- d) Notwithstanding any other provision of this Agreement, no material change may be made to the list of Products on the Product Schedule that alters the nature or scope of the Products or their intended use. Any change in the Products listed in the Product Schedule is conditioned upon the new products being of a similar nature and having a similar use as the defined Products. An

update of the Products or the addition of Products that are related to or serve similar functions as the Products is permissible only with the prior approval of the State. Upon State receipt of ninety (90) calendar days' prior written notice, Contractor may update the Deliverable Price Schedule pricing by amending the Product Schedule effective July 1 of any State of Connecticut fiscal year, provided: (1) the Product Schedule amendment is transmitted and approved in the same manner as described for supplements in Subsection 3.c., (2) no software license, or Deliverable maintenance or service rate is increased within the first year of any Deliverable acceptance, and (3) any such price increase shall not exceed the lesser of five percent (5%) or the U.S. City Average, all items, Consumer Price Index (as displayed on the U.S. Department of Labor's website: (<http://www.bls.gov/cpi/>) in any State of Connecticut fiscal year. In no case shall any such increase exceed Contractor's published prices then applicable to local governments and other States. State shall provide Contractor written acknowledgement, for Contractor's records, of such received amendment.

- e) Deliverables ordered prior to the effective date of any Product Schedule pricing increase shall enjoy protection from rate increase during their initial terms.
- f) Contractor shall provide State with a discount on any Product Schedule pricing according to Contractor's discount policy in effect when a Purchase Order is placed or according to the discount shown on the Product Schedule, whichever is greater.
- g) The Department is authorized to use any Licensed Software to develop and/or enhance said Department's systems, only in the pursuit of its own business interests, on any designated PU and for no other purpose. Any such Licensed Software shall be nonexclusive and nontransferable
- h) Notwithstanding the foregoing restrictions on use, the Department may use the Licensed Software Deliverable on another PU or Site in the following circumstances:
 - 1) If the Department determines that a designated PU or Site cannot be used because of equipment or software inoperability, or initiation of a disaster recovery test or a disaster recovery event.
 - 2) If the Department designated PU is replaced by a Department, said Department may designate a successor PU and use the Deliverable on that PU regardless of speed and performance. Prior to such other use, Department shall give Contractor written notice of such intended use and such other use shall be subject to Contractor's written consent. Such consent shall not be unreasonably withheld or delayed and shall have no cost or charge to the State associated with it.
 - 3) If the Department designated PU is removed to another location, the Department may move any Licensed Software Deliverable and supporting materials to that location which physically replaces the original location. Prior to such moving of any such Deliverable and supporting materials, the Department shall give Contractor written notice of such intended movement and such movement shall be subject to Contractor's written consent. Such consent shall not be unreasonably withheld or delayed and shall have no cost or charge to the State associated with it.
- i) The Department may make a maximum of five (5) copies of each Licensed Software Deliverable and a maximum of five (5) copies of the user manuals/documentation and supporting materials for each such software Deliverable and shall have no cost or charge to the State associated with the making of these copies. The Department shall maintain an accurate record of the location of such copies at all time and such record shall be available to Contractor. All such copies shall be subject to the terms and conditions of this Agreement.

4. PROJECT ADMINISTRATOR

a) The Department shall designate a Project Administrator, who shall be replaced at the sole discretion of the Department. The Project Administrator shall be the sole authority to act for the Department under this Agreement, solely for any Deliverable(s) initially acquired/installed from the Contractor and such sole authority shall continue to be in effect until successful completion of the Warranty Period. Whenever the Department is required, by terms of this Agreement to provide written notice to the Contractor, such notice must be signed by the Project Administrator or, in that individual's absence or inability to act, such notice shall be signed by the Department's Air Management Bureau Chief.

b) The milestones and deliverables that are defined in the Invoice Schedule will be recognized for the purposes of payment to the Contractor. For each of these milestones and all associated deliverables, the Supplier will submit an invoice with sufficient detail to justify the charges along with a copy of the Department's "Notice of Acceptance" letter for that milestone and all associated deliverables to the Project Administrator.

c) Any additions to or reductions in the Deliverables and prices for work completed in the performance of the Project Implementation Summary must be executed according to the provisions of Section 5, CHANGE ORDERS.

5. CHANGE ORDERS

a) The Department may at any time, with written notice to Contractor, request changes within the general scope of the Project Implementation Schedule. Such changes shall not be unreasonably denied or delayed by Contractor. Such changes may include modification in the functional requirements and processing procedures. Other changes might involve the correction of system deficiencies after the operations phase has begun, or other changes specifically required by new or amended State laws and regulations. Prior to expiration of any Warranty Period, any changes to the Deliverables(s) that are required due to System deficiencies or if the System does not fully perform in accordance with this Agreement, shall be made by Contractor without charge to the Department or the State. Any investigation that is necessary to determine the source of the problem requiring the change shall be done by Contractor at its sole cost and expense.

b) The written change order request shall be issued by the Department. As soon as possible after Contractor receives a written change order request, but in no event later than fifteen (15) calendar days thereafter, the Contractor shall provide the Department with a written statement that the change has no price impact on the Contractor or that there is a price impact, in which case the statement shall include a description of the price increase or decrease involved in implementing the change. The cost or credit to the Department resulting in a change in the work shall specify the total cost by the number of hours or days times the applicable service rate, itemized by each applicable service rate scale, as specified within the Product Schedule.

c) No change order shall become effective, nor shall there be any change in the Project Implementation Summary, until Contractor's receipt of a Purchase Order or Purchase Order Change Notice. No Purchase Order or Purchase Order Change Notice shall be issued by the Department without valid authorization from the DOIT Contracts and Purchasing Division. No employee, officer, or representative of the Department, including the Department Project Administrator or the Contractor shall circumvent the intent of this section.

6. DELIVERY, INSTALLATION & DEINSTALLATION

- a) Department shall undertake at its own expense to prepare and make available to Contractor the site of installation of any hardware Deliverable in accordance with Contractor furnished Specifications. If preparation for installation has not been completed, the State shall so notify Contractor as soon as possible but no later than ten (10) days prior to the scheduled hardware Deliverable installation date. If the State installation site requirements do not meet Contractor Specifications, the State shall be charged, at prices in effect at the time of the State's order, for any extra work and ancillary materials required to complete installation.
- b) Contractor shall provide such pre-installation and post-installation hardware Deliverable compatibility system surveys, consultation, reference manuals and onsite operational training as to facilitate proper installation and operation of all Deliverables. Additional Contractor assistance, if requested by the State and issued in a Purchase Order, shall be furnished at the State expense at Contractor's published rates.
- c) Contractor represents and warrants that it shall complete installation of the System in accordance with the Project Implementation Summary.
- d) Department ordered System de-installation, relocation and reinstallation of any System previously installed at a Department site or the Department's designated site shall be at Department's expense according to Contractor's prices then in effect for such services

7. DELIVERABLE EVALUATION & ACCEPTANCE

- a) Except as may be stipulated within Section 4, PROJECT ADMINISTRATOR, any Deliverable furnished by Contractor under the terms of this Agreement shall be subject to an evaluation and acceptance period at the Department installation site. For a Deliverable installed by Contractor, said period shall commence on the Department work day next following written Contractor notification to the Department that the Deliverable is installed and ready to undergo evaluation and acceptance testing. The evaluation and acceptance testing is defined as successful execution of the final User Acceptance Testing, followed by thirty (30) contiguous days of Deliverable performance and Contractor service which satisfies State criteria specified in Section 9, SOFTWARE MAINTENANCE & SUPPORT and Section 10, HARDWARE MAINTENANCE & SUPPORT. For a Deliverable installed by Department, said period shall commence on the Department workday next following receipt of the Deliverable by Department.
- b) Should any Deliverable fail to be satisfactory as specified in Subsection 7.a. due to circumstances beyond Contractor's control, the evaluation and acceptance period then shall be immediately reinitiated or rescheduled at a later date upon mutual agreement between Contractor and Department.
- c) Successful completion of the Deliverable evaluation and acceptance period shall be determined by Department and verified on State Form SDP-6 "Data Processing Installation/Removal" or a Department-issued Acceptance Letter. The license shall be effective commencing on the State's Acceptance Date which shall be considered to be the first workday following the successful Deliverable evaluation and acceptance period. The Department agrees to complete any required Contractor acceptance certificate.
- d) If the Department does not accept any Deliverable within sixty (60) days of installation, due to the Deliverable being unsatisfactory as specified in Subsection 7.a., the Department may then release the Deliverable to Contractor and be relieved of all financial obligations therefore.

- e) Notwithstanding Subsection 7.c., for any Deliverable under this Agreement, the "Acceptance Date" shall mean the first workday following the successful System evaluation and acceptance period.

8. PAYMENTS & CREDITS

- a) The Department shall pay any charges for Deliverables shown in each Attachment promptly after receipt of the Contractor invoice applicable to the calendar month or other period during which Contractor has the obligation to provide the Deliverable to the Department (hereinafter referred to as the "Due Date"). Any such charges for a partial month or period shall be prorated. Charges for licenses shall apply starting with the relevant Acceptance Date; charges for associated services shall apply starting with the relevant dates specified in the pertinent Attachments.
- b) Payment of Contractor charges for any license term or license maintenance and support term shall entitle the Department to use the Deliverable, free of any usage charges, at the Department's convenience at any time during the applicable term, excluding the time required for maintenance and support.
- c) Contractor may assign any license payments (but not any associated service payments), in whole or in part, upon prior written notice to the Department and compliance with the requirements of the State's Comptroller's Office concerning such assignments. Notwithstanding any such assignment, Contractor agrees that the Department shall quietly have and enjoy use of the Deliverable, free of any repossession or any claims by Contractor or its successors and assigns, subject to the terms and conditions of this Agreement, provided the Department is not in default hereunder. No Deliverable assignment by Contractor shall relieve Contractor of any obligations under this Agreement without prior written Department consent in each such instance.
- d) The Department shall not be liable to Contractor for a charge for an item that is not listed on the Product Schedule.
- e) Contractor shall furnish separate invoices for each Purchase Order and each license charge, maintenance and support charge or other charge shall be included as separate line items on such invoices.
- f) Contractor shall be reimbursed for travel expenses only if the Department approves the travel in advance. Reimbursement will be handled as follows:

In-state mileage will be reimbursed using the standard Connecticut Department of Transportation mileage charts. Interstate mileage reimbursement will be based upon mileage calculations readily available on a common Internet site (i.e., Yahoo, Lycos, MapQuest, etc.). Mileage will be reimbursed at the rates established for State Managers. Tolls, taxi, shuttle services, parking fees and other ground transportation charges require receipts to support the charges.

Travel by air or rail will be reimbursed at the most economical fare available. No first class fares will be permitted. Receipts will be required to support the charges.

Lodging will be reimbursed at the most economical rate available at the most reasonable and appropriate place of lodging available. Receipts will be required to support the charges.

Meals will be reimbursed based upon the rates established for State Managers. Applicable tax and a fifteen percent (15%) gratuity will be added to meal charges. The Connecticut Department of Administrative Services' rules for time of day meal reimbursement apply. Information may be found at the DAS web site. Receipts are not required for meal reimbursement.

- g) When the license term specified in the Attachment is less than perpetual, all charges for maintenance and support are included in the periodic license fee.
- h) Where the license term specified in the Attachment is perpetual, charges for maintenance and support are as follows:
 - 1) If the license fee specified in the Attachment is payable in periodic payments, there shall be no additional charge for maintenance and support during the period for which such periodic payments are payable.
 - 2) If the license fee specified in the Attachment is payable in one lump sum, there shall be no additional charge for maintenance and support during the twelve (12) months following the Deliverable Acceptance Date, or during the Warranty Period if applicable.
 - 3) For the year after the period for which periodic payments are payable, or twelve (12) months after the Deliverable Acceptance Date or immediately after the Warranty Period, if applicable, as the case may be, Contractor shall continue to provide the Department with maintenance and support services provided the Department elects to pay Contractor the applicable maintenance and support charges then in effect.
 - 4) For each subsequent year, Contractor's obligation to provide maintenance and support services and Department's obligation to pay the maintenance and support charges then in effect shall be deemed to be automatically renewed unless cancelled in writing by the State at least thirty (30) days prior to such renewal date.
- i) It shall be the responsibility of the Department to pay any charges due hereunder within forty-five days after the acceptance of the Deliverable or services being rendered, as applicable, after having received the Contractor invoice that contains sufficient detail to support the charges.
- j) Failure by the Department to make payment within the forty-five (45) day period after which services have been rendered and an undisputed invoice provided, shall not constitute a default or breach, but rather, shall entitle Contractor to receive interest on the undisputed amount outstanding after said forty-five (45) days in accordance with State of Connecticut statutes.
- k) Notwithstanding this Section 8., Invoices for Deliverables shall be paid as follows:
 - 1) The Department shall pay Contractor within forty-five (45) days after Deliverables have been accepted by the Department and an invoice in accordance with the Project Implementation Schedule has been received. Charges for services shall be based upon actual billable time incurred for such Deliverables, however, such charges shall not exceed the associated "not-to-exceed cost" in accordance with the Invoice Schedule.
 - 2) There shall be a twenty percent (20%) holdback from the monies that are due for each Deliverable accepted by the Department.
 - 3) Upon successful completion of the System evaluation and acceptance period, determined by the Department and verified on State Form SDP-6 or a Department-issued Acceptance Letter, Department shall pay Contractor one-half of the holdback monies.
 - 4) Upon successful completion of the Warranty Period the remaining one-half of the holdback monies will be paid to the Contractor.

9. SOFTWARE MAINTENANCE & SUPPORT

- a) After acceptance of any software Deliverable by the Department and subject to the terms, conditions, and charges set forth in this Agreement, Contractor represents and warrants that

maintenance and support services for any software Deliverable shall be provided to the Department as follows:

- 1) Contractor shall provide such reasonable and competent assistance as necessary to cause the Deliverable to perform in accordance with applicable portions of the Specifications
 - 2) Contractor shall provide Improvements which may be available to Contractor to any Deliverable
 - 3) Contractor shall update any Deliverable, if and as required, to cause it to operate under new versions or releases of the operating system(s) specified in the Attachment
- b) Maintenance and support services shall be provided by the Contractor on an annual basis and shall automatically renew for successive twelve (12) month periods unless thirty (30) days' prior written notice of termination is provided to the Contractor by the Department before the end of the initial term or any renewal term of maintenance and support services.
- c) Contractor shall maintain sufficient and competent Deliverable support services staff to satisfy the Contractor obligations specified herein for any Deliverable.
- d) Contractor shall have full and free access to any Deliverable to provide required services thereon.
- e) If any Licensed Software Deliverable becomes not usable due to the computer manufacturer's release and the installation of (1) a new PU operating system or (2) an updated version of the present PU operating system or (3) a change to the present PU operating system and the Contractor is unable to provide changes to the Deliverable to cause it to operate according to Specifications within thirty (30) days of written notification by the Department to Contractor of such failure to operate, any such Deliverable so affected shall have its paid maintenance and support period, periodic-payment license period or limited term license period extended an additional period of time equal to the period of time the Deliverable was not usable. If, after the expiration of thirty (30) days from the date of said notification, the Deliverable remains not usable, then the applicable license may be terminated at the option of said Department without further obligation or liability.
- f) Contractor shall respond to the Department's telephone requests for technical support relative to any installed software Deliverable within four (4) hours of such requests. Failure to provide reasonable and competent telephone assistance, in the State's sole determination, within the four (4) hour period shall entitle Department to either credit or reimbursement against current charges payable to the Contractor, for a non-perpetual license in the amount of ten percent (10%) of the Contractor's current license fee for each succeeding four (4) hour period that said reasonable and competent assistance is not provided by Contractor. For a perpetual license, the amount shall be 1/6 times the related annual maintenance and support charge, or two (2) times the related monthly maintenance and support charge, as the case may be, whether payable or not by a Department, for each succeeding four (4) hour period that said reasonable and competent assistance is not provided by Contractor.

10. HARDWARE MAINTENANCE & SUPPORT

- a) Department shall be responsible for site work external to, but required for, hardware Deliverable installation and for Contractor maintenance time and material costs of hardware Deliverable repairs necessitated by Department misuse or negligence.
- b) Contractor shall not be responsible for the consequences of any hardware Deliverable repairs, adjustments, or modifications performed by any person not representing Contractor, however,

this provision does not preclude Contractor granting approval for such performance by persons not representing the Contractor.

- c) Contractor shall maintain sufficient installed hardware Deliverable support services staff, replacement hardware Deliverable and ancillary equipment to satisfy the preventive and remedial maintenance requirements and Section 11, SYSTEM RELIABILITY.
- d) Contractor shall have full and free access to any hardware Deliverable, in accordance with the Contracting Agency and/or the Department's security policies to provide required service thereon. Contractor shall maintain an on-site hardware Deliverable log to contain brief descriptions of Department reported problems and the associated remedial or scheduled preventive maintenance services performed on any installed hardware Deliverable.
- e) Preventive maintenance shall be provided at a time mutually agreeable to Department and Contractor, and may be charged to Department at Non-PPM service rates unless scheduled during a PPM period. Preventive maintenance shall conform to the hardware Deliverable manufacturer's recommended schedules and procedures, and may be performed concurrently with remedial maintenance.
- f) Contractor shall arrive at the System site within four (4) hours upon receipt of Department request for PPM. Unless other arrangements are agreed to by Department, should the Contractor representative arrive at the System site one (1) hour or more before the end of a PPM period, remedial Maintenance shall be then completed, or continued for a grace period of up to one (1) hour beyond the PPM period without charging the State for Non-PPM service. At the expiration of the grace period, the State shall have the option to either complete such Maintenance at current Non-PPM rates or schedule Maintenance resumption at the beginning of the next daily PPM period.
- g) At Department's option, any Contractor PPM service may be extended to cover any Non-PPM period by the State's ordering and paying for such additional Maintenance coverage period(s) according to the Product Schedule's provisions for: (1) On-Call (unscheduled) hourly rate Non-PPM, and/or, (2) scheduled Non-PPM surcharge(s). The omission on the Product Schedule of Maintenance Charges for said extended periods of maintenance indicates that such additional maintenance coverage is not offered by the Contractor.

11. SYSTEM RELIABILITY

- a) The reliability, at any point in time, of the System shall be determined by the System's operational capability for productive Department use as configured and installed within the agreed operating environment. Continued acceptability of such System performance reliability shall be based on the Department's experienced rate of recoverable and non-recoverable System operating errors or failures that preclude productive Department use of the System according to the agreed requirements and Contractor operating specifications.
- b) The required reliability (Computed % Reliability) for the System during any calendar month is ninety-nine point five (99.5%) uptime availability for aforesaid productive Department use, computed as follows:

$$\text{Computed \% Reliability} = \frac{(\text{Available-Time-per-Month}) - (\text{Downtime-per-Month})}{(\text{Available-Time-per-Month})}$$

with Available-Time-per-Month equated to 24 hours times the number of days in the month, which shall be deemed to correspond to POP during each calendar month and Downtime-per-

Month equated to those hours of Available-Time-per-Month during which the Department or any specific site is precluded from aforesaid productive System use.

EXAMPLE:

Given: Available-Time-per-Month was 720 hours.

Downtime-per-Month was 3.60 hours.

$$\text{Then: Computed \% Reliability} = \frac{(720 - 3.60)}{720} = 99.5\%$$

- c) A given instance of System downtime shall start after receipt by the Contractor of a bona fide Department service request to remedy any operational System deviation, error, or failure condition(s), and end with documented proof by Contractor to the Department that such System status has been fully restored to the applicable agreed operational specifications and made ready for productive Department use. However, the calculated time period of such an instance of System downtime shall exclude the following periods:
- 1) Any nonproductive System use time caused by the Department or the Department's authorized third party
 - 2) Any time during which the Department fails to make the System available for Contractor's remedial service

12. SYSTEM WARRANTIES

- a) Contractor represents and warrants that the System shall conform to the terms and conditions of this Agreement and Contractor's proposal, and be free from defects in material and workmanship upon acceptance of the System by the Department and for a minimum period of the Warranty Period. Additionally, during the Warranty Period, Contractor shall modify, adjust, repair and/or replace such Deliverable(s), at no charge to Department, as necessary to maintain ongoing System reliability according to Section 11, SYSTEM RELIABILITY.
- b) If the ongoing performance of Contractor maintenance and support of the System or if the System does not conform to Section 11, SYSTEM RELIABILITY, the Department shall give Contractor written notice of performance deficiencies. Contractor shall then have not more than a thirty (30) calendar day period to correct the applicable Deliverable deficiency and restore the functioning of the Deliverable and System to a level of operation that meets or exceeds the requirements of this Agreement. If during the Warranty Period such Deliverable or System performance, or service level, continues to fail to meet these specifications, then the Contractor shall be in material default of this Agreement.
- c) In addition to as may otherwise be provided in this Agreement, any material default by the Contractor during the Warranty Period, the State may, by written notice to Contractor signed by the Project Administrator, terminate this Agreement. In event of such termination, the Contractor shall reimburse Department of all monies paid by Department to Contractor under this Agreement.

13. OTHER WARRANTIES

- a) Contractor hereby warrants its ownership and/or marketing rights to the software license Deliverables. Unless stated otherwise in an Attachment, Contractor hereby warrants that a software Deliverable installed by Contractor, or installed by the Department in accordance with Contractor's instructions, shall function according to the Specifications on the Acceptance Date for such Deliverable, and that Contractor shall modify and/or replace such Deliverable as necessary to maintain ongoing reliability according to Section 9, SOFTWARE MAINTENANCE & SUPPORT. This latter warranty shall not apply to any software Deliverable deficiency caused by maintenance by a person other than the Contractor or its representative.
- b) If the ongoing performance of the software Deliverable does not conform to Section 9, SOFTWARE MAINTENANCE & SUPPORT provisions of this Agreement, the Department shall give Contractor written notice of performance deficiencies. Contractor shall then have not more than a ten (10) calendar day cumulative cure period per twelve (12) month period to correct such deficiencies. If the cumulative number of days in a twelve (12) month period is exceeded, and said performance continues to be in nonconformance with said Section 9., the Contractor shall be in material default of this Agreement and the State at its option may thereupon:
 - 1) In addition to the options listed below, if during the Warranty Period, terminate this Agreement in accordance with Subsection 12.c.
 - 2) Request Contractor to replace said Deliverable at Contractor's expense with a functional Deliverable or competent service.
 - 3) Terminate the Deliverable license or service without Department penalty, further obligation or financial liability. In the event of such termination, the Department shall be entitled to a refund of monies paid to the Contractor according to the following schedule:
 - a. Termination of a lump-sum payment perpetual license:
Period that terminated Deliverable license has been in effect with Acceptance Date in:

1st - 12th month:	100% of license fee paid to be refunded
13th - 24th month:	75% of license fee paid to be refunded
25th - 36th month:	50% of license fee paid to be refunded
37th month and over:	25% of license fee paid to be refunded
 - b. Termination of associated services or a periodic payment license or a lump-sum payment non-perpetual license:
All fees paid by the Department to the Contractor applicable to the period following default shall be refunded to the Department.
- c) The Contractor neither excludes nor modifies the implied warranties of merchantability and fitness for a particular purpose concerning the Deliverables offered under the terms and conditions of this Agreement.

14. PATENT, COPYRIGHT, LICENSE & PROPRIETARY RIGHTS

- a) Contractor hereby grants the Department, at no additional cost, rights to copy and use any patented, copyrighted, licensed or proprietary software Deliverable solely in the pursuit of its own business interests. The Department shall promptly affix to any such copy a reproduction of the patent, copyright, license or proprietary rights information notice affixed to the original Deliverable. The Department shall maintain the confidentiality of any such Licensed Software Deliverable consistent with its privileged nature, and shall not divulge the Deliverable or make it

available to any third party, except as may be noted elsewhere in this Agreement. This obligation survives termination of this Agreement.

- b) Contractor agrees to indemnify, hold harmless and defend the State and any Department from and against any patent, copyright, license or proprietary rights infringement claim or proceeding pertaining to Department use of any software Deliverable, except where the Department modifies or adapts said Deliverable without Contractor consent. Contractor agrees to satisfy any final award arising from any said claim or proceeding. The State or the Department agrees to give Contractor prompt written notice of any impending said claim or proceeding, and agrees to Contractor's right to conduct any defense thereof.
- c) In the event any software Deliverable becomes the actual or prospective subject of any said claim or proceeding, Contractor may, at its discretion:
 - 1) Modify the Deliverable or substitute another equally suitable Deliverable (providing such alternative does not degrade the Department's Deliverable dependent performance capability)
 - 2) Obtain for said Department the right to continued Deliverable use
 - 3) If Deliverable use is prevented by injunction, take back the Deliverable and credit the Department for any charges unearned as a result of enjoined use as follows:
 - a. Where the license specified in the applicable Attachment is less than perpetual, Contractor shall promptly refund the Department the amount of the fees paid to the Contractor for the portion of the applicable term found to be infringing.
 - b. Where the license specified in the applicable Attachment is perpetual:
 - (1) Periodic Payment License: Contractor shall promptly refund the Department the amount of the fees paid to the Contractor for the portion of the applicable term found to be infringing.
 - (2) Lump-Sum Payment License: Contractor shall promptly refund the Department any Deliverable maintenance and support charges paid by the Department to the Contractor applicable to the infringement period plus a sum computed as follows:
Period that infringing Deliverable license has been in effect with Acceptance Date in:

1st - 12th month:	100% of license fee paid
13th - 24th month:	75% of license fee paid
25th - 36th month:	50% of license fee paid
37th month and over:	25% of license fee paid
- d) Contractor shall have no liability for any infringement claim or proceeding based on the Department's use of a Deliverable for which it was neither designed nor intended and Contractor has provided written notification to said Department of such inappropriate use.

15. CONFIDENTIALITY; NONDISCLOSURE

- a) All material and information provided to the Contractor by the State or acquired by the Contractor in performance of the Contract whether verbal, written, recorded magnetic media, cards or otherwise shall be regarded as confidential information and all necessary steps shall be taken by the Contractor to safeguard the confidentiality of such material or information in conformance with federal and state statutes and regulations. The Contractor agrees that it is prohibited from releasing any and all information provided by the Department or any information generated by the Contractor without the prior express written consent of the Department.

- b) The Department shall exercise at least the same degree of care to safeguard any Licensed Software Deliverable as the Department does its own property of a similar nature and shall take reasonable steps to assure that neither the Licensed Software Deliverable nor any part thereof received by Department under this Agreement shall be disclosed for other than its own business interests. Such prohibition on disclosures shall not apply to disclosures by the Department to its employees or its representatives, provided such disclosures are reasonably necessary to Department's use of the Deliverable, and provided further that Department shall take all reasonable steps to insure that the Deliverable is not disclosed by such parties in contravention of this Agreement.
- c) The Department shall use any Licensed Software Deliverable only in the pursuit of its own business interests. The State shall not sell, lease, license or otherwise transfer with or without consideration, any such Deliverable to any third party (other than those non-designated third parties that have need to know and agree to abide by the terms of this Section 15.) or permit any third party to reproduce or copy or otherwise use such Deliverable. The State will not create derivative works, translate, reverse engineer or decompile the Licensed Software Deliverable, in whole or in part, nor create or attempt to create, by reverse engineering or disassembling of the design, algorithms or other proprietary trade secrets of the Deliverable software.
- d) Contractor hereby agrees that:
 - 1) All Department information exposed or made available to Contractor or its representatives is to be considered confidential and handled as such.
 - 2) Any such Department information is not to be removed, altered, or disclosed to others in whole or in part by Contractor and its representatives.
 - 3) All Department security procedures shall be adhered to by Contractor and its representatives.
- e) It is expressly understood and agreed that the obligations of this Section 15 shall survive the termination of this Agreement.

16. DELIVERABLE REPLACEMENTS & UPGRADES

- a) The State may order replacement of any Deliverable license with any other Deliverable license then available to the State. Contractor shall provide the State with a discount or credit according to Contractor's policy then in effect or according to the credit shown below, whichever is greater:
 - 1) Replacement Deliverable that was provided by the Contractor under a lump sum payment perpetual license
Period license of replaced Deliverable has been in effect starting with Acceptance Date:

1st - 12th month:	75% of license fee paid shall be credited toward fee for Replacement Deliverable
13th - 24th month:	50% of license fee paid shall be credited toward fee for Replacement Deliverable
25th - 36th month:	25% of license fee paid shall be credited toward fee for Replacement Deliverable
37th month and over:	No credit toward fee for Replacement Deliverable

2) Replaced Deliverable that was provided by the Contractor under a periodic payment license:

License fee payments for a replaced Deliverable shall terminate on the Acceptance Date of the replacement Deliverable.

3) Replaced Deliverable that was provided by the Contractor under a lump-sum payment non-perpetual license:

There shall be a prorated adjustment of the license fee payment for a replaced Deliverable as of the Acceptance Date of the replacement Deliverable.

b) The license fee for any replacement Deliverable applies commencing on the Acceptance Date of such Deliverable.

c) Contractor shall keep current any installed Deliverable that it has supplied throughout its license term by delivering, at no cost or expense to a Department, the most current release of said Deliverable to the Department, provided that said Department has paid or will pay the most recent applicable annual maintenance charges.

17. RISK OF LOSS & INSURANCE

a) The Department shall not be liable to Contractor for any risk of Deliverable loss or damage while Deliverable is in transit to or from a Department installation site, or while in a Department's possession, except when such loss or damage is due directly to Department gross negligence.

b) In the event Contractor employees or agents enter premises occupied by or under control of a Department in the performance of their responsibilities, Contractor shall indemnify and hold said Department harmless from and defend it against any loss, cost, damage, expense or liability by reason of tangible property damage or personal injury, of any nature or any kind, caused by the performance or act of commission or omission of said employees or agents. Without limiting the foregoing, Contractor shall maintain public liability and property damage insurance within reasonable limits covering the obligations contained herein, and shall maintain proper workers' compensation insurance in accordance with Section 40, WORKERS' COMPENSATION.

18. DELIVERABLE ALTERATIONS

a) Alterations of any hardware Deliverable may be made only with the prior written consent of Contractor and/or manufacturer. Such consent shall not be unreasonably withheld or delayed and shall be provided without cost to customer or Department.

b) All inventions or improvements to the computer programs and/or base software developed by the Contractor pursuant to this Agreement shall become the property of the State. The State shall retain all ownership rights to any such inventions or improvements. The Contractor shall receive a non-exclusive, royalty-free license for any software, software enhancement, documentation or invention developed under this Agreement. The Contractor may sublicense any software, software enhancement, invention or improvements developed by the Contractor pursuant to this Agreement to third parties on the same royalty-free basis as provided by the State to the Contractor hereunder.

c) If any Deliverable Alteration interferes with the normal and satisfactory operation or maintenance and support of any Deliverable or increases substantially the costs of maintenance and support thereof or creates a safety hazard, the Department shall, upon receipt of written notice from Contractor, promptly restore the Deliverable to its pre-altered condition.

d) Any Alteration of a Licensed Software Deliverable by the Department without prior written consent of Contractor shall void the obligations of Contractor under Section 9, SOFTWARE

MAINTENANCE & SUPPORT for the Deliverable. Contractor shall indicate in any prior written consent, which parts of the Deliverable being altered will continue to be subject to Section 9, SOFTWARE MAINTENANCE & SUPPORT and which will not. The State understands and agrees that Contractor may develop and market a new or substantially different product that either uses or performs all or part of the functions performed by an installed Deliverable or System. Nothing contained in this Agreement gives the State any rights, with respect to such new or different product, not granted to other product users.

19. LIMITATION OF LIABILITY

- a) In no event shall either party be liable for special, indirect or consequential damages except as may otherwise be provided for in this Agreement.
- b) Contractor shall indemnify, defend and hold harmless the Department and the State from and against all:
 - 1) Actions, suits, claims, investigations or legal or administrative or arbitration proceedings pending or threatened, whether at law or in equity in any forum (collectively, "Claims") arising, directly or indirectly, in connection with this Agreement including, but not limited to, acts of commission or omission, (collectively, the "Acts") by the Contractor or any of its members, directors, officers, shareholders, representatives, agents, servants, consultants, employees or any other person or entity with whom the Contractor is in privity of oral or written contract (collectively, "Contractor Parties")
 - 2) Liabilities arising, directly or indirectly, in connection with this Agreement, out of the Contractor's or Contractor Parties' Acts concerning its or their duties and obligations as set forth in this Agreement
 - 3) Damages, losses, costs and expenses, including but not limited to, attorneys' and other professionals' fees, that may arise out of such Claims and/or liabilities for bodily injury and/or property damage

20. FORCE MAJEURE

Neither party shall be responsible for delays or failures in its obligations herein due to any cause beyond its reasonable control. Such causes shall include, but not be limited to, strikes, lockouts, riot, sabotage, rebellion, insurrection, acts of war or the public enemy, unavailable raw materials, telecommunication or power failure, fire, flood, earthquake, epidemics, natural disasters, and acts of God.

21. SOURCE CODE ESCROW

- a) Contractor agrees to store their own intellectual property, at the expense of the Department, during the term of this Agreement at a third party site, as set forth in the pricing provided by the supplier, a copy of the most current source code, and any documentation and written instructions required to interpret said source code, for all Licensed Software Deliverables. Said third party site, source code, documentation and instructions will be affirmed to the Department in writing by Contractor within fourteen (14) days of a request of the Department. Contractor shall immediately arrange for the surrender of such source code, documentation and instructions to Department:
 - 1) If Contractor becomes insolvent or commits any act of bankruptcy or makes a general assignment for the benefit of creditors;

OR

 - 2) If Contractor or its successors or assignees discontinues support of the Deliverables for any reason.

- b) Contractor shall arrange so that the Department shall have the right at any time to contact the so identified third party and shall also arrange so the Department's audit personnel shall have full and free access to examine any such source code, documentation and written instructions for the purposes of ascertaining the existence of the source code and related documentation and instructions and for the verification of the continued validity of the instructions from the Contractor to the third party to release the source code, documentation and instructions to the Department under the circumstances specified in this section.
- c) In no event shall a Department use the source code, documentation and written instructions for purposes other than satisfying Department needs. Title to any source code released to the State in compliance with this Section 21. shall remain with Contractor and the State shall continue to treat the released materials as valuable and proprietary trade secret information of Contractor in accordance with the terms of this Agreement, which terms shall expressly survive the termination or expiration of this Agreement. The State agrees that any released source code shall be used solely for the business purposes of Department and shall not be disclosed to any third party pursuant to this Agreement.

22. REMEDIES AND LIQUIDATED DAMAGES

22.1. Understanding and Expectations

The Contractor agrees and understands that the Department or the State may pursue contractual remedies for both programmatic and financial noncompliance. The Department, at its discretion, may impose or pursue one or more remedies for each item of noncompliance and will determine sanctions on a case-by-case basis. The Department's pursuit or non-pursuit of a tailored administrative remedy shall not constitute a waiver of any other remedy that the Department may have at law or equity. The remedies described in this Section are directed to the Contractor's timely and responsive performance of the Deliverables.

22.2. Administrative Remedies

- a) Contractor responsibility for improvement: The Department expects the Contractor's performance to continuously meet or exceed performance criteria over the term of this Agreement. Accordingly, Contractor shall be responsible for ensuring that performance for a particular activity or result that fails to meet the requirements of the Project Implementation Summary or this Agreement must improve within thirty (30) days of written notice from the Department regarding the deficiency.
- b) Notification and interim response: If the Department identifies areas of Contractor performance that fail to meet performance expectations, standards, or schedules, but which, in the determination of the Department, do not result in a material delay in the implementation or operation of the System, the Department will notify Contractor of such deficiency or exception. Contractor shall within three (3) business days of receipt of written notice of such a non-material deficiency, provide the Department Project Manager a written response that
 - 1) Explains the reasons for the deficiency, the Contractor's plan to address or cure the deficiency, and the date and time by which the deficiency will be cured, or
 - 2) If Contractor disagrees with the Department's findings, its reasons for disagreeing with the Department's findings. Contractor's proposed cure of a non-material deficiency is subject to the approval of the Department. Contractor's repeated commission of non-material deficiencies or repeated failure to resolve any such deficiencies may be regarded by the

Department as a material deficiency and entitle the Department to pursue any other remedy provided in this Agreement or any other appropriate remedy the Department may have at law or equity.

- c) **Corrective Action Plan:** the Department may require the Contractor to submit to the Department a detailed written plan (the “Corrective Action Plan”) to correct or resolve the deficiency. The Corrective Action Plan must provide a detailed explanation of the reasons for the cited deficiency, the Contractor’s assessment or diagnosis of the cause, and a specific proposal to cure or resolve the deficiency. The Corrective Action Plan must be submitted within ten (10) business days following the request for the plan by the Department and is subject to approval by the Department, which approval shall not unreasonably be withheld. Notwithstanding the submission and acceptance of a Corrective Action Plan, Contractor remains responsible for achieving all oral and written performance criteria. The acceptance of a Corrective Action Plan under this Section shall not excuse prior substandard performance, relieve Contractor of its duty to comply with performance standards, or prohibit the Department from assessing additional remedies or pursuing other approaches to correct substandard performance.
- d) **Additional remedies:** the Department at its own discretion may impose one or more of the following remedies for each item of noncompliance or sub-standard performance and will determine the scope and schedule of the remedy on a case-by-case basis. Both Parties agree that a state or federal statute, rule, regulation or guideline will prevail over the provisions of this Section unless the statute, rule, regulation, or guidelines can be read together with this Section to give effect to both.
 - 1) Corrective Action Plans
 - 2) Additional, more detailed, financial, programmatic and/or ad hoc reporting by the Contractor, at no cost to the Department, to address performance issues
 - 3) Pass-through of a proportional share of federal disallowances and sanctions/penalties imposed on the State and resulting from the Contractor’s performance or non-performance under this Agreement
 - 4) Assess liquidated damages pursuant to Section 22.3., below, and deduct such damages against Contractor payments as set-off

The Department will formally notify the Contractor of the imposition of an administrative remedy in accordance with paragraph (b) of this Section. Contractor is required to file a written response to such notification in accordance with paragraph (b) of this Section.

- e) **Review of administrative remedies:** Contractor may request a review of the imposition of the foregoing remedies. Contractor must make the request for review in within ten (10) business days of receipt of written notification of the imposition of a remedy by the Department.

22.3. Liquidated Damages

The liquidated damages prescribed in this section are not intended to be in the nature of a penalty, but are intended to be reasonable estimates of the State’s projected financial loss and damage resulting from the Contractor’s nonperformance, including financial loss as a result of project delays. Accordingly, in the event Contractor fails to perform in accordance with this Agreement, the State may assess liquidated damages as provided in this Section.

- a) **Failure to Provide Deliverables:** In the event the Contractor fails to provide Deliverables in accordance with the Project Implementation Summary, the State may assess a liquidated damage

of \$1,000 each business day of such failure. Liquidated damages assessed pursuant to this paragraph shall not exceed five percent (5%) of all amounts then currently payable to Contractor, or \$5,000, whichever is greater

- b) **Failure to Return to Normal Operating Condition:** In the event the System is not in normal operating condition for reasons other than those constituting Force Majeure, or the introduction of a software virus by the Contractor, and Contractor fails to return the System to normal operating condition, or activate interim manual operations as per the business and technical requirements, within four (4) hours following notification, the Department may assess a liquidated damage of \$1,000 per hour beyond the four (4) hours that the System is not in normal operating condition. If the inoperability of the System is caused by the introduction of a software virus, the damages specified in paragraph (c) of this section shall apply. Liquidated damages assessed pursuant to this paragraph shall not, for any given event where the System is not in normal operating condition, exceed 100% of all amounts then currently payable to Contractor, or \$60,000, whichever is greater
- c) **Introduction of Software Virus:** In the event Contractor introduces any software virus into the System or any other Department or state or federal agency system, the Department may assess a liquidated damage of \$5,000 per incident. Should the software virus cause system downtime, failure to return the system to normal operating condition within four (4) hours will result in liquidated damages of \$5,000 per hour beyond the initial four hours. Should a software virus introduced by the Contractor cause any other State system downtime, this shall be considered a separate incident and liquidated damages will be assessed at a rate of \$5,000 per hour of downtime for each State system. Contractor shall additionally bear the cost of all claims, judgments, legal fees, and associated costs due to Contractor negligence, misconduct, security breach or any other cause hereunder that is directly attributable to the Contractor. Liquidated damages assessed pursuant to this paragraph shall not, for each event or incident, exceed 100% of all amounts then currently payable to Contractor, or \$300,000, whichever is greater
- d) **Contractor's Responsibility for Substandard Performance:** The Contractor shall be responsible for ensuring that performance for a particular activity or result that falls below the Project Implementation Summary, or this Agreement, must improve within thirty (30) days of the first assessment of liquidated damages for that activity or result. In the event the Contractor's performance continues to be unacceptable following the assessment of a liquidated damage and implementation of a Corrective Action Plan, the Department may in its discretion impose a lump sum liquidated damage of \$10,000 for each month that the Contractor's performance fails to improve. This remedy shall be a separate remedy above and beyond any other remedies the Department may have at law or equity, including Termination.
- e) **Right to Terminate on Failure to Cure:** If the Contractor fails to cure any noncompliance or nonperformance related to an assessment of liquidated damages, within five (5) POP days, the State may terminate this Agreement pursuant to the Termination sections, herein
- f) **Contractor responsibility for associated costs:**
 - 1) If the State terminates this Agreement pursuant to this Section, Contractor shall be responsible to the State for all costs incurred by the State that are reasonably attributable to the Contractor's non-compliance or substandard performance, including costs to replace the Contractor and procure substitute products and services

- 2) Contractor shall bear the cost of all claims, judgments, legal fees, and associated costs due to negligence, misconduct, security breach or any other cause that is directly attributable to the Contractor's performance under this Agreement
- g) Cap on damages: Damages imposed pursuant to this Agreement shall not in the aggregate exceed 100% of the Total Project Cost of this Agreement
- h) Method of Payment: The State may elect to assess a liquidated damage directly to the Contractor, or it may deduct amounts assessed as liquidated damages as set-off against payments then due to the Contractor or which become due at any time thereafter

23. TERMINATION OF AGREEMENT

This Section 23, TERMINATION OF AGREEMENT shall become effective upon approval of this Agreement and shall survive until successful completion of the Warranty Period. During the time this Section 23. remains in force, this Agreement shall be subject to termination according to the following and as otherwise provided in this Agreement:

a) Mutual Agreement

This Agreement may be terminated by mutual agreement, in writing, of the parties. The effective date of such termination and the responsibilities of the parties shall be set forth as a part of that Agreement.

b) Default by the Contractor

The State may, by written notice to Contractor, signed by the Project Administrator, terminate the Contractor's right to proceed under this Agreement if the Contractor:

- 1) Materially fails to perform the services within the time specified or any extension thereof; or
- 2) So fails to make progress as to materially endanger performance specified in this Agreement in accordance with its terms; or
- 3) Otherwise fails to perform any other material provisions of this Agreement; provided, however, that in such event the State, through the Project Administrator, shall give the Contractor at least thirty (30) days' prior written notice

Termination for default at the option of the State shall be effective thirty (30) days after receipt of such notice, unless the Contractor corrects said failure(s) within thirty (30) days after receipt by the Contractor of such written notice. In the event of such Agreement termination, the Contractor shall reimburse Department of all monies paid by Department to Contractor under this Agreement and Contractor shall be liable to compensate the Department for any additional costs reasonably incurred by the Department in obtaining such services; provided that the failure to perform under this Agreement which results in termination pursuant to this Subsection 22.b. arises out of cause or causes other than those described in Section 20, FORCE MAJEURE.

c) Termination by the Project Administrator

The Project Administrator, by sixty (60) days' prior written notice to the Contractor, may terminate performance of work under this Agreement, in whole or in part, when it is in the best interest of the Department to do so. In the event of such termination, the Contractor will be compensated by Department for work performed prior to such termination date and for all reasonable costs to which the Contractor has, out of necessity, obligated itself as a result of this Agreement.

24. TERMINATION OF PURCHASE ORDERS

In addition to as otherwise may be provided in this Agreement, the Department may terminate early and without penalty, and without default on the part of the Contractor, any license or associated service on any Attachment by releasing Contractor from further responsibility to provide the Deliverable, under the following conditions:

a) Termination in the Interest of Department

Upon thirty (30) days' prior written notice to Contractor, a Department may terminate any service and/or applicable Purchase Order(s), in whole or in part, when it is in the best interest of the Department to do so. In the event such termination pertains to associated service, the Contractor will be compensated for all work performed prior to and including such termination date.

b) Lack of Continued Funding

Upon ninety (90) days' written notice to Contractor, a Department may terminate any Deliverable license or associated service as of the first day of the period for which sufficient funds to meet its obligations under this Agreement are not appropriated or allocated. The Department shall pay any Deliverable charges due prior to the non-funded period. If the necessary funding becomes available within ninety (90) days of such termination, Department and Contractor agree to resume said license or associated service, upon such funding becoming available, under the terms applicable to such license or associated service just prior to termination, unless such resumption is mutually declined.

Upon the termination of any such Deliverable license, the license and all other rights granted hereunder to the Department shall immediately cease, and said Department shall immediately upon receipt of written request from Contractor:

a) Return the Deliverable to Contractor; and

b) Purge all copies of the Deliverable or any portion thereof from all PUs and from any computer storage medium or device on which the Department has placed Deliverable.

25. GENERAL PROVISIONS

a) Section headings and document titles used in this Agreement are included for convenience only and shall not be used in any substantive interpretation of this Agreement.

b) If any term or condition of this Agreement is decided by a proper authority to be invalid, the remaining provisions of the Agreement shall be unimpaired and the invalid provision shall be replaced by a provision which, being valid, comes closest to the intention underlying the invalid provision.

c) The terms of all Deliverable(s), maintenance service rates/pricing, and associated offerings in this Agreement are equivalent to or better than those for comparable Contractor offerings to any other state or local government customer under like terms and conditions. If during the life of this Agreement Contractor provides more favorable terms for said offerings to another such customer, this Agreement shall thereupon be deemed amended to provide same to the State.

d) The failure at any time by either party to this Agreement to require performance by the other party of any provision hereof shall not affect in any way the full right to require such performance at any time thereafter. The waiver by either party of a breach of any such provision shall not constitute a waiver of the provision itself, unless such a waiver is expressed in writing and signed by a duly authorized representative of the waiving party.

- e) In any case where the consent or approval of either party is required to be obtained under this Agreement, such consent or approval shall not be unreasonably withheld or delayed. No such consent or approval shall be valid unless in writing and signed by a duly authorized representative of that party. Such consent or approval shall apply only to the given instance, and shall not be deemed to be a consent to, or approval of, any subsequent like act or inaction by either party.
- f) This Agreement shall be deemed to have been made in the State of Connecticut and shall be governed in all respects by the laws of said State without giving effects to its conflicts of laws provisions.
- g) The Department agrees not to remove or destroy any proprietary markings or proprietary legends placed upon or contained within any Deliverable.
- h) Except as may be otherwise provided for in this Agreement, the Department shall not assign, mortgage, alter, relocate or give up possession of any lease Deliverable or Licensed Software Deliverable without the prior written consent of Contractor.
- i) If the Department desires to obtain a version of the Licensed Software Deliverable that operates under an operating system not specified in the Attachment, Contractor shall provide said Department with the appropriate version of the Deliverable, if available, on a 60-day trial basis without additional charge, provided a Department has paid all applicable maintenance and support charges then due. At the end of the 60-day trial period, a Department must elect one of the following three options:
 - 1) Department may retain and continue to use the old version of the Deliverable and return the new version to Contractor and continue to pay the applicable license fee and maintenance and support charge for the old version;
OR
 - 2) Department may retain and use the new version of the Deliverable and return the old version to Contractor, provided that any difference in the applicable license fee and maintenance and support charge for the new version and such fee and charge for the old version is paid or refunded to the appropriate party;
OR
 - 3) Department may retain and use both versions of the Deliverable, provided Department pays Contractor the applicable license fees and maintenance and support charges for both versions of the Deliverable.
- j) Contractor covenants and agrees that it will not, without prior written consent from the State, make any reference to the Department or the State in any of Contractor's advertising or news releases.
- k) Any Deliverable developed under this Agreement shall be the sole property of the State and the State shall have sole proprietary rights thereto. Contractor acknowledges and agrees that any program, process, equipment, proprietary know-how or other proprietary information or technology (and all associated documentation) that is produced or is the result of Contractor's performance of any work under this Agreement shall be owned solely by the State upon creation and Contractor shall have no rights in such property and Contractor agrees to execute any and all documents or to take any actions which may be necessary to fully effectuate the terms and conditions of this Section.

- l) Notwithstanding the foregoing, the State grants Contractor rights to use, sell, distribute and incorporate within Contractor's Deliverable base any and all programs, processes, proprietary know-how and other proprietary information or technology (and all associated documentation) that Contractor produces or that is the direct result of Contractor's performance of any work under this Agreement. Such rights will result in a royalty payment to the State in the amount of 40% of charges attributable to the sale of such portion of programs, processes, proprietary know-how and other proprietary information or technology (and all associated documentation) excepting therefrom any sale between Contractor and any Local, State, Federal Government, including agency or political subdivision thereof to which no charge will apply. This royalty payment will cease on the five-year anniversary date of this Agreement. Contractor will submit to the State an annual report itemizing such charges, if any, and accompanying the report with a check made payable to "Treasurer State of Connecticut" in the amount of the royalty fees due the State. Such report will be sent to the notice address in Section 27, COMMUNICATIONS of this Agreement.
- m) Any forthcoming transactions against this Agreement shall be in accordance with applicable Connecticut statutes, if any, pertaining to the Department of Information Technology.
- n) The following items are hereby incorporated into this Agreement by reference:
 - 1) The RFP No. **06ITZ0114** issued on December 29, 2006
 - 2) Vendor Conference Questions and Answers, dated [insert date], 2007
 - 3) All Questions and Answers, dated [insert date], 2007
 - 4) Contractor's Proposal in response to the State's RFP, dated February 26, 2007
- o) Contractor will not hire or offer employment to any current or former State official or employee contrary to or in violation of §1-84b of the Connecticut General Statutes or the Code of Ethics for Public Officials.
- p) The Department, DOIT, the Connecticut Auditors of Public Accounts, the Joint Committee on Legislative Management, each nonpartisan office of the General Assembly, the U.S. Department of Environmental Protection, the U.S. Attorney General, or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Contractor, which are directly pertinent to the work to be performed under this contract, for the purpose of making audits, examinations, excerpts and transcriptions.
- q) Time is of the essence: In consideration of the time limits for compliance with State law and Department procedures, time is of the essence on the performance of the Services under this Agreement

26. ORDER OF PRECEDENCE

In the event of conflict of terms and conditions between or among the RFP, the Contractor proposal and this Agreement, the order of precedence is:

- 1) This Agreement
- 2) Any Clarification to the Proposal
- 3) The RFP, and any amendments thereto.
- 4) The Contractor's Proposal in response to the State's RFP

27. COMMUNICATIONS

Unless notified otherwise by the other party in writing, correspondence, notices, and coordination between the parties to this Agreement as to general business matters or the terms and conditions herein should be directed to:

State: Connecticut Department of Information Technology
Contracts & Purchasing Division
101 East River Drive
East Hartford, CT 06108

Contractor: As stated in page one of this Agreement.

Details regarding Contractor invoices and all technical or day-to-day administrative matters pertaining to any Deliverable should be directed to:

Department: The individual specified in the applicable Purchase Order in accordance with Section 4, "PROJECT ADMINISTRATOR."

Contractor: The individual designated by Contractor in the Proposal or other response to the RFP issued by the State.

Notices sent by United States mail with postage prepaid shall become effective when mailed.

28. NONDISCRIMINATION AND AFFIRMATIVE ACTION PROVISIONS

This section is inserted in this contract in connection with Subsection (a) of Section 4a-60 of the General Statutes of Connecticut, as revised.

a) For the purposes of this section:

- 1) "Minority business enterprise" means any small contractor or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons:
 - a. Who are active in the daily affairs of the enterprise
 - b. Who have the power to direct the management and policies of the enterprise
 - c. Who are members of a minority, as such term is defined in Subsection (a) of Conn. Gen. Stat. Section 32-9n; and "good faith" means the degree of diligence that a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements
- 2) "Commission" means the commission on human rights and opportunities
- 3) "Public works contract" means any agreement between any individual, firm or corporation and the state or any political subdivision of the state other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the state, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees

b) The Contractor agrees and warrants that in the performance of the contract:

- 1) Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut. The Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation, or physical disability, including, but not limited to, blindness, unless it is shown by Contractor that such disability prevents performance of the work involved.
 - 2) In all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission.
 - 3) To provide each labor union or representative of workers with which Contractor has a collective bargaining agreement or other contract or understanding and each Contractor with which Contractor has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment.
 - 4) To comply with each provision of this section and Conn. Gen. Stat. Sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to Conn. Gen. Stat. Sections 46a-56, 46a-68e and 46a-68f.
 - 5) To provide the commission on human rights and opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this section and Conn. Gen. Stat. Section 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works project.
- c) Determination of the Contractor's good faith efforts shall include but shall not be limited to the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.
 - d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the commission, of its good faith efforts.
 - e) The Contractor shall include the provisions of Subsection b of this section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the state and such provisions shall be binding on a subcontractor, Contractor or manufacturer unless exempted by regulations or orders of the commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Conn. Gen. Stat. Section 46a-56; provided, if Contractor becomes involved in, or is threatened with, litigation with a subcontractor or Contractor as a result of such direction by the commission, the Contractor may

request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.

- f) The Contractor agrees to comply with the regulations referred to in this section as they exist on the date of this contract and as they may be adopted or amended from time to time during the term of this contract and any amendments thereto.

29. NONDISCRIMINATION PROVISIONS REGARDING SEXUAL ORIENTATION

This section is inserted in this contract in connection with Subsection (a) Section 4a-60a of the General Statutes of Connecticut, as revised.

- a) The Contractor agrees and warrants that in the performance of the contract:
 - 1) Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the state of Connecticut, and that employees are treated when employed without regard to their sexual orientation
 - 2) To provide each labor union or representative of workers with which Contractor has a collective bargaining agreement or other contract or understanding and each Contractor with which Contractor has a contract or understanding, a notice to be provided by the commission on human rights and opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment
 - 3) To comply with each provision of this section and with each regulation or relevant order issued by said commission pursuant to section 46a-56 of the general statutes
 - 4) To provide the commission on human rights and opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this section and section 46a-56 of the general statutes.
- b) The Contractor shall include the provisions of Subsection a of this section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the state and such provisions shall be binding on a subcontractor, Contractor or manufacturer unless exempted by regulations or orders of the commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with section 46a-56 of the general statutes; provided, if Contractor becomes involved in, or is threatened with, litigation with a subcontractor or Contractor as a result of such direction by the commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.
- c) The Contractor agrees to comply with the regulations referred to in this section as they exist on the date of this contract and as they may be adopted or amended from time to time during the term of this contract and any amendments thereto.

30. EXECUTIVE ORDERS

The Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated

August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the Contract as if they had been fully set forth in it. At the Contractor's request, the Client Agency shall provide a copy of these orders to the Contractor. The Contract may also be subject to Executive Order No. 7C of Governor M. Jodi Rell, promulgated July 13, 2006, concerning contracting reforms and Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services, in accordance with their respective terms and conditions.

31. REPORTS TO THE AUDITORS OF PUBLIC ACCOUNTS

This contract is subject to the provisions of §4-61dd Connecticut General Statutes. In accordance with this section any persons having knowledge of any matter involving corruption, violation of state or federal laws or regulations, gross waste of funds, abuse of authority or danger to the public safety occurring in any large state contract, may transmit all facts and information in his possession concerning such matter to the Auditors of Public Accounts. In accordance with subsection (e) if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to the Auditors of Public Accounts or the Attorney General under the provisions of this section, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of the contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The executive head of the state or quasi- public agency may request the Attorney General to bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) Contractor shall post a notice of the provisions of this section in a conspicuous place that is readily available for viewing by the employees of the Contractor.

32. DEPARTMENT OF INFORMATION TECHNOLOGY STATUTES

Contractor agrees to be bound by all applicable statutes pertaining to the Department of Information Technology, including but not limited to C.G.S. Sections 4d-1 et.seq.

33. GENERAL STATUTES, SECTION 1-218

This contract is subject to the provisions of the Connecticut general statutes § 1-218. Each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (1) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (2) indicate that such records and files are subject to the Freedom of Information Act and may be disclosed by the public agency pursuant to the Freedom of Information Act. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with the Freedom of Information Act. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the general statutes.

34. GENERAL STATUTES SECTION 4d-31.

Contracts, subcontracts, amendments to include State Comptroller's specifications. Each contract, subcontract or amendment to a contract or subcontract shall include any specifications established by the State Comptroller to ensure that all policies, procedures, processes and control systems, including hardware, software and protocols, which are established or provided by the contractor or subcontractor, shall be compatible with and support the state's core financial systems, including but not limited to,

accounting, payroll, time and attendance, and retirement systems.

35. GENERAL STATUTES SECTION 4d-32.

Subcontract awards. (a) No contractor shall award a subcontract for work under a contract or for work under an amendment to a contract without the approval of the Chief Information Officer or his designee of (1) the selection of the subcontractor and (2) the provisions of the subcontract.(b) Each such contractor shall file a copy of each executed subcontract or amendment to the subcontract with the Chief Information Officer, who shall maintain the subcontract or amendment as a public record, as defined in section 1-200.

36. GENERAL STATUTES SECTION 4d-40.

General Assembly access to state agency records under contracts, subcontracts and amendments thereto. The Parties agree that pursuant to C.G.S. Sec 4d-40 the Joint Committee on Legislative Management and each nonpartisan office of the General Assembly shall continue to have access to state agency records that is not less that the access that said committee and such offices have on July 1, 1997.

37. GENERAL STATUTES SECTION 4d-44

This contract is subject to the provisions of Connecticut General Statutes § 4d-44 – Continuity of systems in event of expiration or termination of contract, amendment or subcontract or default of contractor or subcontractor. Contractor agrees to ensure continuity of the System and related services, in the event that work under this contract is transferred back to the State or transferred to a different contractor, upon the expiration or termination of the contract, subcontract or amendment or upon the default of the Contractor or subcontractor. Contractor provisions shall include, but not be limited to, (1) procedures for the orderly transfer to the State of (A) such facilities and equipment, (B) all software created or modified pursuant to the contract, subcontract or amendment, and (C) all public records, as defined in section 4d-33, which Contractor or subcontractor possesses or creates pursuant to such contract, subcontract or amendment, and (2) procedures for granting former State employees who were hired by Contractor or subcontractor the opportunity for reemployment with the State. The parties agree to enter into an amendment to this contract as soon as practicable to set out the express terms to comply with the provisions of C.G.S. §4d-44.

38. GENERAL STATUTES SECTION 4-252

Conn. Gen. Stat. § 4-252 (the “Statute”) requires that the Invitation to Bid or Request for Proposal, of which these Terms and Conditions are a part, include a notice of the vendor certification requirements described in the Statute. Accordingly, pursuant to the Statute, vendors are notified as follows: (a) The terms “gift,” “quasi-public agency,” “state agency,” “large state contract,” “principals and key personnel” and “participated substantially” as used in this section shall have the meanings set forth in the Statute. (b) No state agency or quasi-public agency shall execute a large state contract unless the state agency or quasi-public agency obtains the written certifications described in this section. Each such certification shall be sworn as true to the best knowledge and belief of the person signing the certification, subject to the penalties of false statement. (c) The official of the person, firm or corporation awarded the contract, who is authorized to execute the contract, shall certify on such forms as the State shall provide: (1) That no gifts were made between the date that the state agency or quasi-public agency began planning the project, services, procurement, lease or licensing arrangement covered by the contract and the date of execution of the contract, by (A) such person, firm, corporation, (B) any principals and key personnel of the person, firm or corporation, who participated substantially in preparing the bid or proposal or the negotiation of the contract, or (C) any agent of such person, firm, corporation or principals and key personnel, who participated substantially in preparing the bid or proposal or the negotiation of the contract, to (i) any public official or state employee of the state agency

or quasi-public agency soliciting bids or proposals for the contract, who participated substantially in the preparation of the bid solicitation or request for proposals for the contract or the negotiation or award of the contract, or (ii) any public official or state employee of any other state agency, who has supervisory or appointing authority over such state agency or quasi-public agency;(2) That no such principals and key personnel of the person, firm or corporation, or agent of such person, firm or corporation or principals and key personnel, knows of any action by the person, firm or corporation to circumvent such prohibition on gifts by providing for any other principals and key personnel, official, employee or agent of the person, firm or corporation to provide a gift to any such public official or state employee; and (3) That the person, firm or corporation made the bid or proposal without fraud or collusion with any person.

(d) Any bidder or proposer that does not make the certifications required under subsection (c) of this section shall be disqualified and the state agency or quasi-public agency shall award the contract to the next highest ranked proposer or the next lowest responsible qualified bidder or seek new bids or proposals.

(e) The date that the state agency or quasi-public agency began planning the project, services procurement, lease or licensing arrangement to be covered by the contract is _____.

39. TANGIBLE PERSONAL PROPERTY PROVISION

For the entire term of the Agreement and any and all of its extensions, the Contractor, on its own behalf and on behalf of all of its Affiliates, shall comply fully with the provisions of Conn. Gen. Stat. §12-411b, including, but not limited to, the following:

(1) The Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, on behalf of its customers any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;

(2) A customer's payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;

(3) The Contractor and its Affiliates shall remit all use taxes they collect from customers no later than the last day of the month of the calendar quarter that follows the effective date of this Agreement or the last day of the tax collection period during which the tax was collected, whichever is later. Notwithstanding the previous sentence, if the Agreement provides for an earlier date, then that earlier date shall control;

(4) The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and

(5) If the Contractor or its Affiliates fail to remit use taxes collected on behalf of their customers by the date required above, then they shall be subject to the interest and penalties provided for persons required to collect sales tax under Chapter 219 of the Connecticut General Statutes.

For purposes of this section of the Agreement, the word "Affiliate" means any person, as defined in Conn. Gen. Stat. §12-1, that controls, is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word "voting security" means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. "Voting security" includes a general partnership interest.

The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State's contracting authority, such information as the State may require to ensure, in the State's sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.

40. ETHICS LAW SUMMARY

(a) A state agency or institution or quasi-public agency that is seeking a contractor for a large state construction or procurement contract shall provide the summary state ethics laws developed by the State Ethics Commission pursuant to section 1-81b of the general statutes to any person seeking a large state construction or procurement contract. Such person shall promptly affirm to the agency or institution, in writing, (1) receipt of such summary, and (2) that key employees of such person have read and understand the summary and agree to comply with the provisions of state ethics law. No state agency or institution or quasi-public agency shall accept a bid for a large state construction or procurement contract without such affirmation. (b) Each large state construction or procurement contractor shall provide the summary of state ethics laws described in subsection (a) of this section to all subcontractors and consultants and obtain an affirmation from each subcontractor and consultant that such subcontractor and consultant has received such summary and key employees of such subcontractor and consultant have read and understand the summary and agree to comply with its provisions. The contractor shall provide such affirmation to the state agency. Failure to submit such affirmations in a timely manner shall be cause for termination of the large state construction or procurement contract. (c) Each contract with a contractor, subcontractor or consultant described in subsection (a) or (b) of this section shall incorporate such summary by reference as a part of the contract terms. (d) Each subcontractor shall file a copy of each executed subcontract or amendment to the subcontract with the Chief Information Officer, who shall maintain the subcontract or amendment as a public record as defined in section 1-200.

41. CAMPAIGN CONTRIBUTION RESTRICTIONS

This section (the "CCR Section") is included here pursuant to Conn. Gen. Stat. § 9-333n and, without limiting its applicability, is made applicable to State Contracts, bid solicitations, request for proposals and prequalification certificates, as the context requires. This CCR Section, without limiting its applicability, is also made applicable to State Agencies, Quasi-public Agencies, the General Assembly, State Contractors, Prospective State Contractors and the holders of valid prequalification certificates, as the context requires.

(a) For purposes of this CCR Section only: (1) "Quasi-public Agency" means the Connecticut Development Authority, Connecticut Innovations, Incorporated, Connecticut Health and Educational Facilities Authority, Connecticut Higher Education Supplemental Loan Authority, Connecticut Housing Finance Authority, Connecticut Housing Authority, Connecticut Resources Recovery Authority, Connecticut Hazardous Waste Management Service, Capital City Economic Development Authority, Connecticut Lottery Corporation, or as this definition may otherwise be modified by Title 1, Chapter 12 of the Connecticut General Statutes concerning quasi-public agencies.

(2) "State Agency" means any office, department, board, council, commission, institution or other agency in the executive, legislative or judicial branch of State government, or as this definition may otherwise be modified by Title 9, Chapter 150 of the Connecticut General Statutes concerning campaign financing.

(3) "State Contract" means an agreement or contract with the State or any State Agency or any Quasi-public Agency, having a value of fifty thousand dollars or more, or a combination or series of such

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agreements or contracts having a value of one hundred thousand dollars or more in a fiscal year, for (A) the rendition of personal services, (B) the furnishing of any material, supplies or equipment, (C) the construction, alteration or repair of any public building or public work, (D) the acquisition, sale or lease of any land or building, (E) a licensing arrangement, or (F) a grant, loan or loan guarantee, or as this definition may otherwise be modified by Title 9, Chapter 150 of the Connecticut General Statutes concerning campaign financing.

(4) "State Contractor" means a person, business entity or nonprofit organization that enters into a State Contract. Such person, business entity or nonprofit organization shall be deemed to be a State Contractor until the termination of said contract. "State contractor" does not include a municipality or any other political subdivision of the State or an employee in the executive, legislative or judicial branch of State government or a Quasi-public Agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a State or Quasi-public Agency employee, or as this definition may otherwise be modified by Title 9, Chapter 150 of the Connecticut General Statutes concerning campaign financing.

(5) "Prospective State Contractor" means a person, business entity or nonprofit organization that (A) submits a bid in response to a bid solicitation by the State, a State Agency or a Quasi-public Agency, or a proposal in response to a request for proposals by the State, a State Agency or a Quasi-public Agency, until the State Contract has been entered into, or (B) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under Section 4a-100 of the Connecticut General Statutes. "Prospective State Contractor" does not include a municipality or any other political subdivision of the State or an employee in the executive, legislative or judicial branch of State government or a Quasi-public Agency, whether in the classified or unclassified service and full or part-time, and only in such person's capacity as a State or Quasi-public Agency employee. Title 9, Chapter 150 of the Connecticut General Statutes concerning campaign financing may modify this definition, which modification shall control.

(6) "Principal of a State Contractor or Prospective State Contractor" (collectively referred to in this CCR Section as "Principal") means (A) an individual who is a member of the board of directors of, or has an ownership interest in, a State Contractor or Prospective State Contractor, which is a business entity, except for an individual who (i) owns less than five per cent of the shares of any such State Contractor or Prospective State Contractor that is a publicly traded corporation, or (ii) is a member of the board of directors of a nonprofit organization qualified under Section 501(c)(3) of the Internal Revenue Code of 1986, or any subsequent corresponding internal revenue code of the United States, as from time to time amended, (B) an individual who is employed by a State Contractor or Prospective State Contractor, which is a business entity, as president, treasurer or executive or senior vice president, (C) an individual who is the chief executive officer of a State Contractor or Prospective State Contractor, which is not a business entity, (D) an employee of any State Contractor or Prospective State Contractor who has managerial or discretionary responsibilities with respect to a State Contract, (E) the spouse or a dependent child of an individual described in this subparagraph, or (F) a political committee established by or on behalf of an individual described in this subparagraph, or as this definition may otherwise be modified by Title 9, Chapter 150 of the Connecticut General Statutes concerning campaign financing.

(b) No State Contractor, Prospective State Contractor or Principal, with regard to a State Contract, bid solicitation or request for proposals with or from a State Agency in the executive branch or a Quasi-public Agency, and no Principal of a holder of a valid prequalification certificate, shall make a contribution to, or solicit contributions on behalf of (1) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of Governor, Lieutenant Governor, Attorney General, State Comptroller, Secretary of the State or State Treasurer, (2) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (3) a party committee.

(c) No State Contractor, Prospective State Contractor or Principal, with regard to a State Contract, bid solicitation or request for proposals with or from the General Assembly, and no Principal of a holder of a valid prequalification certificate, shall make a contribution to, or solicit contributions on behalf of (1) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (2) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (3) a party committee.

(d) If a State Contractor or a Principal of a State Contractor makes or solicits a contribution prohibited under this CCR Section, the contracting State Agency or Quasi-public Agency may void the existing contract with said contractor, and no State Agency or Quasi-public Agency shall award the State Contractor a State Contract or an extension or an amendment to a State Contract for one year after the election for which such contribution is made or solicited.

(e) If a Prospective State Contractor or a Principal of a Prospective State Contractor makes or solicits a contribution prohibited under this CCR Section, no State Agency or Quasi-public Agency shall award the Prospective State Contractor the contract described in the bid solicitation or request for proposals, or any other State Contract for one year after the election for which such contribution is made or solicited.

(f) The chief executive officer of each State Contractor and Prospective State Contractor, or if a State Contractor or Prospective State Contractor has no such officer then the officer who duly possesses and exercises comparable powers and duties, shall certify, in the form of an affidavit executed subject to the penalties of false statement, that: (1) such officer has informed each individual described in subsection (a)(6) of this CCR Section with regard to said State Contractor or Prospective State Contractor concerning the provisions of subsection (b) or (c) of this CCR Section, whichever is applicable, and this subsection (f), (2) no such individual will make or solicit a contribution in violation of the provisions of subsection (b) or (c) of this CCR Section, whichever is applicable, and this subsection (f), and (3) if any such contribution is made or solicited, the State Contractor or Prospective State Contractor, as the context requires, shall not be awarded the contract described in the bid solicitation or request for proposals and shall not be awarded any other State Contract for one year after the election for which such contribution is made or solicited. Such officer shall submit the affidavit to the contracting State Agency or Quasi-public Agency prior to, in the case of an RFP, executing a negotiated contract or prior to, in the case of an ITB, the award and acceptance of a contract. In the case of an application for prequalification to the Connecticut Department of Administrative Services (“DAS”), the application shall not be deemed to be complete until DAS receives the affidavit. The State Contractor or Prospective Contractor shall submit the affidavit on a form which the State Elections Enforcement Commission (“SEEC”) prescribes.

(g) The person executing the affidavit referenced in subsection (f) shall submit to the SEEC a list of Principals in accordance with the requirements set forth on a form that the SEEC shall have prescribed for this purpose. The complete list of Principals shall be submitted to the SEEC at the same time that the affidavit is submitted to the State Agency, Quasi-public Agency or, in the case of a prequalification application, DAS. Notwithstanding any other provision in any applicable document or instrument, no party to the Contract, or a contract awarded pursuant to a non-competitive procurement, may begin performing in any way until the contracting State Agency or Quasi-public Agency has received the affidavit referenced in subsection (f) and the SEEC has received the Principals list.

(h) Notwithstanding any other provision in the Contract, invitation to bid, request for proposals and prequalification application:

(1) The State Contractor and Prospective State Contractor shall report to the SEEC, on a form which the SEEC prescribes, any changes in Principals occurring from and after the date of the previous Principals list by submitting and delivering such form to the SEEC no later than the fifteenth day of each month following the month when a change in Principals occurs, or the next succeeding business day, whichever is later. If the Contractor or Prospective State Contractor fail to submit and deliver the appropriately completed form by its due date, then the SEEC shall notify the State Agency or Quasi-

public Agency and the Contractor of the failure in writing. The State Agency or Quasi-public Agency shall then review all relevant information and determine whether such failure constitutes a breach of this Contract. If the State Agency or Quasi-public Agency determines that a breach of this Contract has occurred, then the State Agency or Quasi-public Agency shall deliver a notice of breach to the Contractor, affording the Contractor an opportunity to cure the breach within ten (10) days from the date that the Contractor receives the notice. The State Agency or Quasi-public Agency may extend the right to cure period if, and continuing so long as, the State Agency or Quasi-public Agency is satisfied that the Contractor is making a good faith effort to cure the breach but the nature of the breach is such that it cannot be cured within the right to cure period. The SEEC may, if it deems it to be appropriate, send to the Contractor electronic reminders of the Contractor's obligation to report changes in Principals. The undertaking of this reminder is permissive and shall not be construed to be a condition precedent to the Contractor's obligation to submit and deliver the form timely.

(2) If the State Agency or Quasi-public Agency determines that the Contractor has breached the Contract by failing to comply with the requirements of this CCR provision, then the State Agency or Quasi-public Agency may, after expiration of the right to cure period, direct all appropriate State entities using the Contract to withhold any payment, in whole or in part, that may be due and owing to the Contractor under this Contract until such time as the Contractor submits and delivers an appropriately completed form to the SEEC.

(3) If the Contractor fails to submit and deliver the Principals list form timely three times in any 12-month period, then the SEEC may recommend to the State Agency or Quasi-public Agency that it take these failures into account for purposes of evaluating the Contractor's responsibility in future procurements. The SEEC may recommend that the State Agency or Quasi-public Agency make a determination that the Contractor is not responsible.

(4) The Contractor's failure to submit and deliver the Principals list form timely for the third time in any 12-month period shall, upon the SEEC's recommendation, entitle the State Agency or Quasi-public Agency to Cancel the Contract. Accordingly, the third notice of breach to the Contractor from the State Agency or Quasi-public Agency in any 12-month period may include an effective Contract Cancellation date, in which case no further action shall be required of any party to effect the Cancellation of the Contract as of the stated date. If the notice does not set forth an effective Contract Cancellation date, then the State Agency or Quasi-public Agency may Cancel the Contract by giving the Contractor no less than twenty four (24) hours' prior written notice.

(5) Noting the absence of the SEEC's signature on the Contract, the State Agency or Quasi-public Agency represents that the SEEC has previously agreed in writing to assume the rights and responsibilities attaching to the SEEC and set forth in this CCR section. The State Agency or Quasi-public Agency shall provide a copy of that document to the Contractor upon request.

42. WORKERS' COMPENSATION

Contractor agrees to carry sufficient workers' compensation and liability insurance in a company, or companies, licensed to do business in Connecticut, and furnish certificates if required.

43. TERMS AND CONDITIONS

Any terms, conditions or provisions contained in a Purchase Order, Product Schedule Update, Statement of Work or any other similar document shall be of no force and effect and shall in no way affect, change or modify any of the terms and conditions of this Agreement.

44. ENTIRETY OF AGREEMENT

This Agreement includes the SIGNATURE PAGE OF AGREEMENT. To the extent the provisions of the previously mentioned Deliverable Pricing Schedule, the Project Implementation Summary, the Project Implementation Schedule and any aforementioned Attachment do not contradict the provisions of Sections 1 through 43 of this Agreement, said documents are incorporated herein by reference and made a part hereof as though fully set forth herein. This Agreement, as thus constituted, contains the complete and exclusive statement of the terms and conditions agreed to by the parties hereto and shall not be altered, amended, or modified except in writing executed by an authorized representative of each party.

45. SIGNATURE PAGE OF AGREEMENT

This Agreement is entered into by authority of Sections 4d-2, 4d-5 and 4d-8 of the General Statutes.

FOR: _____

FOR: STATE OF CONNECTICUT

BY: _____

BY: _____

NAME: _____

Diane S. Wallace

TITLE: _____

Chief Information Officer

Department of Information Technology

duly authorized

DATE: _____

DATE: _____

APPROVED AS TO FORM:

Attorney General of the State of Connecticut

DATE _____

**State of Connecticut Department of Information Technology
Request for Proposals – Replacement of the Air Emissions Inventory System**

Attachment 6 – Business, Technical and Operational Requirements

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**State of Connecticut Department of Information Technology
Request for Proposals – Replacement of the Air Emissions Inventory System**

Air Emissions Inventory

1.0 Introduction

Established in 1971, the mission of the Connecticut Department of Environmental Protection (DEP) is to conserve, improve and protect the natural resources and environment of the State of Connecticut in such a manner as to encourage the social and economic development of Connecticut while preserving the natural environment and the life forms it supports in a delicate, interrelated and complex balance, to the end that the state may fulfill its responsibility as trustee of the environment for present and future generations.

DEP manages almost every aspect of the Connecticut outdoors, including almost 8,000 miles of rivers and streams, 6,000 lakes and ponds, 108 boat launches, and 125 state parks that cover over 2,000 acres. DEP enhances the quality of life in Connecticut through programs that enforce environmental laws and regulations. Several DEP programs have made history by setting the national tone for environmental management.

Within DEP there are a number of Offices and Bureaus that work cooperatively to advance the agency's over-arching mission. These are: The Office of the Commissioner, The Bureau of Air Management, The Bureau of Financial & Support Services, The Bureau of Natural Resources, The Bureau of Outdoor Recreation, The Bureau of Materials Management & Compliance Assurance, and The Bureau of Water Protection & Land Reuse.

The Bureau of Air Management accomplishes its specific mission by controlling and reducing air pollution and by maintaining the most comprehensive air quality monitoring network in New England; by regulating the use, transportation and storage of radioactive materials and monitoring radioactive accumulations from nuclear power plants; by developing and implementing regulations, policies, procedures and standards for carrying out Connecticut's air and radiation control laws and regulations; and by issuing air pollution control permits, while taking appropriate enforcement actions when laws or regulations are violated.

One critical function of the Bureau of Air Management is to collect Air Emissions Inventory Data from point, area and mobile sources throughout the state. DEP has relied on an Air Emissions Inventory System for the core data storage and retrieval required for Connecticut's air pollution control program since 1984. The existing system was created on what is now an outdated software platform. The current design does not have the flexibility to support the expansion and modification required to accommodate continually changing business needs (e.g., additional pollutants, new permitting programs, etc.) and new program requirements. The current system does not support the growing need to query and generate ad hoc reports. In order to streamline data collection and improve data quality assurance, the DEP is seeking a vendor to provide a replacement Air Emissions Inventory System using an "e-Government" approach to the project.

To that end, the State of Connecticut's Department of Information Technology (DOIT), IT Contracts & Purchasing Division (CPD), is issuing this Request for Proposals (RFP) on behalf of DEP to purchase, modify, implement, warranty and maintain a web-based Air Emissions Inventory

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System for stationary point sources that will interface with the Department's SIMS. Ideally the system design will also incorporate area and mobile source modules as part of an overall, integrated system that will be capable of interfacing with other key DEP and federal Environmental Protection Agency (EPA) applications.

2.0 Background

The Clean Air Act requires states, including Connecticut, to establish an inventory of emissions of air pollutants. The EPA also requires states to report the information contained within this inventory, including data describing the sources that emit air pollutants and the specific amount of emissions. Responsibility for this inventory development and reporting resides within the Connecticut DEP Bureau of Air Management, Planning and Standards Division. The activities required to compile a statewide emissions inventory are outlined in section 182 of the Clean Air Act (<http://www.epa.gov/air/caa/caa182.txt>) and include collection of annual emission statements from stationary sources and periodic, comprehensive, accurate and current compilation of calculated air emissions from all sources of air pollution.

The inventory's primary purpose is to identify: facilities, including owner and/or operator information; sources that emit air pollutants; the equipment and input materials employed; the emission processes; the stack parameters; the pollutants emitted; the amounts of pollutants emitted; the geo-spatial location of where they are being emitted; and the controls in use. Shutdowns or units rendered inoperable need to be accounted for in more detail. The rate of progress needs to be tracked, along with the overall associated reduction in emissions and the business function disposition by individual emission unit for attainment planning purposes.

The present inventory produces annual and seasonal emissions estimates of carbon monoxide (CO), reactive volatile organic compounds (VOCs) and oxides of nitrogen (NOx). VOCs and NOx photochemically react in the atmosphere to produce ozone. Connecticut is a non-attainment state. Reducing ozone and fine particulate matter is a major air pollution challenge for Connecticut. These estimates are calculated for stationary point sources, area sources (those sources with small amounts of emissions of air pollutants and generally not associated with a specific geographical location, e.g. paint use) and mobile sources. The inventory group also collects information and performs calculations to estimate point source emissions of particulate matter less than 10 micrometers (PM10), sulfur dioxide and lead. As a member of the Regional Eastern Climate Registry, Connecticut is also a participant in that group's Greenhouse Gas (GHG) inventory. The existing SAS™-based inventory system on a DEC UNIX ALPHA computer system, which was developed in 1984, is no longer supported by the manufacturer and must be replaced with a new platform.

State emission inventories are compiled using guidance and methodologies developed by the EPA that are continuously being updated and enhanced. EPA guidance (http://www.epa.gov/ttn/chief/eidocs/eiguid/eiguidfinal_nov2005.pdf) has been developed for planning, data collection, data analysis, development of emissions estimates, and reporting to its National Emission Inventory (NEI) database (<http://www.epa.gov/ttn/chief/net/neidata.html>). The process, as it is conducted presently, of data collection, review of the data, or quality assurance, and reporting, is extremely resource intensive. In December 2005, EPA issued a proposal that is

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relevant to DEP's system replacement effort. EPA's Air Emission Reporting Requirements (AERR) proposal is to provide states with additional flexibility in the way they collect and report air pollutant emissions data and accelerated the timeframe for state reporting to the NEI. The EPA proposal can be found at (<http://www.epa.gov/ttn/chief/aerr/index.html>).

A variety of sources of data coalesce in the inventory. Data are manually entered from pre-printed emission statement forms filed annually by the regulated sources, inspection reports completed by DEP field engineers, new permit information provided by DEP permit engineers and compliance orders issued by DEP. Unless better, more accurate data are available, generic EPA emission factors are then used with activity data to calculate air emissions information. Data generated from Connecticut's stack testing and continuous emissions monitoring programs are available and can be used to derive facility specific emission information that is more accurate than the generic emission factors. Although actual sampling of emissions from CEM or stack testing of stationary sources results in the most accurate data available, the present inventory system does not have the capability to integrate these emissions data with data obtained through methods used historically, such as default emission factors.

With the passage of the Clean Air Act Amendments of 1990, the inventory requirements were expanded, as were the potential end users. One of the post-1990 inventory functions is to provide the data for collecting the revenue to cover the full cost of the Title V program. To accomplish the fee calculation and assessment, Title V data is used to generate an emissions report filed with the Connecticut Office of Policy and Management and calculate the inventory stabilization factor. The data used in generating this report is currently extracted from the inventory and input into a Microsoft Access database that calculates and creates fee invoices and annual equipment/emissions summary detail. To assess fees accurately, the system must correctly identify municipal sources (as defined in CGS §22a-170), assure previous fee dispute issues are not replicated and appropriately combine or split sources for fee billing purposes. The fee calculation process entails applying the annual stabilization factor, the adjusted price per ton, the regulatory minimum and maximum fees and generating a report with itemized tons by emission unit and a total for each invoice.

The inventory is also used for air quality studies, air quality control strategy development, dispersion modeling, reasonable further progress tracking, compliance inspection targeting, identifying subsets of the regulated community and to fulfill public requests for information. Inventory data is used not only to fulfill the EPA's requirements for inventory development, but also as a key component for future planning, development and evaluation of multiple air quality programs.

The need for a new system was magnified by the expansion of the EPA's requirements for development of inventory data for particulate matter less than 2.5 micrometers (PM_{2.5}), and numerous hazardous air pollutants, or air toxics. In addition to reporting requirements for criteria pollutants and air toxics, the system will need to accommodate state greenhouse gas reporting requirements pursuant to §22a-200b of the Connecticut General Statutes. The quantity of information necessarily added to the inventory through the addition of all these chemicals cannot be accommodated by the existing system design. Additionally, there is a need to provide electronic reporting of inventory data, which cannot be supported by the existing system design.

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There is also a need to track and account for shutdowns and units rendered inoperable in more detail. The associated reduction in emissions and the related business function by individual emissions unit must also be tracked and accounted for as part of the attainment planning process. These changes, and the need to guarantee that the inventory development efforts of DEP successfully meet users' needs, warrants a replacement of the current inventory system. A new system also provides the opportunity to restructure, eliminate the deficiencies in the current system, optimize the use of scarce resources and link information that is presently disjointed.

3.0 Air Emissions Inventory System Goals

The goal of this Request for Proposals is to obtain a cost-effective replacement to the current Air Emissions Inventory System that addresses the components outlined in this section. Vendors are instructed to prepare responses to this RFP in accordance with the instructions contained in Attachment 2, "Vendor Format Requirements," of this RFP.

Each proposal is expected to present a comprehensive inventory database system that will include the following system features:

1. Address the federal Environmental Protection Agency's (EPA) requirements for compiling, quality assuring, and reporting a statewide annual stationary point source inventory for all criteria pollutants, hazardous air pollutants, and address Connecticut's statutory requirements for reporting emissions of greenhouse gases.
2. Integration of point, area source and mobile source inventory compilation and reporting tools are highly desirable.
3. Support the utilization of a variety of input parameters, including, but not limited to, continuous emission monitoring (CEM) data, stack testing results, area source survey results, engineering calculations or the default AP-42 emission factors to calculate emissions for point, area and mobile sources in accordance with EPA's requirements.
4. Build a module that quality assures inventory data taken from annual emissions reporting from Title V permitted facilities for report generation, fee calculation and generate detailed invoice pages that can then be transmitted to DEP's Accounts Receivable System.
5. Provide integrated access to EPA-supported applications such as MOBILE6.2, PMCalc, TANKS, BEIS, and others, so that emissions from source categories can be addressed consistently.
6. Populate existing historical stationary, area, and mobile source air emissions inventory data (from 1990 for stationary sources, from 1993 for area and mobile, to the present) into the replacement system to support DEP's ability to develop trend reports of multi year emissions.
7. Provide functionality that supports customized and ad hoc queries for the following:
 - Quality Assurance;

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- Extraction of queried data for studies (e.g., air quality monitoring studies);
 - Freedom of Information requests (e.g., radius searches);
 - Identification of sources subject to specific applicability thresholds (e.g., the Connecticut Title V Operating Permits Program);
 - Identification of each emission unit’s operational status, premises and emission units; and
 - Provide basic reporting of the results of such queries.
8. Support the transmission of data electronically to EPA and others using Connecticut’s Exchange Network node, consistent with EPA standards for tracking and sending data, such as the Consolidated Emissions Reporting Rule (CERR) and the Cross-Media Electronic Reporting Rule (CROMERR).
9. Support the export of Greenhouse Gas (GHG) data into the Regional Eastern Climate Registry in the appropriate XML format. (See Connecticut General Statutes, § 22a-200b; <http://www.cga.ct.gov/2005/pub/Chap446c.htm#Sec22a-200b.htm>)
10. Provide electronic tools and functionality consistent with the Department’s emerging “e-Government” vision,” which, in brief, may be summarized, at present, as follows:
- e-Government processes that improve the internal workings of DEP by reducing process costs, managing process performance and making strategic connections within government. This is defined as “e-Administration;”
 - Connecting citizens by improving the relationship between DEP and the public by talking to the public, listening to the public’s input and improving services to the public through the use of technology. This would be defined as “e-Citizens and e-Services”; and
 - Improving the relationship between DEP and other entities (including private sector companies, non-profits, business organizations and community groups) by streamlining the interaction between these entities using available technology and creating organizational groupings to achieve policy, environmental and economic objectives. This may be defined as “e-Business.” (adapted from, Heeks, Richard (2004) *e-Government for Development*, University of Manchester, U.K.)
11. Adhere to DOIT’s guidelines for web-based applications (see Appendix H) to support quality controlled electronic reporting of emissions statement data from facilities.
12. Include an electronic authentication procedure consistent with DOIT’s guidelines for same to certify data that is being submitted electronically. (see Appendix I)
13. Must interface with the Department’s SIMS in order to provide the universe of users with a consistent naming convention for client, facility, feature, permit and enforcement data.
14. Provide functionality needed to project future year emissions for input into air quality models that are used to estimate future air quality levels as part of DEP’s Attainment Planning initiatives and to demonstrate reasonable further progress, a DEP obligation of the Clean Air Act.

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15. Include functionality to recognize the status of individual emission units including:
- Operating limitations and collateral conditions written into Title V and New Source Review (NSR) permits to operate and adjust calculations accordingly (e.g., when an NSR permit places a premises-wide annual fuel use limit on several pieces of equipment);
 - Other modifications to permits; and
 - “Shutdown or rendered inoperable” status, regardless of whether the unit was permitted, registered or otherwise identified on a Title V operating permit Emissions Unit information list in order to maintain a record of Continuous Emissions Reduction Credits (CERCs) statewide that may be used for Attainment Planning purposes.

4.0 Bureau of Air Management Emissions Inventory Database Organization

The extensive reporting requirements of the EPA are codified at Sections 110(a)(2)(F), 110(a)(2)(K), 110(a)(2)(J), 110(p), 169(A), 172(c)(3), 182(a)(3), 187(a)(5), 301(a) of the Clean Air Act (CAA) (42 U.S.C. § 7410, 7491, 7502, 7511a, 7512a, 7601) (<http://www.epa.gov/oar/caa/caaa.txt>) and implementing regulations are codified at 40 Code of Federal Regulations (CFR) part 51, subpart Q (<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>). These references contain the legally binding requirements and dictate the parameters that the CT DEP needs to identify and collate in an information management system for each stationary, area and mobile source category of air pollution in Connecticut. The EPA maintains the NEI and expects States to submit activity and emissions data according to the above reporting requirements. They prescribe a minimum set of data fields along with other desirable data to be submitted in a format known as the National Emissions Inventory Input Format (NIF) Version 3.0 (<http://www.epa.gov/ttn/chief/nif/index.html#ver3>), using different processing techniques, including XML, for the three types of source categories: stationary point sources, area sources and mobile sources. The pollutants to be quantified include:

- Criteria pollutants: carbon monoxide, nitrogen oxides, sulfur oxides, particulate matter, as well as volatile organic compounds, which are precursors of ozone, and lead (<http://www.epa.gov/air/urbanair/6poll.html>);
- 188 hazardous air pollutants (HAPs) (<http://www.epa.gov/ttn/atw/orig189.html>);
- Particulate Matter/Regional Haze pollutants including: primary PM2.5 and PM10, filterable PM2.5 and PM10, condensable PM2.5 and PM10, secondary PM2.5 and PM10 and ammonia (<http://www.epa.gov/air/visibility/program.html>); and
- Greenhouse gases including: methane, carbon dioxide, nitrous oxide, hydrofluorocarbons, and sulfur hexafluoride, as well as their carbon dioxide equivalent in tons.

This list represents the pollutants presently required to be included in the emissions inventory by the EPA. However, due to the need to accommodate potential changes in EPA’s required reporting parameters, the new application must support system updates with newly identified or required parameters. Any code developed to meet Connecticut’s specific criteria must be accessible, not proprietary, and allow DEP staff access to update and incorporate any necessary changes. The EPA requires reporting of the point source emission inventory annually and the area, non-road, on-road, and biogenic emissions inventory every 3 years through their consolidated emission reporting rules program (<http://www.epa.gov/ttn/chief/cerr/index.html>) to develop their NEI. A

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deficiency of the present system is that companies submit hard copy reports followed by DEP's hand entry and laborious quality assurance of data. To correct this deficiency, this new application must accommodate all stationary source reporting through electronic submission procedures of quality assured data from facilities via a user friendly, intuitive, web-based application in a format that is capable of electronically interfacing with the replacement database for the inventory system.

There are three major source groups from which emission estimates need to be made: stationary point sources, area sources, and mobile sources. The following sections will describe the detailed needs and options for each group.

Foreword to Sections 5 through 8

The remaining sections of this Attachment (sections 5 through 8, inclusive) outline the components of the replacement system, as well as the Operational Requirements of the replacement system. Acquiring Stationary, Area and Mobile Components at a reasonable cost would be of great benefit to DEP and to the State.

DEP would realize efficiencies, much-improved information management and an overall improvement in the Air Emissions Inventory program by purchasing a system that includes all components. The State is requesting that vendors respond with a Business, Technical and Operational Proposal as well as a Cost Proposal that addresses Stationary, Area and Mobile Source Points. Some components may not be purchased, given certain cost constraints. The State is requesting proposals for a replacement Air Emissions Inventory System, along with a one year warranty period and a four year maintenance guarantee which must include the updates reflecting the continuous evolution of EPA reporting and guidance. This replacement system must have the capability to handle both the large amount of EPA-required data and the queries required for both quality assurance of the data and air quality modeling studies. Details of the types of data and queries that are needed are provided in the sections that follow.

The replacement system must integrate with the DEP's Site Information Management System (SIMS) in order to provide users with a consistent naming convention for client, facility, feature, permit and enforcement data.

DEP is moving toward a standardized "public face" for all data. The solution proposed for Title V reporting requirements and other "e-Government" requirements outlined in this RFP will be temporary. Once DEP has fully defined and implemented its "public face," that standardized portal will be the public's access to all DEP data.

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5.0 Stationary Point Sources

5.1 Description

Stationary point sources consist of utility, industrial, commercial and manufacturing equipment that emits air pollution, generally from discrete stacks. The present database contains information from approximately 14,110 active facilities with another 409 inactive facilities.

The federal Clean Air Act directs states to develop a "comprehensive, accurate, current inventory of actual emissions for all sources..." (Section 172(c)(3) and Section 182(a)(1)). In order for Connecticut to meet this mandate, it depends on many sources of information. For the inventory to be comprehensive, Connecticut maintains an historic record of all registrations, New Source Review (NSR) permits, and emission units identified in Title V operating permits issued per our regulations.

To maintain accuracy, the Inventory staff relies on Quality Assurance checking routines to flag 'outliers' and the use of tested calculation routines for determining emissions in a consistent manner. Resources are also spent matching NSR operating restrictions (i.e., annual or hourly fuel use, hours per day, collateral conditions, etc.) to equipment identified at each facility.

For the inventory information to remain a current as possible, data received from companies through a number of reporting programs are crucial. The inventory staff depends on updated information received through the Connecticut annual Emission Statement reporting program, annual Title V compliance reports, facility wide and other on-site inspection reports, acid rain continuous emission monitoring reports, records entered by Permit Group staff documenting newly issued permits to operate, and approvals of property transfer (identifying changes in ownership and legal operator status of the facility's permits and registrations).

5.2 Capture Descriptive Data Elements

Detailed information is required to be compiled to describe each source adequately, including the Title V applicability. The system must be able to capture, at a minimum:

1. Facility name (utilizing the existing SIMS Facility Table)
2. US Postal Service compliant Facility physical location address (utilizing the existing SIMS Address Table)
3. Mailing address (utilizing the existing SIMS Address Table)
4. Parent corporation (utilizing the existing SIMS Client Table)
5. Ownership information
6. Employee contact information (utilizing the existing SIMS Contact Table)
7. Operator/owner relationship (utilizing the existing SIMS Affiliation Table)
8. Geospatial data (latitude/longitude or UTM coordinates utilizing existing SIMS Tables)
9. Source "lifecycle" (initial start-up date, shutdown date, etc.)
10. Equipment descriptions
11. North American Industry Classification System (NAICS), as well as historical SIC codes
12. Source Code Classification (SCC) codes
13. Design and operating parameters and New Source Review (NSR) permitting restrictions

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14. Process connectivity (i.e., where several pieces of equipment are used in tandem)
15. Release Points
16. Types and amounts of fuels
17. Yearly, daily and peak input and output activity
18. Emission factors (either default or derived)
19. Short term and long term emissions
20. Emissions periods
21. Actual emissions
22. Potential emissions as set by either maximum operation at design capacity or restricted operation limited by NSR, GPLPE or other regulatory restrictions
23. Associated fugitive emissions as set by either maximum operation at design capacity or restricted operation limited by NSR, GPLPE or other regulatory restrictions
24. Pollutants (including criteria pollutants, HAPs, PM fine and GHG)
25. Descriptions of control equipment
26. Rule effectiveness
27. Exhaust stack parameters
28. Date of shutdown or rendered inoperable
29. Permit or license revocation date
30. All “mandatory” and “necessary” elements of the EPA’s NEI input format, version 3

5.3 Import Historical Data

Multi-year emissions tracking with complete charting is used for compiling the ozone “reasonable further progress” and budget conformity demonstrations required by the Clean Air Act and EPA.

1. The proposed application must support the ability to develop trend reports for these and other air quality demonstrations.
2. The proposed application must support importing historical air emissions inventory data from the Air Bureau's existing system for NEI for trends analyses, presumably a one-time transaction.
3. Ideally, historical stationary point source data from 1990 to the present will be imported into the replacement database. At a minimum, data from 2002 forward will be imported.

5.4 Support Attainment Planning and Policy Development

Inventory data is used for more than historical calculations. The DEP Air Bureau also uses it for Attainment Planning and policy development purposes. It is highly desirable that the design of the inventory replacement system supports:

1. The acceptance of growth factors and control strategies for stationary source categories.
2. Production of future year calculations and projections by selected pollutants.

5.5 Data Transmission

The proposed application must provide consistency with State and EPA standards for transmission and tracking of data (<http://www.exchangenetwork.net/index.htm> and [http://oaspub.epa.gov/edr/epastd\\$.startup#1US](http://oaspub.epa.gov/edr/epastd$.startup#1US)).

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5.6 Produce Emissions Statements

An important inventory function concerns the electronic generation, tracking and processing of the approximately 150 annual Emission Statement reporting packages. The Emission Statement program is the critical component used to develop each year's comprehensive inventory of emissions emitted by stationary point sources at Title V facilities. Companies must commit resources to the Emission Statement reporting and the DEP presently invests substantial resources conducting data entry, quality assurance on the data received, and then processing the data into the format necessary for reporting to the EPA's NEI via the Exchange Network. The existing quality assurance process primarily consists of comparing company-supplied data to specific criteria within an established state-generated program that follows a decision flow chart to identify data values falling outside of acceptable ranges (See Appendix B of this RFP). When outliers are found, DEP staff contacts the company to resolve the concern, which is time-consuming, sometimes taking several hours per company. This overall process must be significantly automated and enhanced with flexible quality assurance procedures that will provide an e-Government approach to the process. The replacement system must:

1. Support submission of emissions reports using an electronic process that is browser-based, user-friendly (e.g., an "e-Government" approach).
2. Contain quality assurance features that will review emissions reports for reasonability, accuracy of data and accuracy of calculations prior to being loaded into the system.
3. Ensure that the emissions reports are directly loaded into the replacement system after quality assurance.

5.7 Support Reporter Certification and Authentication

Connecticut asks for certification of the submitted Title V information by requiring the signature of a responsible corporate official. This certification process must be included using electronic authentication protocols. This electronic submittal process must also ensure the security of the data in accordance with CROMERR standards. (See <http://www.epa.gov/fedrgstr/EPA-GENERAL/2005/October/Day-13/g19601.htm>)

5.8 Track Status and Compile Data

Collection of startup, malfunction and shutdown data will allow more accurate determinations of emissions from facilities. The proposal should also include the following as highly desirable functions:

1. The ability to **either** compile data categorized as emissions due to start up, malfunction or shutdown **or**
2. The ability to collect the information necessary to calculate emissions using specific startup, malfunction and shutdown data.
3. Identification and tracking the status and activity of facilities that are participating in other Bureau programs such as General Permit to Limit Potential to Emit (GPLPE), and/or operating under Section 22a-174-3(b) or (c) permit by rule criteria.
4. Tracking the operating limitations and collateral conditions written into Title V and New Source Review (NSR) permits to operate and adjust calculations accordingly (e.g., when an NSR permit places a premises-wide annual fuel use limit on several pieces of equipment).

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5. Tracking other modifications to permits, such as equipment modifications or additions.
6. Tracking “shutdown or rendered inoperable” status, regardless of whether the unit was permitted, registered or otherwise identified on a Title V operating permit Emissions Unit information list in order to maintain a record of CERCs statewide that may be used for Attainment Planning purposes.

5.9 Data Entry Structure Criteria

The data entry structure of the proposed application for use by DEP staff and Title V reporters must:

1. Authenticate and Authorize users of the Air Emissions Inventory System through the existing CAAS system. (See Appendix K)
2. Be designed to identify sources through a GIS approach or in an easily controlled visual tree structure.
3. Allow logical and complete entry of information.
4. Include an audit trail with date and time-stamping features to identify and track information entered by staff through the CAAS system.
5. Include periodic reports on the edits made by staff at the data field level and a feature that allows management and supervisory personnel to create ad hoc reports of editing activity.
6. Provide browser-based data entry screens for point sources.
7. Support identification and updates of parameters such as, but not limited to, the following:
 - a. Connecticut specific numerical coding for client (unique to the Parent company)
 - b. Town (a number specific to the town)
 - c. Premises (the next available sequential number within the town)
 - d. Plant (a sequential number to support EPA’s NEI identification protocol)
8. Proposals should evaluate the feasibility of adopting EPA's system of State, County, Plant ID, and also adding DEP’s “ client” to keep identity of ownership. Identification of the owner/operator relationship is an important aspect of the FITS II Data Model.
http://epa.gov/enviro/html/frs_demo/presentations/FIPS Code Standard for FRS.pdf
9. The proposed application must be able interface with the DEP’s SIMS (See Appendices C, D, and E)

5.10 Emissions Calculations

Calculations to estimate emissions based on specific input data must be incorporated into the new application using scripted routines with built-in flexibility to override default information when better data are available.

1. Input data will include, but not be limited to:
 - a. Process activity information,
 - b. Emission factors,
 - c. Measurement units,
 - d. Control types and efficiencies
2. Default information should comply with officially recognized documentation such as:
 - a. EPA’s AP-42 emission factors document
(<http://www.epa.gov/ttn/chief/ap42/index.html>)
 - b. FIRE version 6.25 (<http://www.epa.gov/ttn/chief/software/fire/>)
 - c. Emissions Inventory Improvement Program
(<http://www.epa.gov/ttn/chief/eiip/techreport/>)

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- d. NEI methodologies (<http://www.epa.gov/ttn/chief/net/2002inventory.html>)
- e. Also, separately allow for user-specific defaults.
3. EPA supported emission estimation computer models such as: TANKS (<http://www.epa.gov/ttn/chief/software/tanks/index.html>) should be accessible and executable within this application and the results be easily uploaded for point sources.
4. The new application must also allow for the flexibility to utilize updated emission data as it becomes available from CEM, stack testing or other more accurate information.
5. Other emissions calculation estimation models may be included, when feasible (e.g., PMCalc (<http://www.epa.gov/ttn/chief/software/pmcalc/index.html>))

5.11 Assess Emissions Fees

After Emission Statement processing is completed, the emission fee assessments must be determined. This is currently accomplished through an interface with a MS-Access 2000 application. Each participating company is invoiced.

The fee invoicing and tracking functions for the emissions fee program are in the process of being integrated into SIMS. However, the proposed application must include the capacity to generate the report describing the calculation of the inventory stabilization factor and calculate the emission fee for each Title V source pursuant to CGS §22a-174-26(d) of the Regulations of State of Connecticut Agencies. The calculated invoice total and commensurate summary of tons by equipment detail must be communicated to the SIMS Accounts Receivable system for invoicing, late fee calculation / assessment and payment tracking. Another feature the proposed application must include is the capacity to monitor upward changes to total premise emissions that are entered after the annual billing has taken place.

5.12 Generate Invoices

The information above must then be used to generate an invoice through the future DEP Accounts Receivable System. The requirements for the emission fee calculations are contained in the Regulations of Connecticut State Agencies 22a-174-26. See the following site: <http://www.dep.state.ct.us/air2/regs/mainregs/sec26.pdf>.

The proposed application must also include the capability to invoice for Hazardous Air Pollutants. The new application must have the ability to identify facilities as Title V sources by comparing their site emissions to Title V threshold parameters as defined in Section 22a-174-26 and 33 of the Regulations of Connecticut State Agencies.

5.13 Report Generation and Freedom of Information Requests

An important function of the Planning and Standards Division is to fulfill numerous and diverse requests pertaining to Connecticut's Freedom of Information Act (FOIA) as well as internal staff information requests. The proposed system must support:

1. A robust ad hoc reporting capability in order to produce flat file reports and/or spreadsheet tables using simple, flexible, yet comprehensive query processes.
2. A simple and intuitive process of querying the database that is suitable for non-technical system users.
3. A flexible radius search capability.

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4. The capture of query results and the ability to export these into other desktop applications (e.g., Microsoft Excel and Access) and manipulate the data.
5. The ability to save reports and queries by users in a simple and organized manner.
6. Typical reports should be able to include, but not be limited to, information on: Emissions by pollutant for area and mobile source categories, or point sources by facility and NAICS or SCC code (if applicable), sorted in various ways, as well as graphical formats such as bar graphs and pie charts; total emissions by time series; and quality assurance.
7. The export of Greenhouse Gas (GHG) data to the Eastern Climate Registry in the appropriate XML format (see Appendix G).
8. A similar web-based public query and reporting capability that will permit the general public to access to the Bureau's Air Emissions Inventory data from a secure and current copy of the database.
9. Electronic tools and functionality consistent with DEP's e-Government initiative and DOIT's guidelines for both web-based applications and public access to the state's data center (see appendices H and I).

5.14 Integrate with the Department's SIMS

The proposed application must integrate with the Department's SIMS in order to provide users with a consistent naming convention for client, facility, feature, permit and enforcement data. SIMS is an enterprise system. The Air Emissions Inventory system must be integrated with SIMS. The client and site table information must not be replicated for the sole use of the Air Emissions Inventory. The Air Emissions Inventory application must use the existing SIMS tables for this data. The SIMS integration will provide:

1. A single point of entry. The user must be authenticated and authorized to use the Air Emissions Inventory through the existing CAAS system and be directed to the emissions inventory application. (See Appendix K)
2. A single source for client, facility, feature and environmental interest data (both permit and enforcement).
3. Access to the Department's Geographic Information System.
4. A more accurate allocation of stationary sources by county.
5. The creation of geographic metadata portraying the relationships among the point, area and mobile emissions.
6. Access to the Annual Emissions Statement data submitted by a source.
7. Access to the Equipment and Emissions Detail Reports that are mailed with Title V invoices.

6.0 Area Sources

6.1 Description

Stationary point sources which are too small and numerous to be individually identified in the previous point source inventory are grouped for emission estimation purposes and described in the area source portion of the state's emissions inventory. The present database contains information from seventy-four EPA defined Area source categories that range from dry cleaning to pesticide

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application to residential fuel burning to vehicle refueling at gasoline stations (http://www.epa.gov/ttn/chief/codes/scc_feb2004.xls).

6.2 Capture Descriptive Data Elements

Detailed information must be collected to properly describe each source category. The system must be able to capture, at a minimum:

1. Source Code Classification (SCC) codes,
2. Design and operating parameters, restrictions and activity levels
3. Types and amounts of fuels
4. Yearly and daily input and output activity
5. Emission factors (either default or derived)
6. Seasonal adjustment factors
7. Short term and long term actual emissions
8. Emissions periods
9. Associated fugitive emissions
10. Pollutants (including criteria pollutants, HAPs, PM fine and GHG)
11. Descriptions of control equipment
12. Rule effectiveness
13. Rule penetration
14. Geospatial data, including town to county relationship
15. Selected census Data
16. All “mandatory” and “necessary” elements of the EPA’s NEI input format, version 3

6.3 Import Historical Data

Multi-year emissions tracking with complete charting is used for compiling the ozone “reasonable further progress” and transportation budget conformity demonstrations required by the Clean Air Act and EPA.

1. The proposed application must support the ability to develop trend reports for these and other air quality demonstrations.
2. The proposed application must support importing historical air emissions inventory data from the Air Bureau's existing system or NEI for trends analyses, presumably a one-time transaction.
3. Ideally, historical area source data from 1993 to the present will be imported into the replacement database. At a minimum, data from 2002 forward must be imported.

6.4 Support Attainment Planning and Policy Development

Inventory data is used for more than historical calculations. The DEP Air Bureau also uses it for Attainment Planning and policy development purposes. It is highly desirable that the design of the inventory replacement system supports:

1. The acceptance of growth factors and control strategies for area source categories
2. Production of future year calculations and projections by selected pollutants

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6.5 Data Transmission

The proposed application must:

1. Provide consistency with State and EPA standards for transmission and tracking of data. See <http://www.exchangenetwork.net/index.htm> and [http://oaspub.epa.gov/edr/epastd\\$.startup#1US](http://oaspub.epa.gov/edr/epastd$.startup#1US).
2. Upload data to the EPA's NEI, including adjustment of the annual and daily activity, to avoid double counting of emissions already accounted for in the stationary point source inventory

6.6 Process Survey Questionnaires and Related Data

The EPA requires that data be compiled at the county level in each state for the NEI. In Connecticut, many categories are first assessed at the town level and then summed to county level statistics. There are a variety of methodologies used to assess emissions across each county. Survey questionnaire responses, activity data from other Bureaus in the DEP, use of surrogate emission factors such as per capita or per employee, national association reports quantifying state activity, and growth from previously documented emission estimates for particular categories are all types of methodologies used to compile Connecticut's emissions from area sources. The replacement the system must:

1. Support submission of survey questionnaires and other reports using an electronic process that is browser-based, user-friendly (e.g., an “e-Government approach”) or permit the submission of questionnaire data using a more manual process.
2. Store area data at both the town and county level
3. Contain quality assurance features that will review data for reasonability and accuracy in a manner similar to that used for stationary point sources
4. Verify that values are within default ranges
5. Conduct secondary checks using supplied parameters
6. Ensure that the data is directly loaded into the replacement system after quality assurance

6.7 Support Reporter Certification and Authentication

Users of the area source e-government reporting features must be certified. This certification process must be included using electronic authentication protocols. This electronic submittal process must also ensure the security of the data in accordance with CROMERR standards. (See <http://www.epa.gov/fedrgstr/EPA-GENERAL/2005/October/Day-13/g19601.htm>)

6.8 Data Entry Structure Requirements

The data entry structure of the proposed application for use by DEP staff must:

1. Authenticate and authorize users of the Air Emissions Inventory system through the existing CAAS system. (See Appendix K)
2. Be designed to identify source categories, either through a GIS approach or in an easily controlled visual tree structure
3. Allow logical and complete entry of information
4. Include an audit trail with date and time-stamping features to identify and track information entered by staff through the use of CAAS.

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5. Include periodic reports on the edits made by staff at the data field level and a feature that allows management and supervisory personnel to create ad hoc reports of editing activity
6. Provide browser-based data entry screens for area sources

6.9 Emissions Calculations

Calculations to estimate emissions based on specific input data must be incorporated into the new application using scripted routines with built-in flexibility to override default information when better data are available.

1. Input data will include, but not be limited to:
 - a. Activity,
 - b. Emissions measurement units,
 - c. Material input and output,
 - d. Emissions factors
 - e. Control types,
 - f. Rule effectiveness,
 - g. Surrogate information, such as population, employment data or census data
2. Default information should comply with officially recognized documentation such as:
 - a. EPA's AP-42 emission factors document (<http://www.epa.gov/ttn/chief/ap42/index.html>)
 - b. Emissions Inventory Improvement Program (<http://www.epa.gov/ttn/chief/eiip/techreport/>)
 - c. NEI methodologies (<http://www.epa.gov/ttn/chief/net/2002inventory.html>)
 - d. Also, separately allow for user-specific defaults.
 - e. FIRE version 6.25 (<http://www.epa.gov/ttn/chief/software/fire/>)
3. EPA supported emission estimation computer models should be accessible and executable in the new application and include:
 - a. Landfill Gas Emissions Model (LandGEM)(<http://www.epa.gov/ttn/catc1/dir1/landgem-v302-guide.pdf>);
 - b. WATER9 (<http://www.epa.gov/ttn/chief/software/water/index.html>);
4. The new application must also allow for the flexibility to utilize updated emission data as it becomes available.
5. As an **option**, the system may support a stand-alone execution of BEIS (<http://www.epa.gov/AMD/biogen.html>).

6.10 Report Generation and Freedom of Information Requests

An important function of the Planning and Standards Division is to fulfill numerous and diverse requests pertaining to Connecticut's Freedom of Information Act (FOIA) as well as internal staff information requests. The proposed system must support:

1. A robust ad hoc reporting capability in order to produce flat file reports and/or spreadsheet tables using simple, flexible, yet comprehensive query processes.
2. A simple and intuitive process of querying the database that is suitable for non-technical system users.
3. A flexible radius search capability.
4. The capture of query results and the ability to export these into other desktop applications (e.g., Microsoft Excel and Access) and manipulate the data.
5. The ability to save reports and queries by users in a simple and organized manner.

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6. Typical reports should be able to include, but not be limited to, information on: Emissions by pollutant for area and mobile source categories, or point sources by facility and NAICS or SCC code (if applicable), sorted in various ways, as well as graphical formats such as bar graphs and pie charts; total emissions by time series; and quality assurance.
7. A similar web-based public query and reporting capability that will permit the general public to access to the Bureau's Air Emissions Inventory data from a secure and current copy of the database.
8. A module that combines stationary, area, mobile and biogenic emission data and generates summary reports that appear in the introductory section of the Bureau of Air Management's Periodic Emissions Inventory.
9. Electronic tools and functionality consistent with DEP's e-Government initiative and DOIT's guidelines for both web-based applications and public access to the state's data center (see appendices H and I).

7.0 Mobile Sources

7.1 Description

Mobile source inventory activities include estimating emissions from a wide range of transportation modes. Source categories include on-road vehicles, aircraft, marine vessels, rail transportation, and a variety of off-road mobile construction, lawn and garden, airport service, agricultural, recreational (ATVs, power boats, snowmobiles, etc.) and logging equipment.

7.2 Capture Descriptive Data Elements

Detailed information must be collected to properly describe each source category. The system must be able to capture, at a minimum:

1. Source Code Classification (SCC) codes,
2. Design and operating parameters, restrictions and activity levels
3. Types and amounts of fuels
4. Yearly, daily and seasonal inputs and outputs
5. Emission factors (either default or derived)
6. Seasonal adjustment factors
7. Short term and long term actual emissions for daily, annual and seasonal periods
8. Associated fugitive emissions
9. Pollutants (including criteria pollutants, HAPs, PM fine and GHG)
10. Weather conditions (temperature, humidity, altitude, air conditioning effects, etc.)
11. Descriptions of control equipment
12. Geospatial data, including town to county relationship
13. Selected census Data
14. Data from other sources, such as the Vehicle Miles Traveled activity files from the CT DOT
15. All "mandatory" and "necessary" elements of the EPA's NEI input format, version 3

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7.3 Import Historical Data

Multi-year emissions tracking with complete charting is used for compiling the ozone “reasonable further progress” and transportation budget conformity demonstrations required by the Clean Air Act and EPA.

1. The proposed application must support the ability to develop trend reports for these and other air quality demonstrations.
2. The proposed application must support importing historical air emissions inventory data from the Air Bureau's existing system or NEI for trends analyses, presumably a one-time transaction.
3. Ideally, historical mobile source data from 1993 to the present will be imported into the replacement database. At a minimum, data from 2002 to the present must be imported.

7.4 Support Attainment Planning and Policy Development

Inventory data is used for more than historical calculations. The DEP Air Bureau also uses it for Attainment Planning and policy development purposes. It is highly desirable that the design of the inventory replacement system supports:

1. The acceptance of growth factors and control strategies for mobile source categories
2. Production of future year calculations and projections for selected pollutants
3. The organization of various scenarios of input and output files for strategic development of control programs
4. Calculation routines using parameters to generate appropriate short and long term emissions estimates for specifiable geographic areas

7.5 Data Transmission

The proposed application must:

1. Provide consistency with State and EPA standards for transmission and tracking of data. See <http://www.exchangenetwork.net/index.htm> and [http://oaspub.epa.gov/edr/epastd\\$.startup#IUS](http://oaspub.epa.gov/edr/epastd$.startup#IUS) .
2. Upload data to the EPA’s NEI.

7.6 Process Survey Questionnaires and Related Data

Some of the mobile source category information is collected using survey questionnaire returns similar to methodologies used for area sources. The proposed application must have functionality to compile this data and support calculation routines for estimating these mobile source emissions. As an example, railroad corporations are surveyed to ascertain line haul and switchyard activity each reporting year. These activity data should also be geographically allocated along physical track mileage to determine emissions for the appropriate town or countywide areas. Emission calculations for railroads would use emission factors, features, and methods similar to those used for stationary and area sources. Another category that involves complex analysis is the assessment of aircraft engine emissions due to airport landing, take-off and taxi activities. Each type of engine generates pollution at different levels and compiling this for major airports without computer software is resource intensive. There are a variety of methodologies used to assess emissions across the state. The replacement the system must:

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1. Support submission of survey questionnaires and other reports using an electronic process that is browser-based, user-friendly (e.g., an “e-Government approach), **or** permit the submission of questionnaires data using a more manual process.
2. Store area data at both the town and county level
3. Contain quality assurance features that will review data for reasonability and accuracy in a manner similar to that used for stationary point sources
4. Verify that values are within default ranges
5. Conduct secondary checks using supplied parameters
6. Ensure that the data is directly loaded into the replacement system after quality assurance

7.7 Support Reporter Certification and Authentication

Users of the mobile source e-government reporting features must be certified. This certification process must be included using electronic authentication protocols. This electronic submittal process must also ensure the security of the data in accordance with CROMERR standards. (See <http://www.epa.gov/fedrgstr/EPA-GENERAL/2005/October/Day-13/g19601.htm>)

7.8 Data Entry Structure Requirements

The data entry structure of the proposed application for use by DEP staff must:

1. Authenticate and authorize users of the Air Emissions Inventory system through the existing CAAS system (See Appendix K)
2. Be designed to identify source categories either through a GIS approach or in an easily controlled visual tree structure
3. Allow logical and complete entry of information
4. Include an audit trail with date and time-stamping features to identify and track information entered by staff through CAAS
5. Include periodic reports on the edits made by staff at the data field level and a feature that allows management and supervisory personnel to create ad hoc reports of editing activity

7.9 Emissions Calculations

Calculations to estimate emissions based on specific input data must be incorporated into the new application using scripted routines with built-in flexibility to override default information when better data are available.

1. Input data will include, but not be limited to:
 - a. Activity,
 - b. Emissions measurement units,
 - c. Material input and output,
 - d. Emissions factors
 - e. Control types,
 - f. Rule effectiveness,
 - g. Selected Census Data
 - h. Information used as input to the EDMS, NONROAD and MOBILE6.2 applications
2. Default information should comply with officially recognized documentation such as:
 - a. MOBILE6.2 Users Guide
 - b. NON ROAD Users Guide

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- c. EPA Guidance, such as that provided in EPA420-R-04-013, dated August 2004, entitled “Technical Guidance on the Use of MOBILE6.2 for Emissions Inventory Preparation”
3. To estimate mobile source emissions, the Planning and Standards Division that uses complex methodologies dependent on federally supported computer models. These EPA supported emission estimation computer models should be accessible and executable in the new application and include the latest version of:
 - a. MOBILE6.2 (<http://www.epa.gov/otaq/m6.htm>),
 - b. Emissions and Dispersion Modeling System (EDMS) for aircraft operations (http://www.faa.gov/about/office_org/headquarters_offices/aep/models/edms_model/)
 - c. NONROAD (<http://www.epa.gov/otaq/nonrdmdl.htm>).
4. The mobile section is dependent on the above third party (EPA, FAA) applications. In order to post process activity data collected by questionnaires, the application must be designed to manage:
 - a. Various Input files used by these applications
 - b. The corresponding output/results files
 - c. Numerous sets of files developed as a result of “scenario analyses”
 - d. Providing (national) default values when local inputs are not specified
 - e. The new application must also allow for the flexibility to utilize updated emission data as it becomes available.

7.10 Report Generation and Freedom of Information Requests

An important function of the Planning and Standards Division is to fulfill numerous and diverse requests pertaining to Connecticut’s Freedom of Information Act (FOIA) as well as internal staff information requests. The proposed system must support:

1. A robust ad hoc reporting capability in order to produce flat file reports and/or spreadsheet tables using simple, flexible, yet comprehensive query processes.
2. A simple and intuitive process of querying the database that is suitable for non-technical system users.
3. The capture of query results and the ability to export these into other desktop applications (e.g., Microsoft Excel and Access) and manipulate the data.
4. The ability to save reports and queries by users in a simple and organized manner.
5. A module that combines stationary, area, mobile and biogenic emission data and generates summary reports that appear in the introductory section of the Bureau of Air Management’s Periodic Emissions Inventory.
6. Typical reports should be able to include, but not be limited to, information on: Emissions by pollutant for mobile source categories by vehicle and/or road type, sorted in various ways, as well as graphical formats such as bar graphs and pie charts; total emissions by time series; and quality assurance.

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7. A similar web-based public query and reporting capability that will permit the general public to access to the Bureau's Air Emissions Inventory data from a secure and current copy of the database.
8. Electronic tools and functionality consistent with DEP's e-Government initiative and DOIT's guidelines for both web-based applications and public access to the state's data center (see appendices H and I).

8.0 The Operational Requirements

8.1 Introduction

The replacement system must be able to process all air emissions inventory data as it is collected from Title V sources and, ideally, from additional reporters via questionnaires and other sources. DEP seeks a contractor experienced in Air Emissions Inventory Systems capable of providing technical support, consultation and assistance with the ongoing federal changes that will affect the state's Air Emissions Inventory program. The selected vendor will be required to modify an existing system to meet Connecticut's unique needs using a relational database, a browser-based data entry and reporting system that will be user friendly, intuitive and flexible, while conforming to the requirements outlined in this section of the RFP and in those set forth in Attachment 2 of the RFP, "Vendor Format and Content Requirements."

8.2 Security Requirements

System and data security are critical elements of the replacement Air Emissions Inventory System. At a minimum, the system procured through this RFP must:

1. Authenticate and authorize users of the Air Emissions Inventory system through the existing CAAS system, the foundation of which is Active Directory. (See Appendix K)
2. Allow the DEP and/or DOIT to determine the minimum number of characters in a password and protocols for password change, as well as the number of times a password can be reused.
3. Allow DEP and/or DOIT to determine how many times a user can attempt login before the system locks the user out.
4. Incorporate a "Role Based Access Control Mechanism" that supports access for multiple types of users based on an individual's job function or role in the community.
5. Support the remote management of system permissions and access.
6. Provide full security audit capabilities that tracks activity access to the system, application and database to the field level.
7. Provide periodic metrics and an ad hoc reporting capability with respect to system activity.

Additional security features beyond those listed above **may** be proposed to enhance security to the extent practicable.

8.3 System Design

The design of the system shall be flexible in nature so that it can accommodate changes and revisions to EPA mandates, Connecticut General Statutes and DEP's business rules without major

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rewrites of the system. Proposals are to explain how this requirement will be met. The application must also support:

1. The ability to navigate the application using a mouse or keyboard.
2. Feedback to the user in the form of both hard and soft error messages/edits and messages indicating the successful completion of a function. Messages may be in the form of a pop-up window or other means.

8.4 DOIT Enterprise Wide Technical Architecture (EWTA) Standards

Proposed systems must comply with the Department of Information Technology's Enterprise Wide Technical Architecture (EWTA) Standards and the DEP's Technical Environment Requirements in order to be considered. The DOIT Strategic Standards and Products may be found in Appendix J of this RFP. Additional information on the DOIT standards may be found in Appendix H of this RFP. A summary of those requirements appears below:

1. Be designed in a three (3) tiered, or n-tiered application development architecture
2. Adhere to the current EWTA Standards
3. Be fully accessible to persons with disabilities
4. Adhere to DOIT's guidelines for hosting the presentation, application and database layers of the application
5. Adhere to DOIT's guidelines for application support
6. Adhere to DOIT's security protocols
7. Adhere to DOIT's Presentation Layer Input Validation guidelines
8. Adhere to DOIT's guidelines for web authentication
9. Permit State review of application source code prior to implementation and while in a production status
10. Obtain DOIT's approval of the test environment, configuration, tools and procedures
11. Recognize that applications in development or test status will not operate on production servers

8.5 DEP Technical Environment Requirements

In addition to the DOIT EWTA Standards, the proposed system must comply with the DEP Technical Environmental Requirements. These requirements mandate that the proposed system must:

1. Be hosted at DEP in Hartford, Connecticut
2. Utilize a ".Net" development environment
3. Preferably be written in Visual Basic, or other product approved by DEP through the vendor Question and Answer process
4. Utilize Thin Client technology
5. Utilize the XML format to support required EPA and other required reporting
6. Employ a SQL Server 2005 (or greater) Database Server
7. Operate with a SQL relational database
8. Conform to DEP's Change Control Procedures
9. Be table driven with front end forms to allow users to update parameters and tables if desired
10. Be intuitive to provide ease of use

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8.6 Accessibility of Web-Based Applications

If a proposed product has any Web accessibility, it must comply with the State of Connecticut's "Universal Web Site Accessibility Policy for State Web Sites - Version 4.0" and vendors are required to explain how their solution meets this requirement. Information on this policy can be found at: <http://www.access.state.ct.us/>

8.7 Response Time and Availability

In order to support DEP and the public's needs, the system must:

1. Be operational ("up time") eighteen (18) hours per day, from 6:00 a.m. to 12:00 a.m., local Hartford, Connecticut time, seven days per week.
2. Provide initial access for 150 concurrent users, both within DEP and reporters externally.
3. Be scalable to allow for additional concurrent users as the application becomes more familiar to the public.
4. Provide a maximum of a one second field-to-field response time.
5. Provide a maximum of a three second screen-to-screen response time.

8.8 Help Desk and Technical Support Services

All DEP users must comply with the DEP Help Desk Procedures. These require a user to first call the DEP Help Desk when a problem is encountered. DEP OIM staff will attempt to resolve the user's problem. Should the problem appear to be a lie with the Air Emissions Inventory System, the following Help Desk and Technical Support services are required:

1. **Help Desk** services for end users, both internal and external to DEP, shall be available from 7:00 a.m. to 6:00 p.m., Monday through Friday, local Hartford, Connecticut time.
2. Competent contractor staff, fluent in the English language, shall be available to assist callers.
3. Calls are to be answered by the sixth (6th) ring, and no call shall be on hold for more than three (3) minutes.
4. The Help Desk shall be accessible using a toll-free telephone number, the cost of which shall be borne by the contractor.
5. Help Desk requests may also be made by e-mail to a single point of contact within the contractor's organization.
6. A formal process for problem escalation must exist and be documented in the Proposal.
7. **Technical Support** services for DEP Office of Information Management staff shall be available from 7:00 a.m. to 6:00 p.m., Monday through Friday, local Hartford, Connecticut time.
8. A single point of contact for all DEP OIM staff calls shall be provided.
9. Calls are to be answered by the sixth (6th) ring, and no call shall be on hold for more than three (3) minutes.
10. Technical Support personnel shall be accessible using a toll-free telephone number, the cost of which shall be borne by the contractor.
11. Technical Support requests may also be made by e-mail to a single point of contact within the contractor's organization.

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12. A formal process for problem escalation must exist and be documented in the Proposal.

8.9 User, Technical and Administrative Documentation

Documentation associated with the proposed system must be provided both in hard copy and in an electronic format. Vendors must explain the process that will be used to create, provide and modify documentation during the term of the contract. Documentation must be presented in a manner consistent with industry standards and is subject to approval by DEP. Documentation must be kept current, meaning revised after each upgrade or modification to the system. The following documentation is required:

1. A Users' Manual that describes the system for end users that is written in a simple, straightforward style that is suitable for a non-technical user.
2. On-line help screens that are context-sensitive and searchable.
3. "Quick reference" charts or guides for end users.
4. Unified Modeling Language (UML) is the preferred format for documentation.
5. Technical documentation showing all inputs, outputs and programs in the system in a logical sequence.
6. Dataflow diagrams, including user/computer interaction and the process flow at the transaction level.
7. A data dictionary detailing naming conventions, data elements, relationships among entities, etc.
8. An inventory of reports and other outputs that will be generated by the system.
9. The logical and physical database designs.
10. File documentation for each permanent file.
11. Operating procedures, including backup and recovery
12. Application security procedures
13. Application startup/shutdown procedures
14. Software installation requirements, including memory, disk, software requirements and others.
15. Change control and version management procedures
16. Auditing and testing procedures.
17. System troubleshooting and system tuning procedures and features.
18. Batch control language
19. Report writer procedures.
20. Use of software tools and debugging aids.
21. Full system documentation.

8.10 Maintenance, Support and Enhancements

The contract for this project will include a one-year warranty period and up to four (4) years of maintenance, support and system enhancement. A description of the vendor's product maintenance, support and enhancement policies, procedures and protocols is to be included in the Proposal. During the term of the contract, the selected vendor will:

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1. Provide any and all services necessary to keep the application fully functional and bug free during the term of the contract, beginning with the first day of the Warranty period.
2. Keep the application current and in compliance with any and all EPA rule changes in the Air Emissions Inventory Program.
3. Enhance the application to meet DEP's unique needs in accordance with direction given by the DEP Project Administrator. The Cost Proposal must contain pricing for enhancements on an hourly and daily (a "day" is defined as an eight hour work day) basis.

8.11 Disaster Recovery and Business Continuity

A Disaster Recovery and Business Continuity Plan must be developed that contains, at a minimum:

1. Actions to be taken before, during and after a disaster
2. A description of data recovery
3. An escalation process, including notification of the interruption
4. A description of any fail-over process to alternate servers, if applicable
5. A description of measures to be in place in the event of an extended interruption
6. A description of procedures in place to ensure the availability of critical resources and facilities to allow Business Continuity in a disaster situation

The Disaster Recovery and Business Continuity Plan shall be kept current for the term of the contract. Disaster Recovery test plan results will be submitted to the Project Administrator within ten (10) business days from such request.

8.12 Training

The selected vendor will be responsible for the development and delivery of all training, and must provide a sample of the training methodology and strategy to be used for managing training. Materials and plans are subject to DEP's approval prior to use. The training will be conducted at DEP's offices. The vendor must provide:

1. Training materials in both electronic and hard copy.
2. A Training Plan
3. An overview of the system for 100 DEP inquiry-only users
4. A training region (or "sandbox") to assist users in gaining proficiency with the application
5. Training for Air Management Bureau managerial staff.
6. Detailed training for the Air Emissions Inventory end users.
7. On-line training/help for Title V reporters
8. On line training/help for Survey Questionnaire participants
9. On-line training/help for inquiries from the general public

Attachment 7 - Contract Compliance Regulations and Notification to Bidder

Section 4a-60g through 4a-60j of the Connecticut General Statutes sets forth the State's Small Business Set-Aside program and the percentage of applicable purchases that must be set-aside for certified small businesses. Section 4a-60g(b) requires that Twenty-five (25%) of the average total value of all contracts let for each of the previous three fiscal years must be set aside.

The Department of Information Technology is requesting that vendors responding to this RFP set aside a portion for a small, minority or women's business enterprise as a supplier of goods, a supplier of services and/or as a subcontractor. Prospective Vendors may obtain a list of firms certified to participate in the Set-Aside program by contacting the Department of Administrative Services (DAS), 165 Capitol Avenue Hartford, Connecticut 06106, Room G8A, Office of Supplier Diversity. The telephone number is (860)-713-5236. The Office of Supplier Diversity web site may be accessed at <http://www.das.state.ct.us/Purchase/SetAside/default.asp>.

Bidders may fulfill this obligation through a subcontract for any services related to this contract by utilizing small, minority or women-owned businesses as suppliers of goods or services.

During the evaluation process, special consideration will be given to those Bidders who provide documentation to evidence their utilization of a certified small, minority or women-owned business enterprise to fulfill the services required by this procurement. Bidders are to identify the certified small, minority or women-owned business, the goods or services the business(es) will supply, and the percentage of the overall contract amount that will be set-aside in the Business, Technical & Operational Proposal, as well as identifying a specific dollar amount in the Business (Cost) Proposal. Note that *no dollar amounts* are to appear in the Business, Technical and Operational Proposal.

Additionally, Vendors are to complete the Commission on Human Rights and Opportunities Contract Compliance Monitoring Report that appears at the end of this Attachment and submit the completed, signed Report (labeled CHRO-4) with the Proposal

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CONTRACT COMPLIANCE REGULATIONS NOTIFICATION TO BIDDERS

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the CONN. GEN. STAT.; and, when the awarding agency is the State, Sections 46a-71(d) and 46a-81i(d) of the CONN. GEN. STAT. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies which establish a procedure for the awarding of all contracts covered by Sections 4a-60 and 46a-71(d) of the CONN. GEN. STAT.

According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the Contract Compliance Requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors, and suppliers of materials.” “Minority business enterprise” is defined in Section 4a-60 of the CONN. GEN. STAT. as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of section 32-9n.” Minority groups are defined in section 32-9n of the CONN. GEN. STAT. as “(1) Black Americans... (2) Hispanic Americans... (3) persons who have origins in the Iberian Peninsula... (4) Women... (5) Asian Pacific American and Pacific Islanders; (6) American Indians...” A business owned by an individual(s) with a physical disability is also a minority business enterprise as provided by Section 32-9e of the CONN. GEN. STAT. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (A) the bidder’s success in implementing an affirmative action plan;
- (B) the bidder’s success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 inclusive, of the Regulations of Connecticut State Agencies;
- (C) the bidder’s promise to develop and implement a successful affirmative action plan;
- (D) the bidder’s submission of EEO-1 data indicating that the composition of its workforce is at or near parity when compared to the racial and gender composition of the workforce in the relevant labor market area; and,
- (E) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 46a-68j-30(10)(E) of the Contract Compliance Regulations.

INSTRUCTIONS AND OTHER INFORMATION

The following BIDDER CONTRACT COMPLIANCE MONITORING REPORT must be completed in full, signed, and included with the Proposal submitted in response to this RFP.

The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidder's compliance to Sections 4a-60 and 4a-60a CONN. GEN. STAT., and Sections 46a-68j-23 of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder's "good faith efforts" to include minority business enterprises as subcontractors and suppliers for the work of the contract.

1) Definition of Small Contractor

Section 32-9e CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding ten million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a non-profit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision 32-9e CONN. GEN. STAT.

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2) **Description of Job Categories (as used in Part IV Bidder Employment Information)**

<p><u>Officials, Managers and Supervisors</u> - Occupations requiring administrative personnel who set broad policies, exercise over-all responsibility for execution of these policies, and direct individual departments or special phases of a firm's operations. Includes officials, executives, middle management, plant managers, department managers, and superintendents, salaried forepersons who are members of management, purchasing agents and buyers, and kindred workers.</p> <p><u>Professionals</u> - Occupations requiring either college graduation or experience of such kind and amount as to provide a comparable background. Includes: accountants and auditors, airplane pilots and navigators, architects, artists, chemists, designers, dietitians, editors, engineers, lawyers, librarians, mathematicians, natural scientists, personnel and labor relations workers, physical scientists, physicians, social scientists, teachers, kindred workers.</p> <p><u>Technicians</u> - Occupations requiring a combination of basic scientific knowledge and manual skill which can be obtained through about 2 years of post high school education, such as is offered in technical institutes and junior colleges, or through equivalent on-the-job training. Includes: draftspersons, engineering aides, junior engineers, mathematical aides, nurses, photographers, radio operators, scientific assistants, surveyors, technical illustrators, technicians (medical, dental, electronic, physical sciences), and kindred workers.</p> <p><u>Sales Workers</u> - Occupations engaging wholly or primarily in direct selling. Includes: advertising agents and sales persons, insurance agents and brokers, real estate agents and brokers, stock and bond salespersons, demonstrators, sales people and sales clerks, and kindred workers.</p> <p><u>Office and Clerical Workers</u> - Includes all clerical type work regardless of level of difficulty, where the activities are predominantly non-</p>	<p><u>Skilled Workers</u> - Manual workers of relatively high skill level having a thorough and comprehensive knowledge of the processes in their work. They exercise considerable independent judgment and usually receive an extensive period of training. Includes: building trades hourly paid forepersons and lead persons who are not members of management, mechanics and repair people, skilled machining occupations, compositors and typesetters, electricians, engravers, job setters (metal), motion picture projectionists, pattern and model makers, stationary engineers, tailors, and kindred workers.</p> <p><u>Semi-Skilled Workers</u> - Workers who operate machine or processing equipment or perform other factory type duties of intermediate skill level which can be mastered in a few weeks and require only limited training.</p> <p><u>Unskilled Workers</u> - Workers in manual occupations which generally require no special training. Perform elementary duties that may be learned in a few days and require application of little or no independent judgment. Includes: garage laborers, car washers and greasers, gardeners (except farm) and grounds keepers, longshore persons and stevedores, wood cutters and choppers, laborers performing lifting, digging, mixing, loading, and pulling operations, and kindred workers.</p> <p><u>Service Workers</u> - Workers in both protective and non-protective service occupations. Includes: attendants (hospital and other institution, professional, and personal service), barbers, cleaning workers, cooks (except house-hold), counter and fountain workers, fire fighters, police officers and detectives, security workers and doorkeepers, stewards, janitors, porters, food servers and kindred workers.</p> <p><u>Apprentices</u> - Persons employed in a program including work training and related instruction to learn a trade or craft which is traditionally considered an apprenticeship, regardless of</p>
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<p>manual though some manual work not directly involved with altering or transporting the products is included. Includes: bookkeepers, cashiers, collectors (bills and accounts), messengers and office workers, office machine and computer operators, shipping and receiving clerks, stenographers, typists and secretaries, telegraph and telephone operators, and kindred workers.</p>	<p>whether the program is registered with a state or federal agency. Trainees - Persons engaged in a formal training for craft worker when not trained under an apprenticeship program. Includes: operatives, laborer and service occupations. Also includes persons engaged in formal training for official, managerial, professional, technical, sales, office, and clerical occupations.</p>
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3) **Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information)**

<p>White (not of Hispanic Origin) - All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East. Black (not of Hispanic Origin) - All persons having origins in any of the Black racial groups of Africa. Hispanic All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p>	<p>Asian or Pacific Islander All persons having origins in any of the original peoples of the Far East, Southeast Asia, Indian subcontinent or Pacific Islands. Includes China, India, Japan, Korea, Philippine Islands, & Samoa. American Indian or Alaskan Native All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p>
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BIDDER CONTRACT COMPLIANCE MONITORING REPORT

PART I - Bidder Information

Company Name Street Address City & State Chief Executive	Bidder Federal Employer Identification Number (FEIN) or Social Security Number (SSN)
Major Business Activity (brief description)	Bidder Identification (response optional/definitions on page 1) -Is bidder a small contractor? <input type="checkbox"/> Yes <input type="checkbox"/> No
Bidder Parent Company (if any)	-Is bidder a minority business enterprise? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, check ownership category <input type="checkbox"/> Black <input type="checkbox"/> Hispanic <input type="checkbox"/> Asian American
Other Locations in CT (if any)	<input type="checkbox"/> American Indian/Alaskan Native <input type="checkbox"/> Iberian Peninsula <input type="checkbox"/> Individual(s) with a Physical Disability <input type="checkbox"/> Female -Is bidder certified as above by the State of CT (DAS)? <input type="checkbox"/> Yes <input type="checkbox"/> No

PART II - Bidder Non-Discrimination Policies & Procedures

1. Does your company have a written Equal Employment Opportunity statement posted on company bulletin boards? <input type="checkbox"/> Yes <input type="checkbox"/> No	7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a of the Conn. Gen. Stat.? <input type="checkbox"/> Yes <input type="checkbox"/> No
2. Does your company have a written sexual harassment in the workplace policy posted on company bulletin boards? <input type="checkbox"/> Yes <input type="checkbox"/> No	8. Do you, upon request, provide reasonable accommodation to employees or applicants for employment who have physical or mental disability? <input type="checkbox"/> Yes <input type="checkbox"/> No
3. Do you notify all recruitment sources in writing of your company non-discrimination employment policy? <input type="checkbox"/> Yes <input type="checkbox"/> No	9. Does your company have a mandatory retirement age for all employees? <input type="checkbox"/> Yes <input type="checkbox"/> No

**State of Connecticut, Department of Information Technology
Request for Proposals**

<p>4. Do your company advertisements contain a written statement that you are an Equal Opportunity Employer? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p>
<p>5. Do you notify the CT State Employment Service of all employment openings with your company? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>11. If your company has apprenticeship programs, do they meet the equal opportunity requirements of the apprenticeship standards of the CT Dept. of Labor? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p>
<p>6. Does your company have a collective bargaining agreement with workers? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>6b. Have you notified each union, in writing, of your commitments under the non-discrimination requirements of contracts with the State of CT? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>12. Does your company have a written affirmative action plan? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>13. Is there a person in your company who is responsible for Equal Employment Opportunity? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide name and phone number:</p>

PART III - Bidder Subcontracting Practices

<p>1. Will the work of this contract include subcontractors or suppliers? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>1a. If yes, list all the subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise (as defined on page 1). Attach additional sheets if necessary.</p> <p>1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>
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CONTRACT COMPLIANCE REGULATIONS (CHRO) <i>Page 4 of 4</i>	STATE OF CONNECTICUT COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES (CHRO)	CHRO-4
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PART IV - Bidder Employment Information

JOB CATEGORY	OVERALL TOTALS		WHITE (NOT OF HISPANIC ORIGIN)		BLACK (NOT OF HISPANIC ORIGIN)		HISPANIC		ASIAN / PACIFIC ISLANDER		AMERICAN INDIAN OR ALASKAN NATIVE	
	F	M	F	M	F	M	F	M	F	M	F	M
Officials/Managers												
Professionals												
Technicians												
Sales Workers												
Office/Clerical												
Craft Workers												
Laborers (Unskilled)												
Service Workers												
TOTALS ABOVE												
Total One Year Ago												
FORMAL ON-THE-JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN)												
Apprentices												
Trainees												

According to the above employment report, is the composition of your workforce at or near parity when compared with the racial and gender composition of the workforce in the relevant labor market area?

Yes No

PART V - Bidder Hiring and Recruitment Practices

1. Which of the following recruitment sources are used by you? (Check yes or no, and report percentage used)				2. Check (✓) any of the requirements listed below that you use as a hiring qualification.	3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination.
SOURCE	YES	NO	% of applicants provided by source		
State Employment Service					

**State of Connecticut, Department of Information Technology
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Private Employment Agencies					Ability to Speak or Write English
Schools and Colleges					Written Tests
Newspaper Advertisement					High School Diploma
Walk Ins					College Degree
Present Employees					Union Membership
Minority/Community Organizations					Personal Recommendation
Labor Organizations					Height or Weight
Others (please identify)					Car Ownership
					Arrest Record
					Wage Garnishment

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatement of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

Signature	Title	Date Signed	Telephone

Attachment 8 – Vendor’s Checklist

This signed Checklist is to be submitted with your Proposal.

- 1.) We have included our contact person’s name, title, address, phone number, fax number and e-mail address. _____
- 2.) We have provided the RFP response in properly marked and sealed envelopes or boxes before the Proposal due date and time. _____
- 3.) We have sent the Proposal in boxes no larger than 18” x 12” x 10” as instructed. _____
- 4.) We have provided our Proposal following the page and text formats required. _____
- 5.) We have completed the Vendor Questionnaire (Attachment 1), followed by any required explanation. _____
- 6.) We have completed the Transmittal Letter as required, **including an original signature**, all required forms and signed face sheets for each amendment issued after issuance of the RFP. _____
- 7.) We have provided a Table of Contents. _____
- 8.) We have provided the required Executive Summary in each Proposal part. (Business, Technical & Operational, and Cost) _____
- 9.) We have provided an original signature on the Vendor Proposal Validation and Authorization Statement and included our firm’s FEIN. _____
- 10.) We have included a description of ourselves, including the required Audited Financial Statements (as an Appendix to the “Summary of Qualification” section of the Proposal) and a description of relevant experience. _____
- 11.) We have included three (3) references with name, address, e-mail and telephone. _____
- 12.) Where we have exceptions or additions in pricing or costs, we have explained them in sufficient detail that the State can determine the complete cost of our Proposal. _____
- 13.) We have included electronic copy as instructed in Attachment 2. _____
- 14.) We have included hardcopies as instructed in Attachment 2. _____
- 15.) We have addressed all the mandatory requirements listed in the RFP. _____

**State of Connecticut, Department of Information Technology
Request for Proposals
Replacement of the Air Emissions Inventory System**

- 16.) We have provided a crosswalk between the requirements document and the sections of our Proposal that respond to the RFP requirements. _____
- 17.) We have completed all required Affidavits regarding Gifts, Consulting and Ethics. _____
- 18.) We have filled out, signed and returned the Commission on Human Rights and Opportunities Compliance Monitoring Report (Pages 6 & 7 of Attachment 7). _____
- 19.) We have read and understand the State of Connecticut Conceptual Architecture Principles and Requirements for Technical Architecture. We have also read and understand the nine domain architecture documents that comprise the Enterprise Wide Technical Architecture. _____
- 20.) We acknowledge that the Proposal is the sole property of the State of Connecticut. _____
- 21.) There are no proprietary statements in the Proposal, except as clearly noted and permitted. _____
- 22.) Any materials we request to be exempted from release under the Connecticut FOIA have been submitted in a separate envelope marked "Confidential," along with the rationale for the exemption request. _____
- 23.) Any requested changes to the language in Attachment 5 are included in the Technical, Business and Operational Proposal directly following the Transmittal Letter. _____
- 24.) We certify that all personnel are legally authorized to work on the project, and have included any required documentation. _____

We, _____, (Company Name) accept the terms and conditions of this RFP. Any exceptions that we have taken to this RFP are fully explained following the Transmittal Letter.

VENDOR NAME: _____

SUBMITTED BY: _____

SIGNATURE

PRINTED OR TYPED NAME

DATE: _____

Attachment 9 - Certification Regarding Lobbying

CONTRACTOR: _____

PERIOD: _____

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member or Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member or Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award document for subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) at that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more that \$100,000 for each such failure.

SIGNATURE

TYPED NAME & TITLE

FIRM/ORGANIZATION

DATE

Attachment 10 – Vendor Affidavits

STATE OF CONNECTICUT
OFFICE OF POLICY AND MANAGEMENT
Policies and Guidelines

Gift Affidavit
(Bid or Proposal)

Gift affidavit to accompany bids or proposals for state procurements with a value of \$50,000 or more in a calendar or fiscal year and licensing arrangements with a cost to the State greater than \$500,000 in a calendar or fiscal year, pursuant Conn. Gen. Stat. §§ 4-250 and 251, and Governor M. Jodi Rell's Executive Order No. 7B, para. 10.

I, Type/Print Name, Title and Name of Firm or Corporation, hereby swear that during the two-year period preceding the submission of this bid or proposal that neither myself nor any principals or key personnel of the submitting firm or corporation who participated directly, extensively and substantially in the preparation of this bid or proposal nor any agent of the above gave a gift, as defined in Conn. Gen. Stat. § 1-79(e), including a life event gift as defined in Conn. Gen. Stat. § 1-79(e)(12), to (1) any public official or state employee of the state agency or quasi-public agency soliciting the bids or proposals who participated directly, extensively, and substantially in the preparation of the bid solicitation or preparation of request for proposal or (2) to any public official or state employee who has supervisory or appointing authority over the state agency or quasi-public agency soliciting the bid or proposal, except the gifts listed below:

<u>Name of Benefactor</u>	<u>Name of recipient</u>	<u>Gift Description</u>	<u>Value</u>	<u>Date of Gift</u>
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List information here

Further, neither I nor any principals or key personnel of the submitting firm or corporation who participated directly, extensively and substantially in the preparation of this bid or proposal know of any action to circumvent this gift affidavit.

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

Signature

Date

Sworn and subscribed before me on this _____ day of _____, 200__

Commissioner of the Superior Court
Notary Public

STATE OF CONNECTICUT
OFFICE OF POLICY AND MANAGEMENT
Policies and Guidelines

Campaign Contribution Affidavit
(Bid or Proposal)

Campaign contribution affidavit to accompany bids or proposals for Large State Contracts (having a total cost to the State of more than \$500,000), pursuant to Governor M. Jodi Rell's Executive Order No. 1, para 8. and Conn. Gen. Stat. § 4-250

I, Type/Print Name, Title and Name of Firm or Corporation, hereby swear that during the two-year period preceding the submission of this bid or proposal, neither I nor any principals or key personnel of the submitting firm or corporation who participated directly, extensively and substantially in the preparation of this bid or proposal nor any agent of the above gave a contribution to a candidate for statewide public office or the General Assembly, as defined in Conn. Gen. Stat. §9-333b, except as listed below:

<u>Contributor</u>	<u>Recipient</u>	<u>Amount/Value</u>	<u>Date of Contribution</u>	<u>Contribution Description</u>
--------------------	------------------	---------------------	-----------------------------	---------------------------------

List information here

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

Signature

Date

Sworn and subscribed before me on this _____ day of _____, 200__

Commissioner of the Superior Court
Notary Public

STATE OF CONNECTICUT
OFFICE OF POLICY AND MANAGEMENT
Policies and Guidelines

Consulting Agreement Affidavit

Consulting agreement affidavit to accompany state contracts for the purchase of goods and services with a value of \$50,000 or more in a calendar or fiscal year, pursuant to Section 51 of Public Act 05-287.

This affidavit is required if a bidder or vendor has entered into any consulting agreements whereby the duties of the consultant include communications concerning business of such state agency, whether or not direct contact with a state agency, state or public official or state employee was expected or made. Pursuant to Section 51 of P.A. 05-287, "consulting agreement" means any written or oral agreement to retain the services, for a fee, of a consultant for the purposes of (A) providing counsel to a contractor, vendor, consultant or other entity seeking to conduct, or conducting, business with the State, (B) contacting, whether in writing or orally, any executive, judicial, or administrative office of the State, including any department, institution, bureau, board, commission, authority, official or employee for the purpose of solicitation, dispute resolution, introduction, requests for information or (C) any other similar activity related to such contract. Consulting agreement does not include any agreements entered into with a consultant who is registered under the provisions of chapter 10 of the general statutes as of the date such affidavit is submitted in accordance with the provisions of this section.

I, Type/Print Name, Title and Name of Firm or Corporation, hereby swear that I am the chief official of the bidder or vendor of the Contract or authorized to execute such Contract. I further swear that I have not entered into any consulting agreement in connection with such contract, except the agreements listed below:

Contractor's Name, Title and Firm or Corporation:

Terms of Consulting Agreement (Date of Execution, Amount, Expiration Date):

Brief Description of Services Provided (Purpose, Scope, Activities, Outcomes):

Yes No Is the Consultant a former state employee or public official?

If yes, provide the following information about the former state employee or public official:

- Former Agency:
- Date Such Employment Terminated:

Attach additional sheets if necessary. This affidavit must be amended if Contractor enters into any new consulting agreements during the term of this Contract

Sworn as true to the best of my knowledge and belief, subject to the penalties of false statement.

Signature

Date

Sworn and subscribed before me on this _____ day of _____, 200__

Commissioner of the Superior Court
Notary Public

**STATE OF CONNECTICUT
OFFICE OF POLICY AND MANAGEMENT
Policies and Guidelines**

This form is **MANDATORY** and must be completed, signed, and returned before the Contractor's bid can be considered by the State. **NO STATE AGENCY SHALL ACCEPT A BID FOR A LARGE STATE CONSTRUCTION OR PROCUREMENT CONTRACT WITHOUT SUCH AFFIRMATION.**

**ACKNOWLEDGMENT OF RECEIPT OF SUMMARY OF STATE ETHICS
LAWS
(Bid or Proposal)**

INSTRUCTION: Contractor must sign the acknowledgment below, and return this form to the awarding State agency.

The undersigned duly authorized representative of the bidding Contractor acknowledges (1) receipt of the summary of State ethics laws (2) that key employees of such Contractor have read and understand the summary and (3) that Contractor agrees to comply with the provisions of State ethics laws.

(Please print name under signature line.)

Signature

Title

Date

On behalf of:

Contractor Name

Street Address

City

State

Zip

Federal Employee Identification Number
(FEIN/SSN)

This form is **MANDATORY** and must be completed, signed, and returned to the awarding State agency pursuant to Section 37 of Public Act. No. 05-287

Plain Language Summary of State Ethics Laws for Current and Potential State Contractors

Note: The following is a summary of the major ethics laws and related provisions applicable to current and potential state contractors. For more detailed information or to discuss any questions you may have, contact the Office of State Ethics at (860) 566-4472.

RESTRICTIONS ON THE BENEFITS YOU MAY GIVE TO STATE PERSONNEL

GIFTS: In general, no one doing business with or seeking business from a state or quasi-public agency may give a gift to an official or employee of that agency. Connecticut's gift ban is strict, but has some exceptions. For example, under the Ethics Code, you may give: (1) food and drink up to \$50 per person per year, if the person paying, or his or her representative, is in attendance; and (2) tangible gifts up to \$10 per item up to \$50 per person per year. Also exempt are certain items such as informational materials, or plaques costing less than \$100. For a complete list of the Code's gift exceptions, consult Conn. Gen. Stat. § 1-79(e) or contact the Office of State Ethics.

IMPORTANT RECENT CHANGE IN LAW: As of July 1, 2004, gifts for "major life events," including a wedding or the birth of a child, which were previously exempt from the gift ban, are now subject to the strict gift limits outlined above if the gifts are provided by any individual or entity doing business with or seeking business from the state.

NOTE: State agencies may have stricter gift rules than the provisions of the Ethics Code (for example, an agency policy may ban all food and drink). Be sure to obtain a copy of the agency's ethics policy before you provide any benefit to an agency official/employee.

NECESSARY EXPENSES: Under the Ethics Code, you may not pay a fee or an honorarium to a state official or employee for making a speech or appearing at your organization's event. You may, however, under limited circumstances, pay the "necessary expenses" of such a state servant. These expenses are limited to: necessary travel, lodging for the nights before, or and after the speech, meals and conference fees. There may be reporting requirements attached to the giving and taking of necessary expenses, so contact the Office of State Ethics if you need more information. **NOTE:** Before providing necessary expenses, check with the state agency's ethics officer to determine if the agency allows such payments.

GIFTS TO THE STATE: The Ethics Code allows limited "gifts to the state" which facilitate state action or functions (for example, donating a piece of equipment to the agency).

NOTE: Recent legislation was passed that may impact gifts to the state. Please contact the Office of State Ethics before giving a gift to the state to determine if such donations are acceptable.

RULES ON HIRING STATE PERSONNEL

Before you hire a current or **former** state employee, you should be aware of certain provisions of the Ethics Code. First, if you are considering hiring a current state employee, especially from a state agency with which you do business or by which you are regulated, you should know the following:

A current state employee must not accept outside employment that impairs his independence of judgment regarding his state duties, or that encourages him to disclose confidential information learned in his state job. Also, a current state employee may not use his or her state position for financial gain, however inadvertent that use may be. Therefore, for example, a current state employee who exercises any contractual, supervisory or regulatory authority over you or your business may not be able to work for you.

**State of Connecticut, Department of Information and Technology
Request for Proposals**

Second, if you are considering hiring a **former** state employee, you should be aware of the Ethics Code's post-state employment, or revolving door, laws:

If you hire or otherwise engage the services of a former state official or employee, he or she may not represent you before his or her former agency for one year after leaving state service.

NOTE: The former State Ethics Commission established a limited exception to this provision which allows the former employee to return to his or her former agency within the one year period for the sole purpose of providing technical expertise (for example, to help implement a previously awarded contract). This is a fact-specific exception that applies in very limited circumstances: therefore, you should contact the Office of State Ethics for further assistance if you think this exception applies to you.

If a state official or employee was substantially involved in, or supervised, the negotiation or award of a contract valued at \$50,000 or more, and the contract was signed within his or her last year of state service, and you or your business was one of the parties to the contract, then you and/or your business are prohibited from hiring him or her for one year after he or she leaves state employment.

A former state official or employee can **never** represent anyone other than the state regarding a particular matter in which he or she was personally and substantially involved while in state service and in which the state has a substantial interest.

Third, there are approximately 75 state officials or employees who may not negotiate for, seek or accept employment with any business subject to regulation by their agency, and may not accept employment with such a business for one year after leaving state service. Under that section of the law, it is also illegal for a business in the industry to employ such an individual.

CONFLICT OF INTEREST RULES THAT APPLY TO YOU AS A STATE CONTRACTOR

Under Conn. Gen. Stat. §1-86e of the Ethics Code, no state contractor, including a consultant or other independent contractor, can use the authority provided under the contract, or confidential information acquired in the performance of the contract, to obtain financial gain for himself, his employee, or a member of his immediate family. Also, a state contractor cannot accept another state contract that would impair his independence of judgment in the performance of the first contract. Finally, a state contractor cannot accept anything of value based on an understanding that his actions on behalf of the state would be influenced.

It is important to call the Office of State Ethics at (860) 566-4472 to discuss the application of this law, or any of the other ethics laws, to your specific situation.

OTHER ETHICS PROVISIONS THAT MAY APPLY TO YOU

Contractors seeking large state contracts are required to execute affidavits regarding gifts and/or campaign contributions made to certain state employees or public officials in the two-year period prior to the submission of a bid or proposal. You need to check the web sites of both the Department of Administrative Services, www.das.state.ct.us, and the Office of Policy and Management, www.opm.state.ct.us, for copies of these affidavits and for other updated information regarding state contractors. Also, because the particular agency with which you wish to contract may have specific rules that you must follow, you need to check with that agency as well.

If you or your business provides "investment services" as defined in the Code of Ethics, and you make a political contribution in connection with the Office of the Treasurer, you may be prohibited from contracting with that office. See Conn. Gen. Stat. § 1-84(n).

State of Connecticut, Department of Information and Technology
Request for Proposals

Finally, if you or your business spends or receives \$2,000 or more in a calendar year for activities that constitute lobbying under the Ethics Code, whether to affect legislation or the actions of an administrative state agency, then you and/or your business may have to register as a lobbyist with the Office of State Ethics, and more ethics rules will apply to you. Contact the Office of State Ethics, or review the lobbyist registration information at www.ct.gov/ethics.

Recent legislation (Public Act 05-287) prohibits anyone who is a party (or who is seeking to become a party) to a state construction, procurement, or consultant services contract over \$500,000 from:

(1) Soliciting information from a public official or state employee that is not available to other bidders for that contract, with the intent to obtain a competitive advantage over other bidders;

(2) intentionally or recklessly charging a state agency for work not performed or goods or services not provided, or falsifying invoices or bills; or

(3) intentionally violating or trying to circumvent the state competitive bidding and ethics laws.

Recent legislation (Public Act 05-287) also requires any prospective state contractor to affirm in writing that he or she has been provided with a summary of the state's ethics laws and that his key employees have read and understood the summary and agree to comply with the applicable provisions of the ethics law.

**STATE OF CONNECTICUT
OFFICE OF POLICY AND MANAGEMENT
Policies and Guidelines**

This form is **MANDATORY** and must be completed, signed, and returned to the Contractor. Contractor shall be obligated to provide such affirmation to the awarding State agency in a timely manner. **FAILURE TO SUBMIT SUCH AFFIRMATIONS IN A TIMELY MANNER SHALL BE CAUSE FOR TERMINATION OF THE LARGE STATE CONSTRUCTION OR PROCUREMENT CONTRACT.**

**SUBCONTRACTOR AND/OR CONSULTANT
ACKNOWLEDGMENT OF RECEIPT OF SUMMARY OF STATE ETHICS
LAWS**

INSTRUCTION: Subcontractor(s) and/or consultant(s) must sign the acknowledgment below, and return this form to the Contractor. Contractor is obligated to submit such affirmation to the awarding State agency in a timely manner.

The undersigned duly authorized representative of the subcontractor or consultant acknowledges (1) receipt of the summary of State ethics laws, (2) that key employees of such subcontractor or consultant have read and understand the summary and (3) agrees to comply with the provisions of State ethics laws.

(Please print name under signature line.)

Signature

Title

Date

On behalf of:

Subcontractor and/or Consultant Name

Street Address

City

State

Zip

Federal Employee Identification Number
(FEIN/SSN)

This form is **MANDATORY** and must be completed, signed, and returned to the Contractor. Contractor shall be obligated to provide such affirmation to the awarding State agency pursuant to Section 37 of Public Act No. 05-287.

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Note: The following is a summary of the major ethics laws and related provisions applicable to current and potential state contractors. For more detailed information or to discuss any questions you may have, contact the Office of State Ethics at (860) 566-4472.

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Before you hire a current or **former** state employee, you should be aware of certain provisions of the Ethics Code. First, if you are considering hiring a current state employee, especially from a state agency with which you do business or by which you are regulated, you should know the following:

A current state employee must not accept outside employment that impairs his independence of judgment regarding his state duties, or that encourages him to disclose confidential information learned in his state job. Also, a current state employee may not use his or her state position for financial gain, however inadvertent that use may be. Therefore, for example, a current state employee who exercises any contractual, supervisory or regulatory authority over you or your business may not be able to work for you.

**State of Connecticut, Department of Information and Technology
Request for Proposals**

Second, if you are considering hiring a **former** state employee, you should be aware of the Ethics Code's post-state employment, or revolving door, laws:

If you hire or otherwise engage the services of a former state official or employee, he or she may not represent you before his or her former agency for one year after leaving state service.

NOTE: The former State Ethics Commission established a limited exception to this provision which allows the former employee to return to his or her former agency within the one year period for the sole purpose of providing technical expertise (for example, to help implement a previously awarded contract). This is a fact-specific exception that applies in very limited circumstances: therefore, you should contact the Office of State Ethics for further assistance if you think this exception applies to you.

If a state official or employee was substantially involved in, or supervised, the negotiation or award of a contract valued at \$50,000 or more, and the contract was signed within his or her last year of state service, and you or your business was one of the parties to the contract, then you and/or your business are prohibited from hiring him or her for one year after he or she leaves state employment.

A former state official or employee can **never** represent anyone other than the state regarding a particular matter in which he or she was personally and substantially involved while in state service and in which the state has a substantial interest.

Third, there are approximately 75 state officials or employees who may not negotiate for, seek or accept employment with any business subject to regulation by their agency, and may not accept employment with such a business for one year after leaving state service. Under that section of the law, it is also illegal for a business in the industry to employ such an individual.

CONFLICT OF INTEREST RULES THAT APPLY TO YOU AS A STATE CONTRACTOR

Under Conn. Gen. Stat. §1-86e of the Ethics Code, no state contractor, including a consultant or other independent contractor, can use the authority provided under the contract, or confidential information acquired in the performance of the contract, to obtain financial gain for himself, his employee, or a member of his immediate family. Also, a state contractor cannot accept another state contract that would impair his independence of judgment in the performance of the first contract. Finally, a state contractor cannot accept anything of value based on an understanding that his actions on behalf of the state would be influenced.

It is important to call the Office of State Ethics at (860) 566-4472 to discuss the application of this law, or any of the other ethics laws, to your specific situation.

OTHER ETHICS PROVISIONS THAT MAY APPLY TO YOU

Contractors seeking large state contracts are required to execute affidavits regarding gifts and/or campaign contributions made to certain state employees or public officials in the two-year period prior to the submission of a bid or proposal. You need to check the web sites of both the Department of Administrative Services, www.das.state.ct.us, and the Office of Policy and Management, www.opm.state.ct.us, for copies of these affidavits and for other updated information regarding state contractors. Also, because the particular agency with which you wish to contract may have specific rules that you must follow, you need to check with that agency as well.

If you or your business provides "investment services" as defined in the Code of Ethics, and you make a political contribution in connection with the Office of the Treasurer, you may be prohibited from contracting with that office. See Conn. Gen. Stat. § 1-84(n).

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Finally, if you or your business spends or receives \$2,000 or more in a calendar year for activities that constitute lobbying under the Ethics Code, whether to affect legislation or the actions of an administrative state agency, then you and/or your business may have to register as a lobbyist with the Office of State Ethics, and more ethics rules will apply to you. Contact the Office of State Ethics, or review the lobbyist registration information at www.ct.gov/ethics.

Recent legislation (Public Act 05-287) prohibits anyone who is a party (or who is seeking to become a party) to a state construction, procurement, or consultant services contract over \$500,000 from:

(1) Soliciting information from a public official or state employee that is not available to other bidders for that contract, with the intent to obtain a competitive advantage over other bidders;

(2) intentionally or recklessly charging a state agency for work not performed or goods or services not provided, or falsifying invoices or bills; or

(3) intentionally violating or trying to circumvent the state competitive bidding and ethics laws.

Recent legislation (Public Act 05-287) also requires any prospective state contractor to affirm in writing that he or she has been provided with a summary of the state's ethics laws and that his key employees have read and understood the summary and agree to comply with the applicable provisions of the ethics law.

Attachment 11 – Evaluation and Selection Criteria

1. EVALUATION AND SELECTION PROCEDURES

1.1 GENERAL CONSIDERATIONS

All proposals that are properly submitted will be accepted by DOIT. However, DOIT reserves the right to request necessary clarifications, reject any or all proposals received, or cancel this RFP, as determined to be in best interest of the Air Emissions Inventory System Replacement Project.

Only those proposals that are determined to be sufficiently responsive will be evaluated. Failure to comply with the instructions or failure to submit a complete proposal may deem a proposal not sufficiently responsive. DOIT may reject any proposal that is incomplete, non-responsive, or in which there are significant inconsistencies or inaccuracies.

DOIT also reserves the right to waive minor irregularities in proposals, providing such action is in the best interest of the Air Emissions Inventory System Replacement Project. Where DOIT does waive minor irregularities, such waiver shall in no way modify the RFP requirements or excuse the vendor from full compliance with RFP specifications and other contract requirements if the vendor is awarded the contract.

DOIT shall consider unacceptable, and may reject without further review, proposals not containing the minimum mandatory proposal requirements or proposals that do not meet these requirements.

Minimum Mandatory Proposal Requirements are as follows:

1. Proposals must be submitted no later than the proposal due date and time as specified in this RFP.
2. The Technical, Business and Operational Proposal transmittal letter shall be submitted as defined in this RFP.
3. The vendor must have followed the proposal submission requirements defined in this RFP.
4. Mandatory forms identified in this RFP must be included in the proposal.
5. The proposed system must meet all Federal requirements as well as all requirements specified in this RFP.
6. The vendor must assume prime contractor responsibilities for all project activities.

2. EVALUATION METHODOLOGY

Each proposal will be evaluated and scored by an Evaluation Team composed of designees from the Project Management Team.

The Evaluation Team members will have experience in information processing systems, air emissions inventories, or environmental issues. Members will be drawn from interested departments and agencies. The Evaluation Team will conduct a comprehensive, fair, and impartial evaluation of proposals received in response to this procurement

DOIT or the Evaluation Team may designate other professional staff (Technical Advisors and Subject Matter Experts from DEP and/or DOIT) to assist in the evaluation phases. These designated persons may act as observers and offer technical or programmatic advice during the evaluation and selection process. The following evaluation criteria categories will be used to develop more detailed criteria that will be used during the evaluation process:

1. The vendor's qualifications, including but not limited to, financial position, from the Audited Financial Statements that are required to be submitted with the proposal legal standing, ethics compliance, small business or minority certification, CHRO compliance.
2. The proposing firm's documented experience in successfully completing projects of a similar size and scope, ideally, in the same or comparable line of business, to those required by this RFP.
3. The proposing firm has developed an Air Emissions Inventory system for another governmental entity that is capable of meeting all NEI reporting requirements.
4. The vendor's general approach, including systems integration, resourcing, and architecture, with an overall plan to meet the requirements of this RFP.
5. The vendor's detailed approach, including plans to conduct a gap analysis, methodology to modify the proposed application, and detailed plans to perform the services required by the requirements of this RFP.
6. Qualifications and experience of personnel assigned to the project with emphasis on documented experience in successfully completing work on projects of a similar size and scope in the same or comparable line of business to those required by this RFP. An Air Emissions Inventory System Replacement Project core team for the project must be identified and resumes must be submitted as specified in this RFP.
7. Business and personnel reference checks may be made as part of the evaluation process. Reference checks may not be limited to specific customer references cited in the proposal. Moreover, in the case of a proposed modification of an existing application, evidence of successful systems implementation or certification may be required.
8. The Proposing firm's speed of delivery and ability to modify a system compatible with DOIT's and DEP's Information Technology standards as outlined in Attachment 6.

9. The overall ability of the Proposing firm, as judged by the Department, to begin and successfully complete the project within the proposed schedule. This judgment will include, but will not be limited to, such factors as staff commitment to the project, project management and control plan, project organization and availability of staff.
10. The vendor's total Firm, Fixed Price for the Air Emissions Inventory System Replacement Project.
11. The overall percentage of the Cost Proposal attributable to Title V funding.

3 PROPOSAL RECEIPT AND REVIEW

Proposals will be reviewed to initially determine if minimum submission requirements have been met. The review will verify that the proposal was received before the date and time specified in *Section 3.1.1* of this RFP. The proposals will be reviewed to assure the submission of the correct number of copies, the presence of all required signatures, and sufficient responsiveness of the proposal to the needs outlined in this RFP to permit a complete evaluation. Failure to meet minimum submission requirements could result in the proposal being rejected and not included in the evaluation process.

Upon receipt, the proposal information will be disclosed to the Evaluation Team members only. The proposals will not be publicly opened. The potential for negotiation of a "Best and Final Offer" necessitates this privacy.

4 EVALUATION OF PROPOSALS

Only proposals that meet the minimum mandatory proposal requirements will be considered for evaluation. During the evaluation process, the Evaluation Team reserves the right to initiate discussions with vendors who submit responsive or potentially responsive proposals for the purpose of clarifying aspects of the proposals. However, proposals may be accepted and evaluated without such discussion. The Evaluation Team reserves the right to waive minor irregularities.

4.1 BUSINESS, TECHNICAL AND OPERATIONAL PROPOSAL EVALUATION CRITERIA

The evaluation of qualified Business, Technical and Operational Proposals will be scored in each of the areas identified below. While a maximum score of **8,000** Business, Technical and Operational points is possible; proposals must achieve a minimum score of **5,200** points (65% of the total possible points) to be considered responsive. Any Business, Technical and Operational Proposal that fails to achieve the minimum score will **not** receive further consideration.

Qualifications, Financial Stability, Project Management and Key Personnel:	30%
Business and Technical Merit, Stationary Sources:	35%
Business and Technical Merit, Mobile & Area Sources:	15%
Operational Approach and Merit:	20%

After completing independent proposal evaluations, the Evaluation Team members will meet as a total team to score the proposals. At this time, the Business, Technical and Operational evaluation points given by each evaluator will be discussed. As a result of discussion, the Evaluation Team will come to a consensus score on each individual evaluation criterion.

4.2 EVALUATION OF COST PROPOSALS

The evaluation of the Cost Proposal from, *Attachment 3*, shall be worth a maximum total of **2,000** points. Points will be awarded for both project cost and the participation of DAS-certified Small or Minority or Business Enterprises in project activities.

4.3 COMBINED PROPOSAL EVALUATION

Proposal scores for the Business, Technical and Operational Proposals will be summed with the Cost Proposal scores. The proposal receiving the highest score will be selected as the successful vendor.

5 GENERAL CONTRACT NEGOTIATION AND AWARD PROCESS

5.1 ORAL PRESENTATIONS OR PRODUCT DEMONSTRATIONS

Vendors who submit a proposal in response to this RFP may be required to give an oral presentation or demonstration of their proposal to the Evaluation Team. The purpose of such presentations or demonstration is to provide an opportunity for vendors to clarify or refine their proposal. Original proposal submissions cannot be supplemented, changed, or corrected in any way. No comments regarding other vendors or proposals are permitted, and vendors may not attend the presentations or demonstrations of their competitors.

Product demonstrations may be conducted by the vendor, or, at its option, the Evaluation Team may request access to the proposed application in order to explore and test the features and functions of the proposed product independent of the vendor.

Oral Presentations or demonstrations have no intrinsic point value in the proposal evaluation process. However, on the basis of a demonstration of a proposed system, the score for a proposed solution may decrease, based on the judgment of the Evaluation Team.

Vendors must clearly understand that it is the Evaluation Team's sole option to determine which vendors, if any, will be invited to make an oral presentation. Vendors shall not construe the list of firms invited, if any, to imply acceptance or rejection of any proposal(s).

5.2 BEST AND FINAL OFFER

The Evaluation Team may determine if it is in the best interest of the project to seek a “Best and Final Offer” from vendors submitting acceptable or potentially acceptable proposals. The “Best and Final Offer” would provide a vendor the opportunity to update its original proposal to make it more acceptable to the Air Emissions Inventory System Replacement Project’s purpose. The Evaluation Team reserves the right to determine whether or not to exercise this option.

6 CONTRACTOR AWARD

If the Evaluation Team, through the DOIT CIO, awards the right to negotiate a contract as a result of this procurement, the successful prime contractor shall be advised of the award intention by letter. The successful prime contractor must then indicate agreement to enter into a contract with DOIT in the most expeditious manner feasible.

The contract awarded for the services purchased as a result of this RFP will be originated by DOIT. The contract shall incorporate in its provisions this RFP, the successful prime contractor’s proposal, and any other documents deemed pertinent.

Appendix A - Glossary

ADA	Americans with Disabilities Act
A/R	Accounts Receivable
ARB	The State of CT's Architecture Review Board
BEIS	Biogenic Emissions Inventory System that estimates VOC from vegetation and NO emissions from soils.
Bureau	The major level of organization within the DEP.
CAAS	Common Authentication and Authorization System
CEM	Continuous Emissions Monitoring
CERR	Consolidated Emissions reporting Rule
CFI	Common Facility Identifier – CFI is a data model containing basic information about a given facility/site or its features.
CFR	The Code of Federal Regulations
CIO	Chief Information Officer
Client	<p>An individual, company, or government agency that the Department regulates or maintains correspondence with. A Client should always be associated with a Facility Site or Environmental Interest or both through the Affiliation entity.</p> <p>This entity contains names, titles, and identifications of individuals, companies, or government agencies. The type of Client will be defined by the Client Type entity.</p>
Company	<p>An association of persons for carrying on a commercial or industrial enterprise that is of interest to the Department because it is subject to a regulation or a Department program. This entity does not act as an individual or governmental agency.</p> <p>Examples include corporation, limited partnership</p>
CO	Carbon Monoxide

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Contact	A person that is associated with either a Client or a Facility but not both. A contact may either directly work for a company or as a hired agent. Examples of directly working for a company are corporate or company officers and managers, on-staff lawyers. Examples of hired agents are non-staff lawyers, consultants, or a designated agent.
CPD	The Contracts and Purchasing Division of DOIT
CROMERR	The Cross-Media Electronic Reporting Rule
CT DEP	Connecticut Department of Environmental Protection
DBMS	Data Base Management System
Department	The Connecticut Department of Environmental Protection
DOIT	The Connecticut Department of Information Technology
ECO	Environmental Conditions Online – ECO is a unique online mapping tool and environmental data resource developed by the CT DEP.
Enforcement Actions	Examples include, but not limited to: Consent Orders, Notice of Violation, Notice of Non-Compliance, Supplemental Environmental Projects.
Environmental Interest	<p>An activity or entity that is of interest to the Department from a standpoint of environmental protection or conservation. Such interest is supported by a regulation or statute that provides the Department the authority to regulate or manage such activity, person, company, or other entity.</p> <p>Examples include but are not limited to: permit, state order, notice of violation, spill, dredging project, hunting license, and state park facilities.</p>
ESRI	Environmental Systems Research Institute – A developer of geographic information systems (GIS).
ETL	Extraction, Translation and Loading – A process for translating large volumes of data, and for quickly loading new data into a consolidated database.
EWTA	Enterprise-Wide Technical Architecture - EWTA is a logically consistent set of principles that guide the engineering of an organization's information systems and technology infrastructure.

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Facility/Site	<p>A physical location where regulatory or other activities of interest to the DEP occur or have occurred in the past.</p> <p>Note: Also includes examples such as Physical Plants, State Parks, Buildings, Well Fields, Landfills, Trout Hatcheries, Fish Stock Sites, and Monitoring Stations.</p>
Feature	<p>A physical unit associated with a facility/site that is of interest to the Department.</p> <p>Examples: Piece of equipment or a discharge pipe or stack</p>
FileNET	<p>The CT State approved document management software provider. FileNET provides the State of CT with Imaging, Electronic Document Management and Workflow software that will be used to manage agency documents, automate business processes, and provide central repositories for agency access to documents.</p>
FIRE	<p>Factor Information and Retrieval System</p>
FITS II	<p>The Facility Information Template for States is a working guideline for integrating facility/site identification information.</p>
FOIA	<p>Freedom of Information Act</p>
FTE	<p>Full Time Equivalent (employee)</p>
Geographic Location	<p>The physical location of a Facility Site, which may be described using up to two types of information: 1) physical address or text description of a location (e.g., "the intersection of fourth and main") and/or 2) geographic coordinates.</p> <p>Examples include address, latitude and longitude, and information that explains how lat/long is derived (GPS, unknown, digitized, USGS map). This entity provides the physical location of the Facility Site.</p>
GHG	<p>Greenhouse Gasses</p>
GIS	<p>Geographic Information System - GIS is a system of hardware and software used for storage, retrieval, mapping, and analysis of geographic data.</p>
GLPE	<p>General Permit to Limit Potential to Emit</p>

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HAP	Hazardous Air Pollutants
Holiday	Official non-workdays as designated by the Governor of the State of Connecticut
ICIS	Integrated Compliance Information System - Supports the information needs of the National Enforcement and Compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.
IT	Information Technology
LAN	Local Area Network
LandGEM	The landfill Gas Emissions Model
MIS	Management Information System
MOBILE6.2	Mobile Source Emissions Factor, version 6.2
NAICS	North American Industry Classification System
NEI	National Emissions Inventory
NO	Nitric Oxide
NOx	Nitrous Oxide
NPDES	National Pollutant Discharge Elimination System
NSR	New Source Review
OIM	DEP's Office of Information Management
OLAP	On Line Analytical Processing
OLTP	On Line Transaction Processing
OPM	Office of Policy and Management
PAMS	Permit Application Management System - This is a centralized Oracle database and Oracle Forms interface that was designed to provide an automated and integrated system to allow the department to manage the processing of permit applications.

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PCS	Permit Compliance System – PCS is an EPA database containing information about facilities holding National Pollutant Discharge Elimination System (NPDES) permits.
Permit	Legal authorization to conduct an activity.
Procurement Process	The procurement process is the process of issuing the RFP, evaluating vendor proposals submitted pursuant to the RFP and the awarding of a contract.
Program	An activity conducted in an organized fashion by the DEP, which is defined or created by statute or regulation. Examples include but are not limited to: Dam safety, flood management, new source review, Title V, sewer permits, pesticides, radiation, PCB, solid waste enforcement, hazardous waste enforcement, air enforcement, inland wetlands and watercourses, aquatics, surface water permits, recycling, tidal wetlands dredging structures and fill, solid waste landfill.
Proposal	A vendor response to an RFP and/or any of its appendices which offers to supply the State with specific data processing resources according to State prescribed terms and conditions.
QA	Quality Assurance
RDBMS	Relational Data Base Management System
RFP	A Request For Proposal (such as this document or any appendix thereto), which solicits vendor proposals to satisfy State functional requirements by supplying information technology product and/or service resources according to specific terms and conditions
SAS	SAS was an acronym for Statistical Analysis System, but it is no longer an acronym for any particular application. SAS now, is a brand name.
SCC	Source Code Classification
SIMS	The DEP's Site Information System; Integrated information from document management, ECO & CFI.
SMOKE	Sparse Matrix Operational Kernel Emissions System

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State	Where the term ‘State’ is used, it will be referring to the State of Connecticut.
TANKS	A Windows-based program that estimates VOC and HAP emissions from fixed and floating roof storage tanks.
Title V Permit	The Clean Air Act Amendments of 1990 (CAAA) require that each state develop a Title V operating permit program to <i>permit</i> major sources of air pollution and other sources subject to federal Clean Air Act requirements.
UML	Unified Modeling Language
US EPA	United States Environmental Protection Agency
USPS	United States Postal Service
UTM	Universal Transverse Mercator
VB	Visual Basic
Vendor	The vendor as used in this RFP means the organization or individual submitting a proposal in response to this RFP, and, once the contract is awarded, the contractor resulting from the procurement process.
VMT	Vehicle Miles Traveled – A factor used in calculating mobile source emissions
VOCs	Volatile Organic Compounds
WATER9	A wastewater treatment model
XML	Extensible Markup Language - XML is a subset of SGML. Its goal is to enable generic SGML (Standard Generalized Markup Language) to be served, received, and processed on the Web in the way that is now possible with HTML.

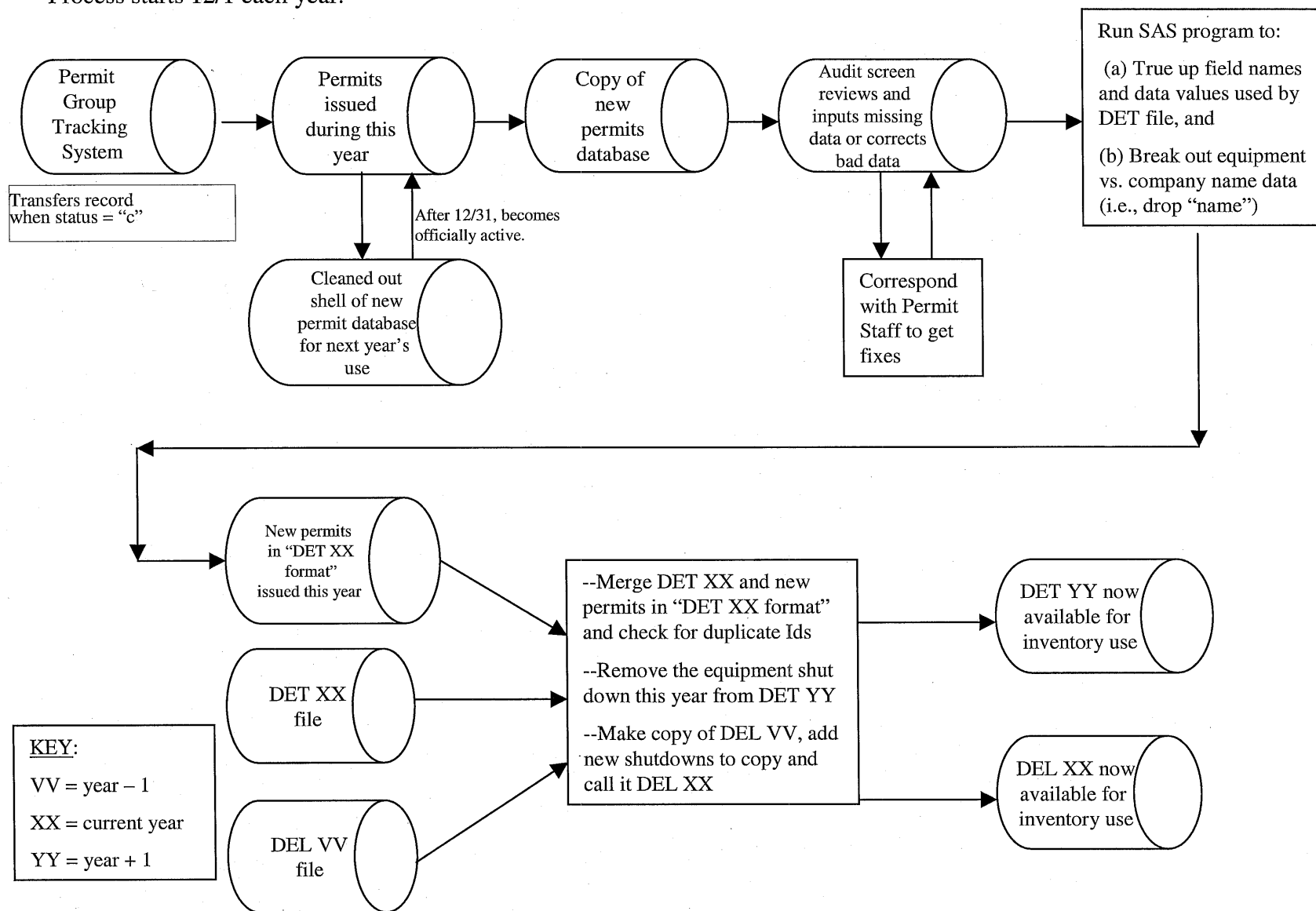
Appendix B

Current Air Emissions Inventory

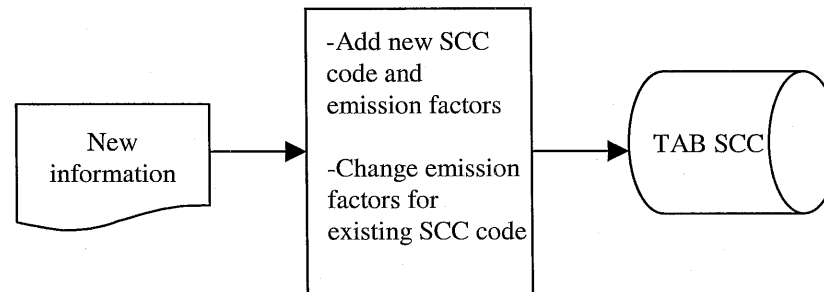
Business Processes

CREATION OF NEW YEAR DATASETS

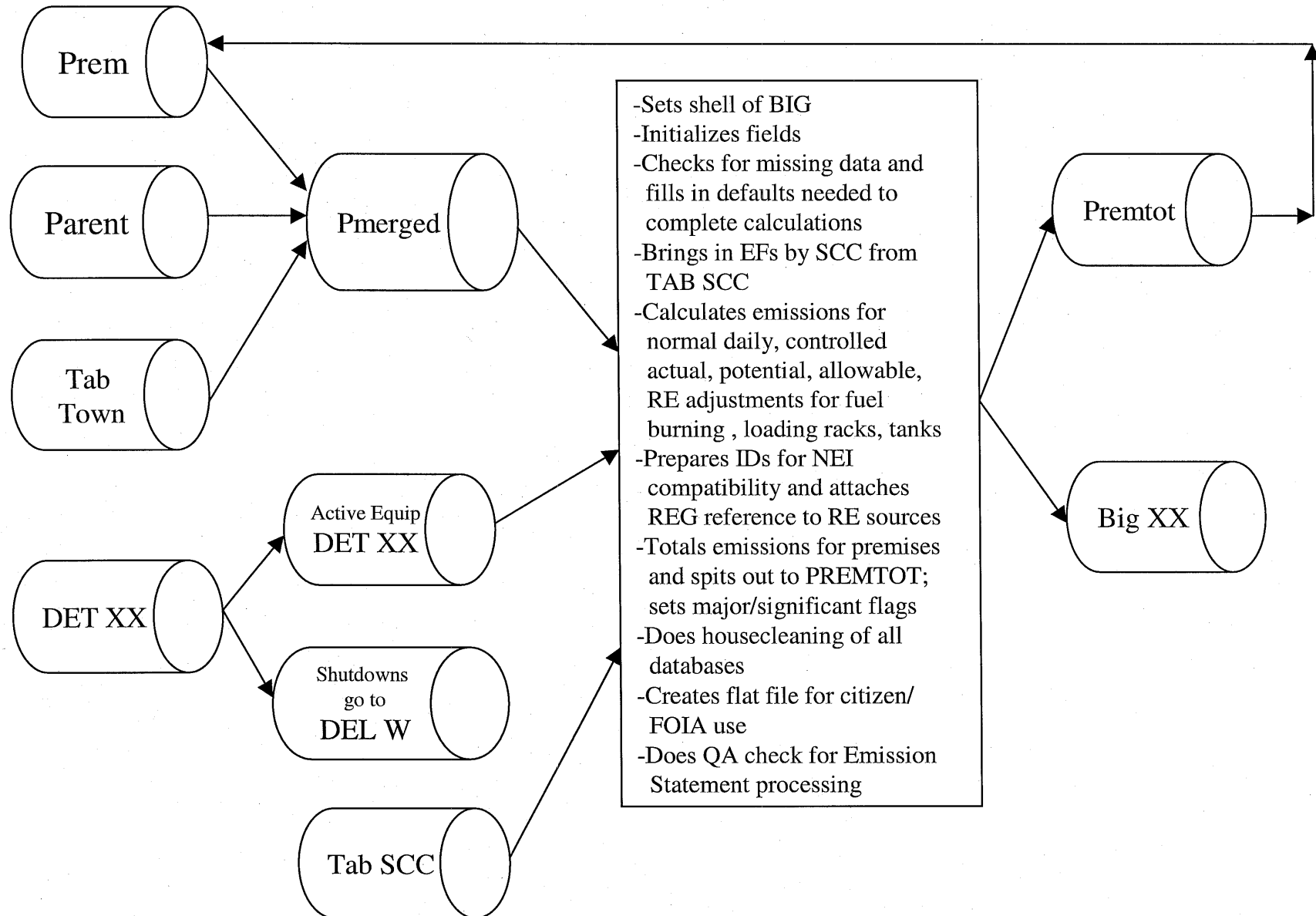
Process starts 12/1 each year.



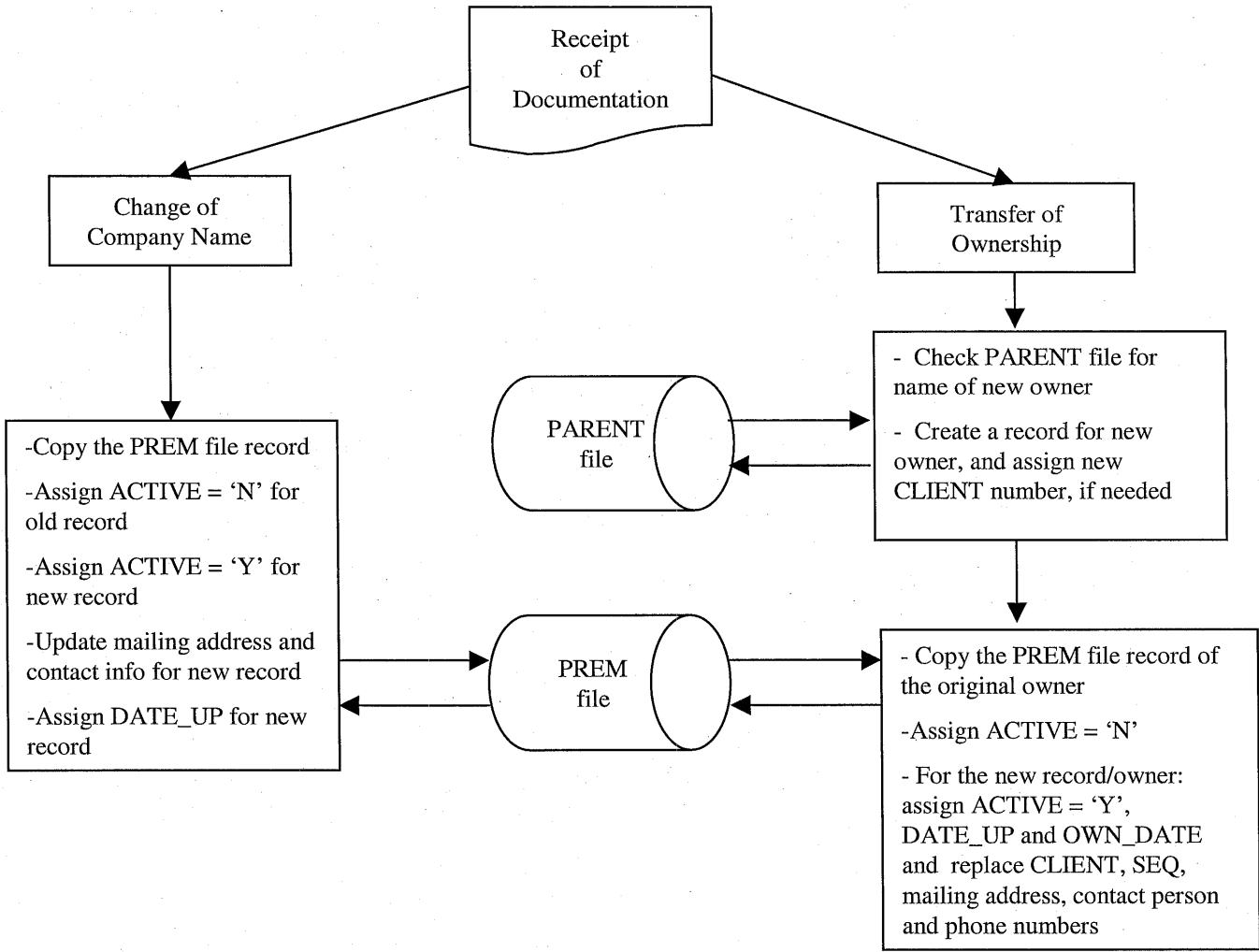
MAINTAINING SCC CODES & EMISSION FACTORS



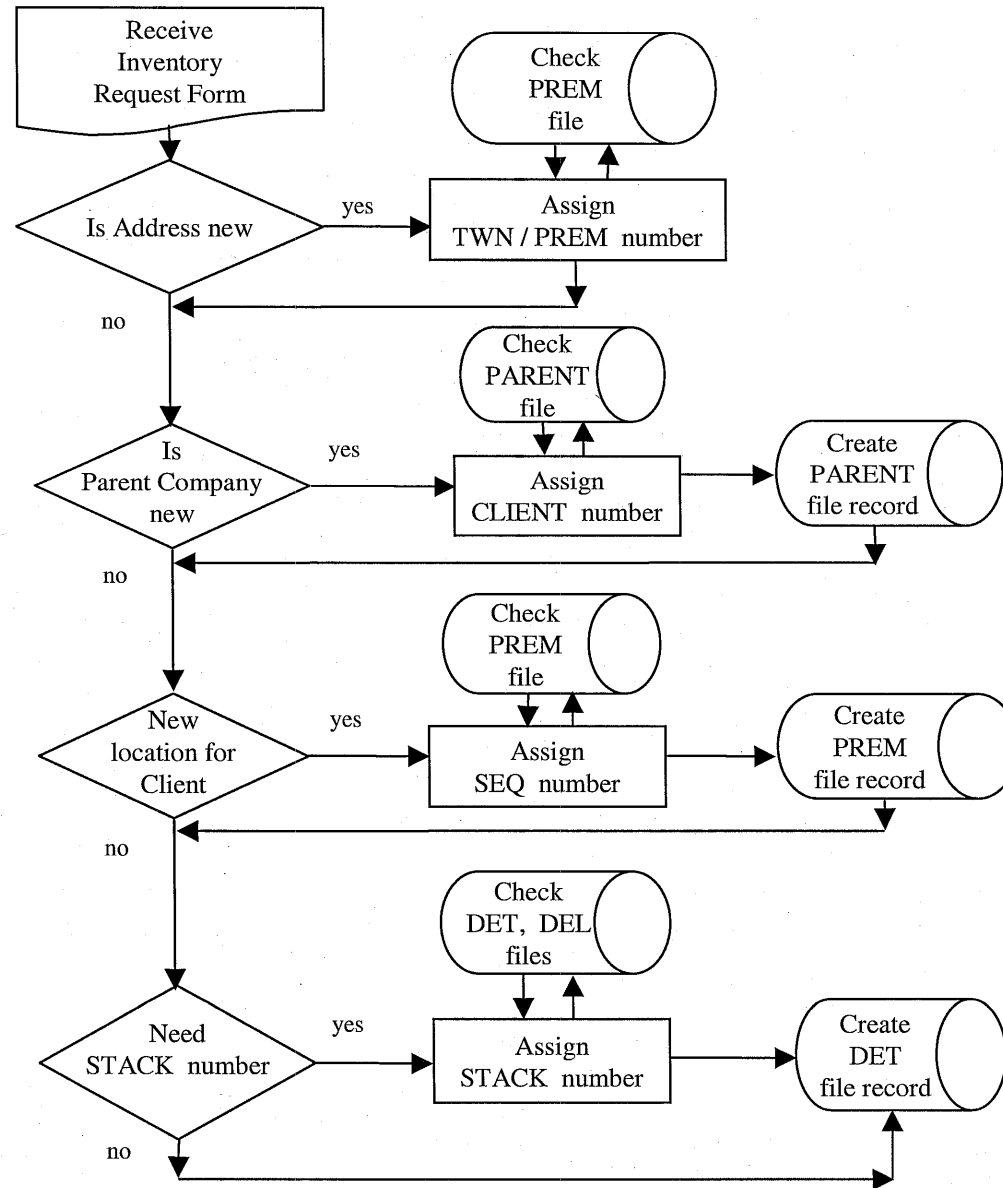
OVERNIGHT APPLICATION TO CREATE BIG



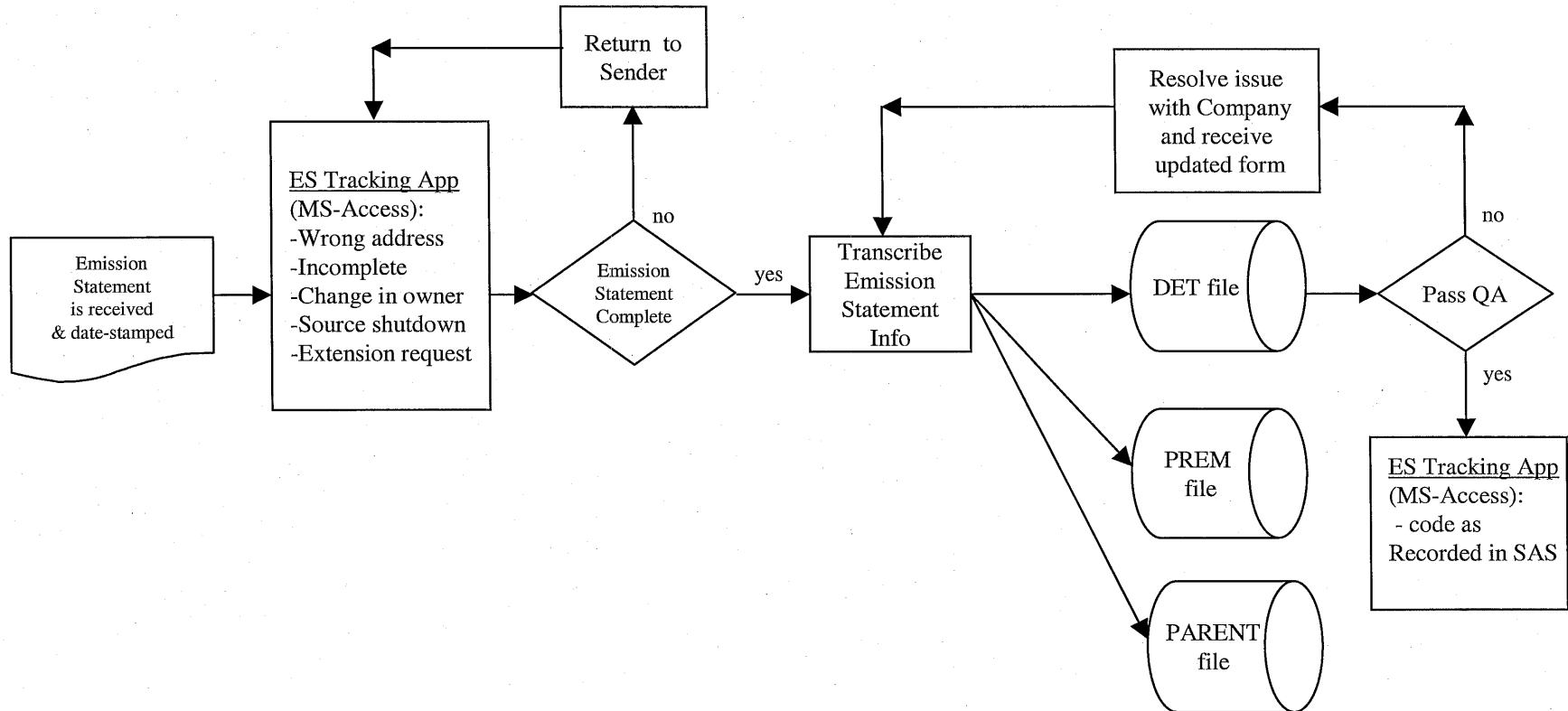
OWNERSHIP TRANSFER / NAME CHANGE



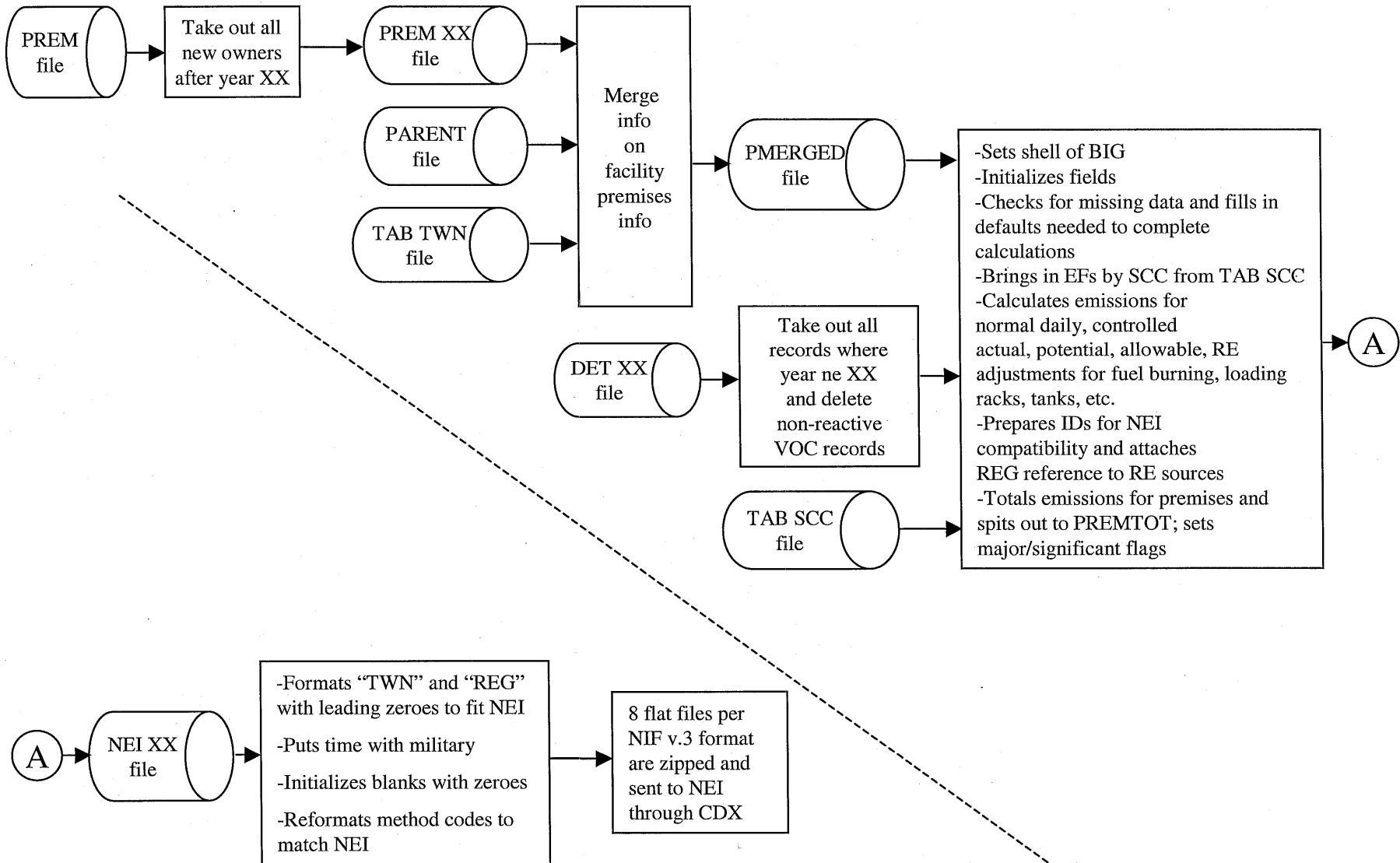
PROCEDURE FOR SOURCE IDENTIFICATION



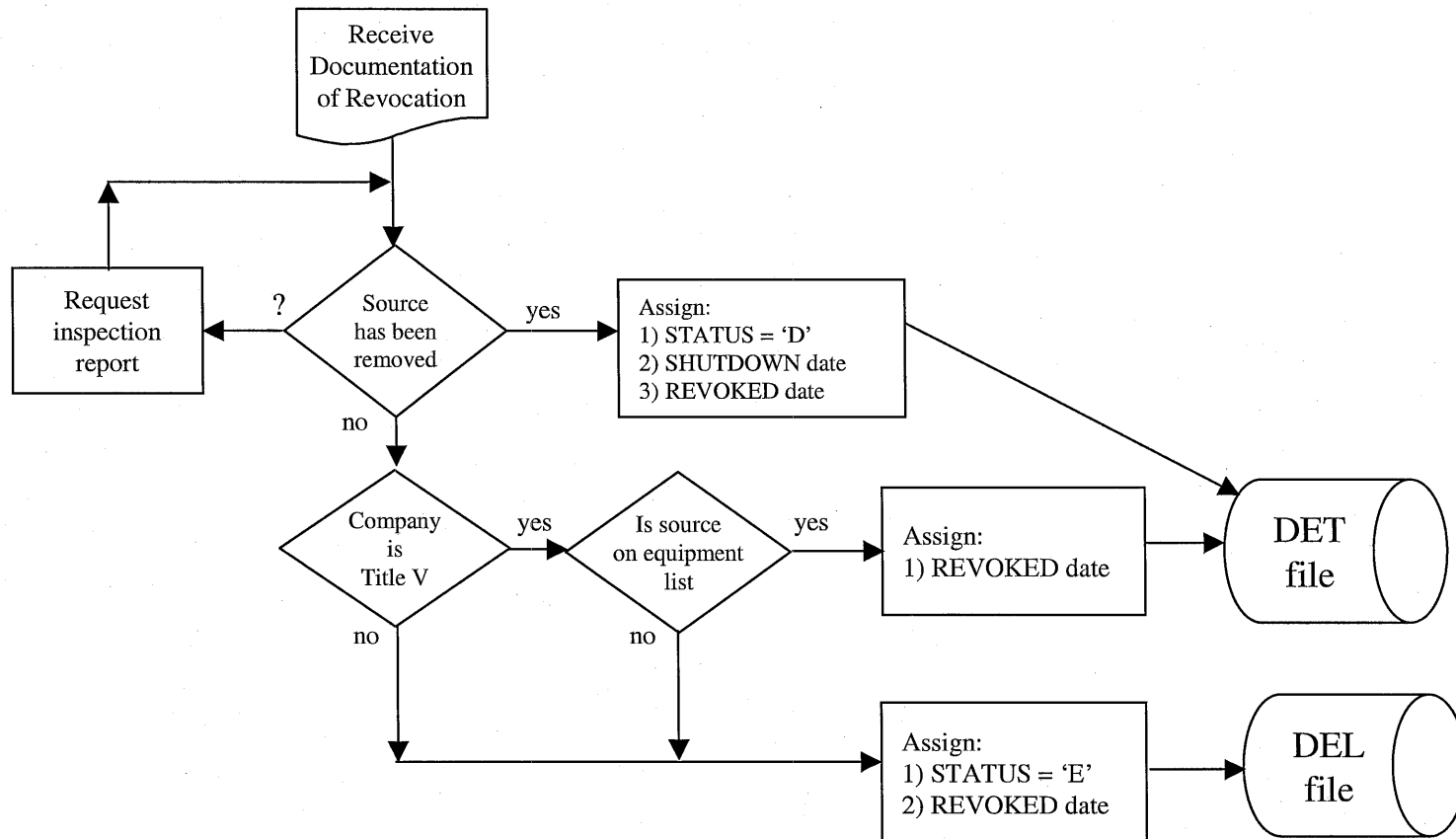
RECORDING EMISSION STATEMENTS EACH YEAR



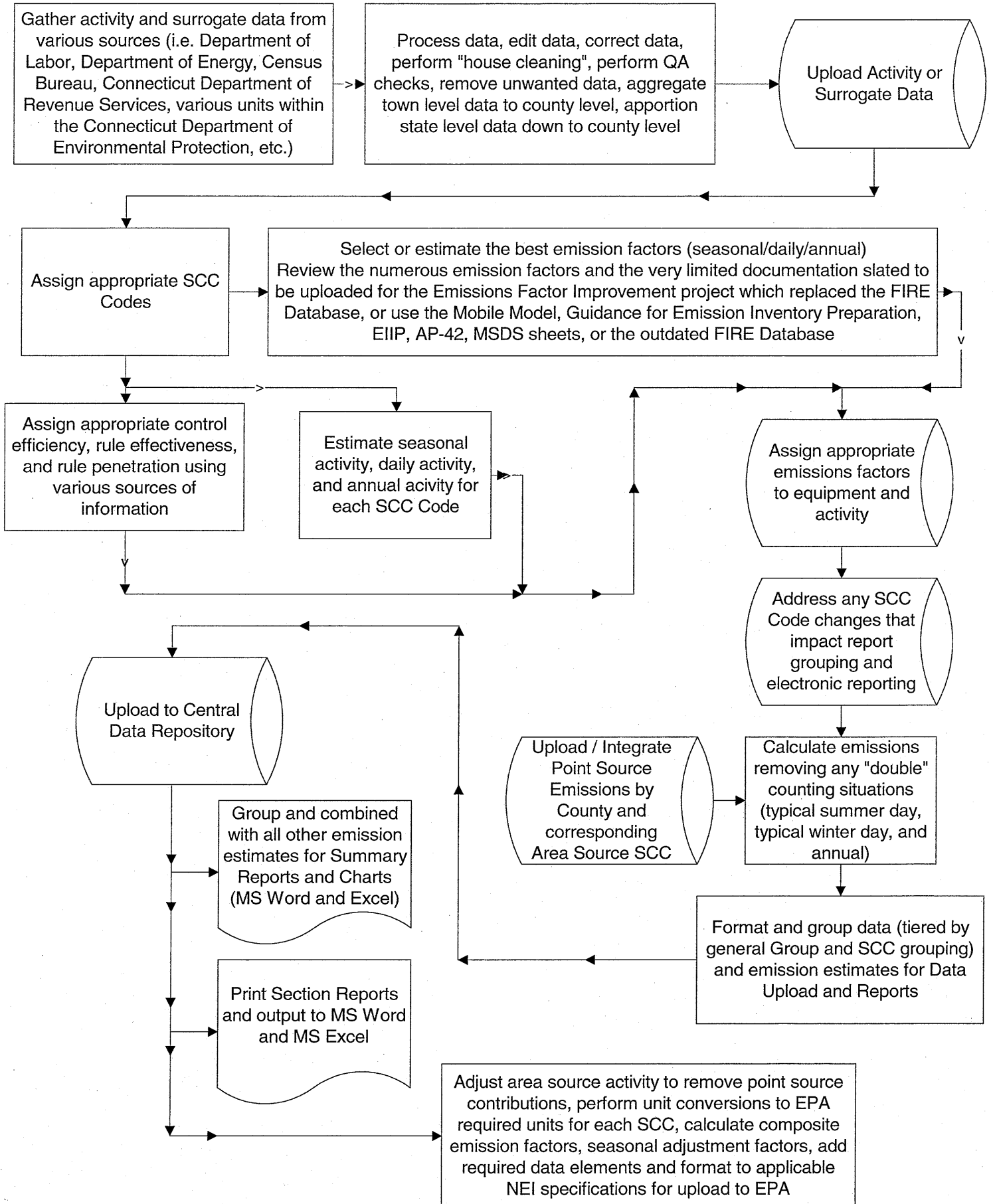
REPORTING TO EPA: GENERATING NEI SUBSET OF BIG



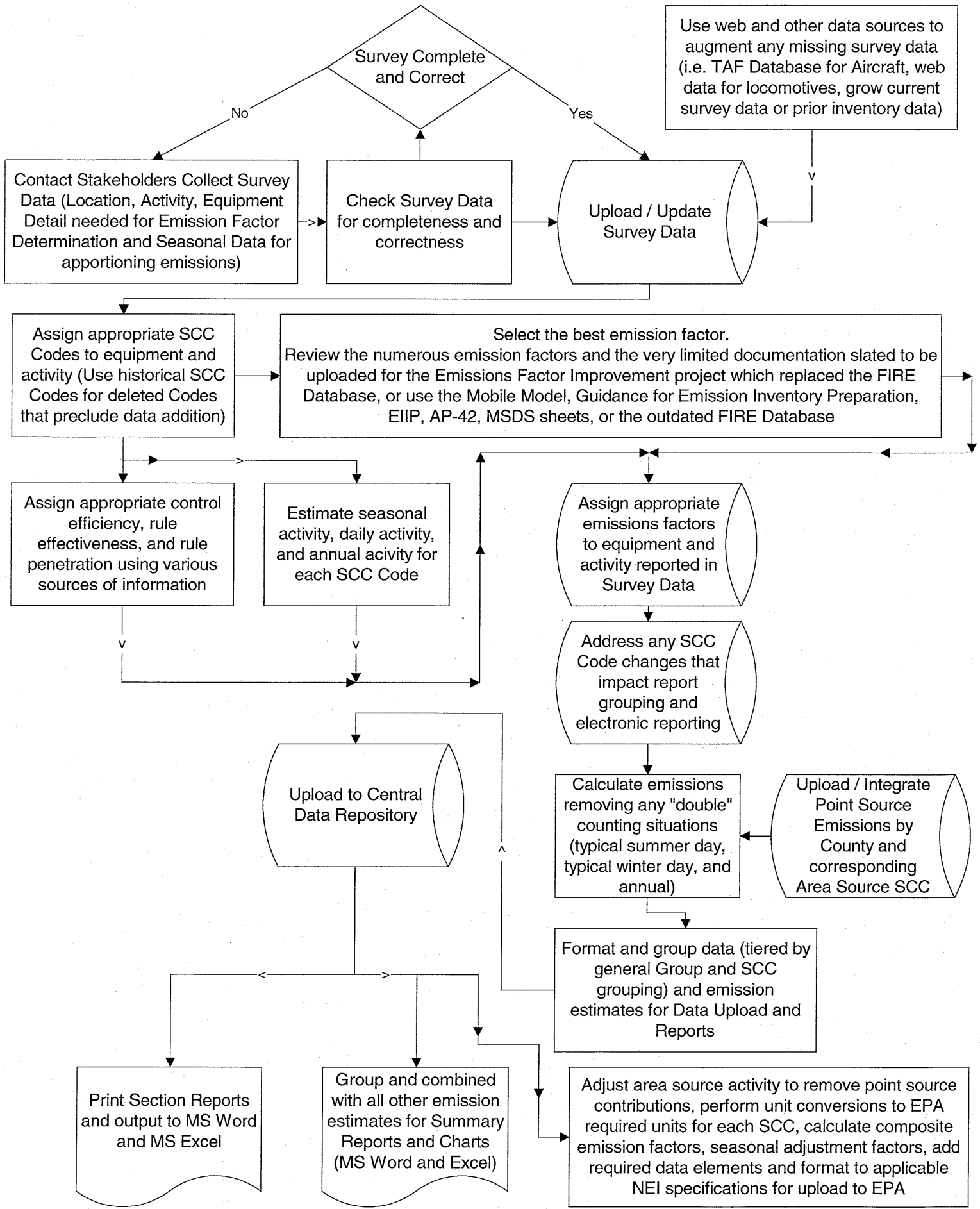
REVOCAION OF PERMITS / REGISTRATIONS



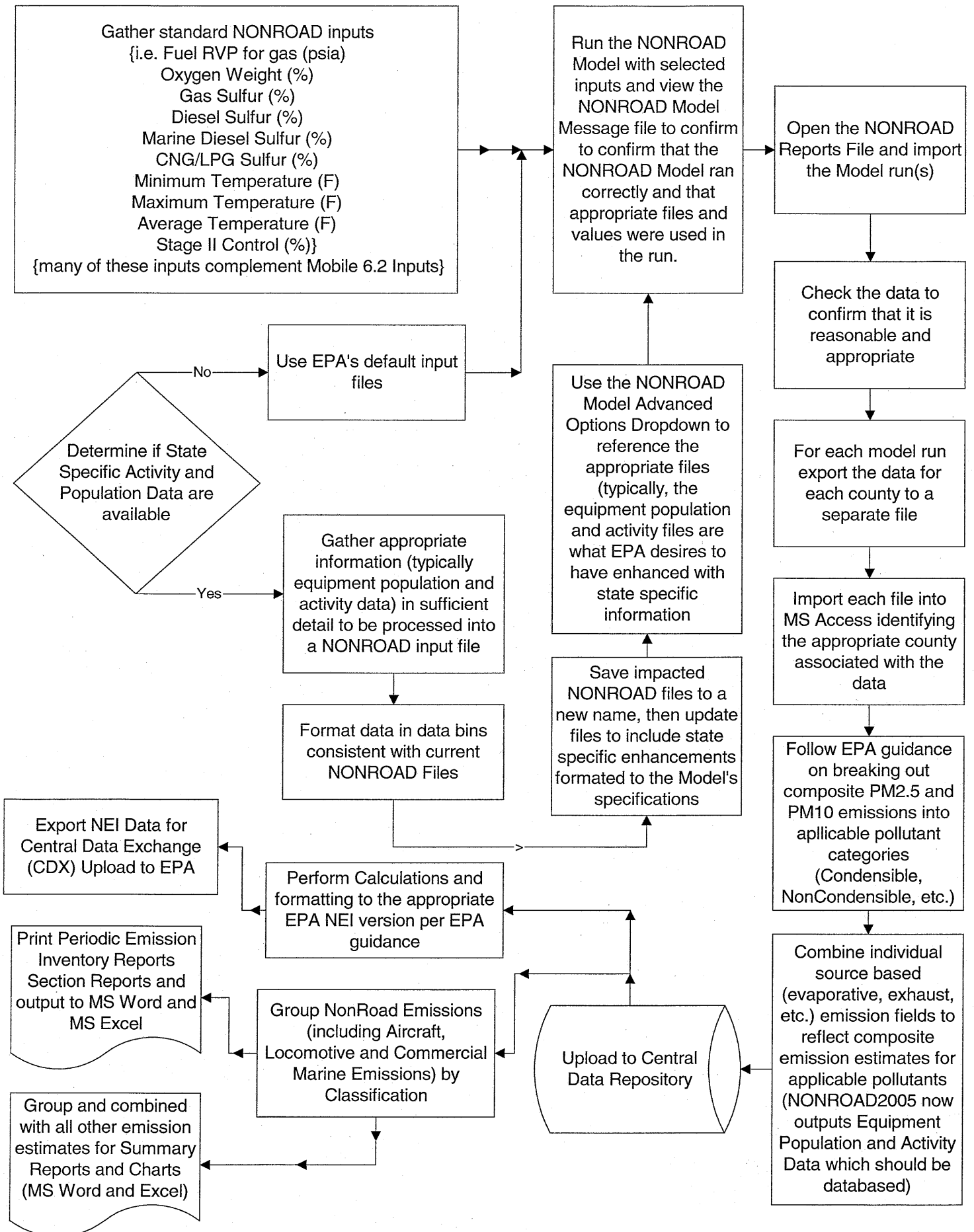
Sheet 1: General Flow Diagram for Processing Area Data



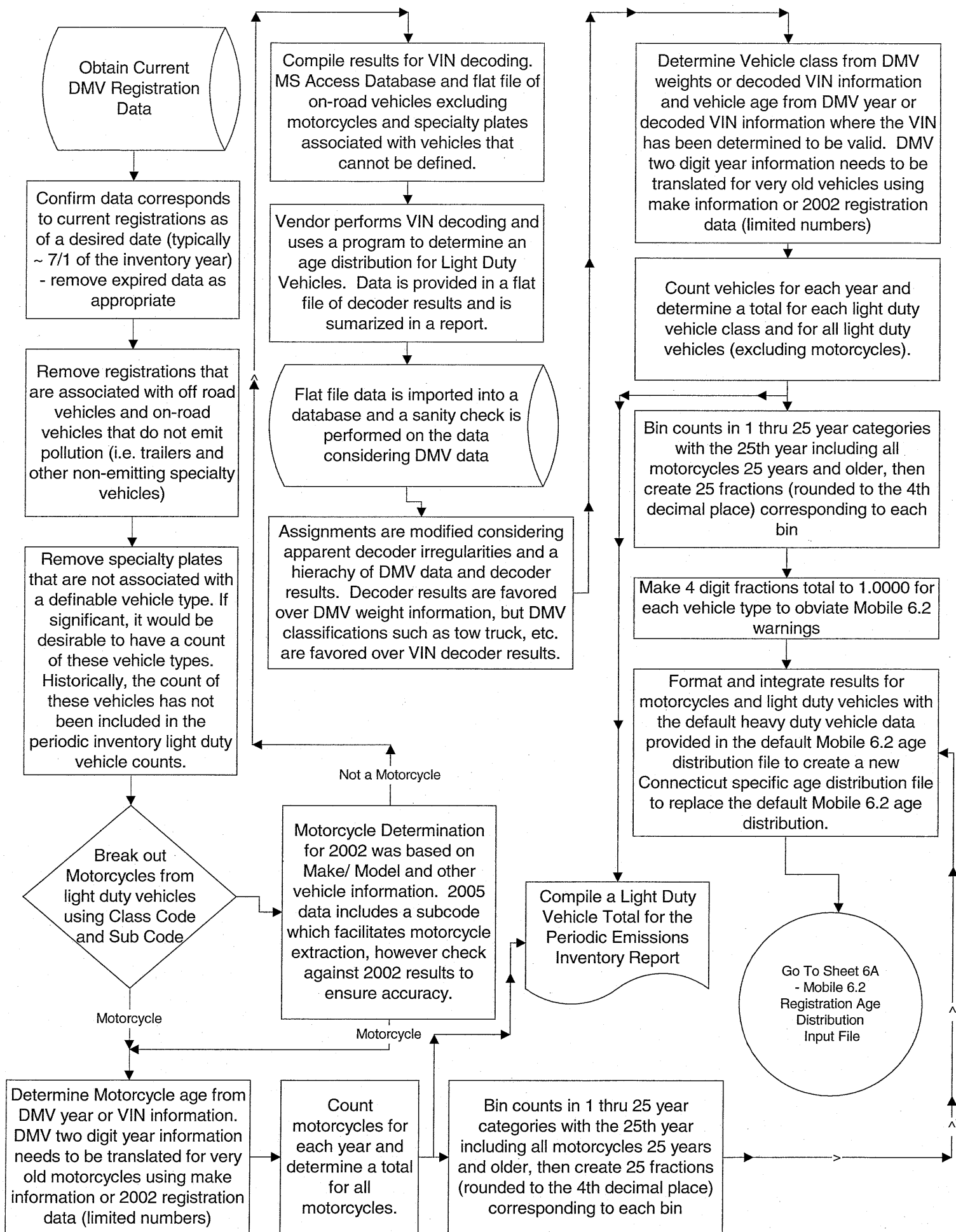
Sheet 2: General Flow Diagram for Processing Survey Data (i.e. Locomotive, Aircraft, Emulsified Asphalt, Residential Open Burning, Breweries, etc.)



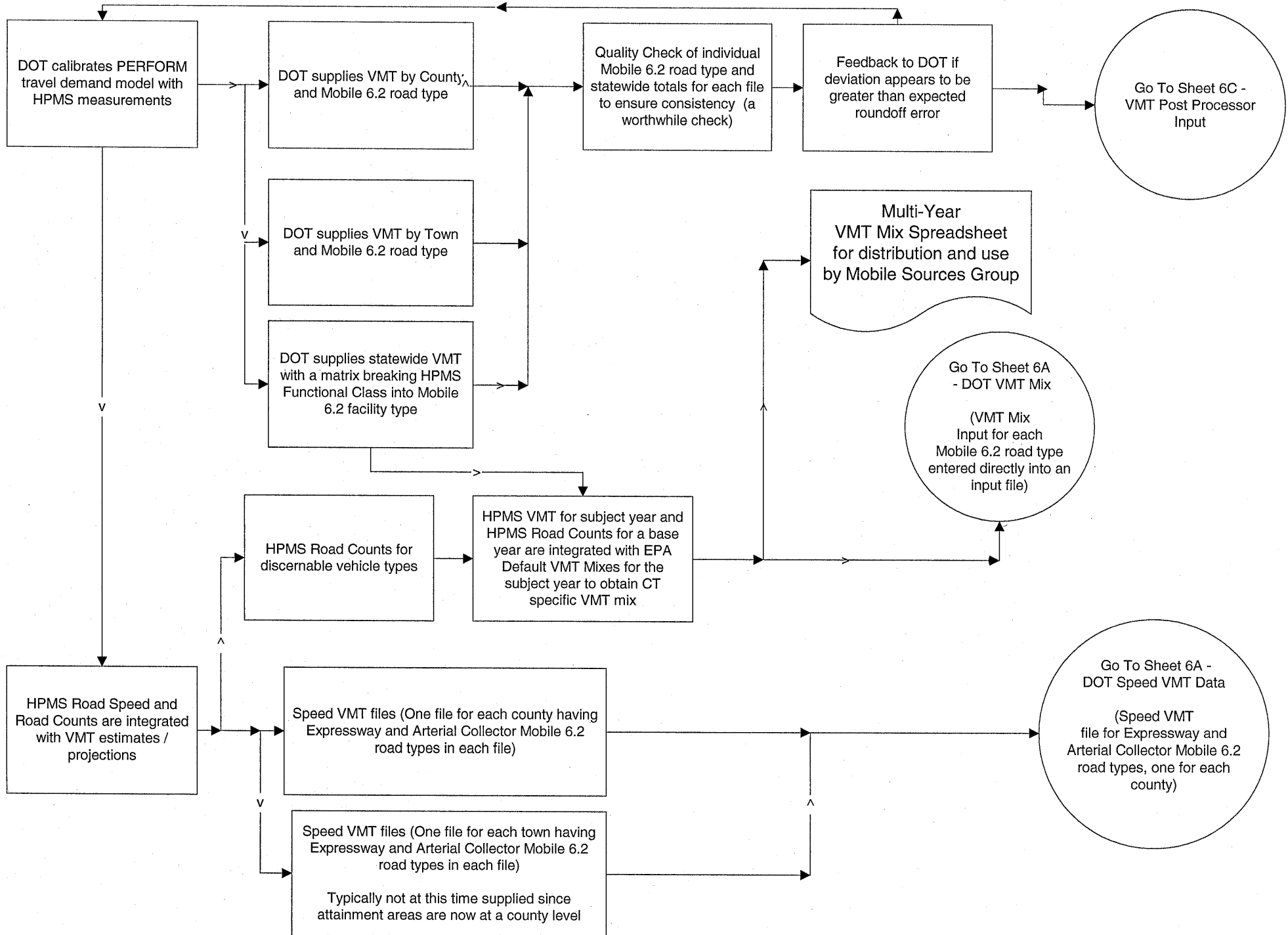
Sheet 3: General Flow Diagram for NONROAD Emission Estimate



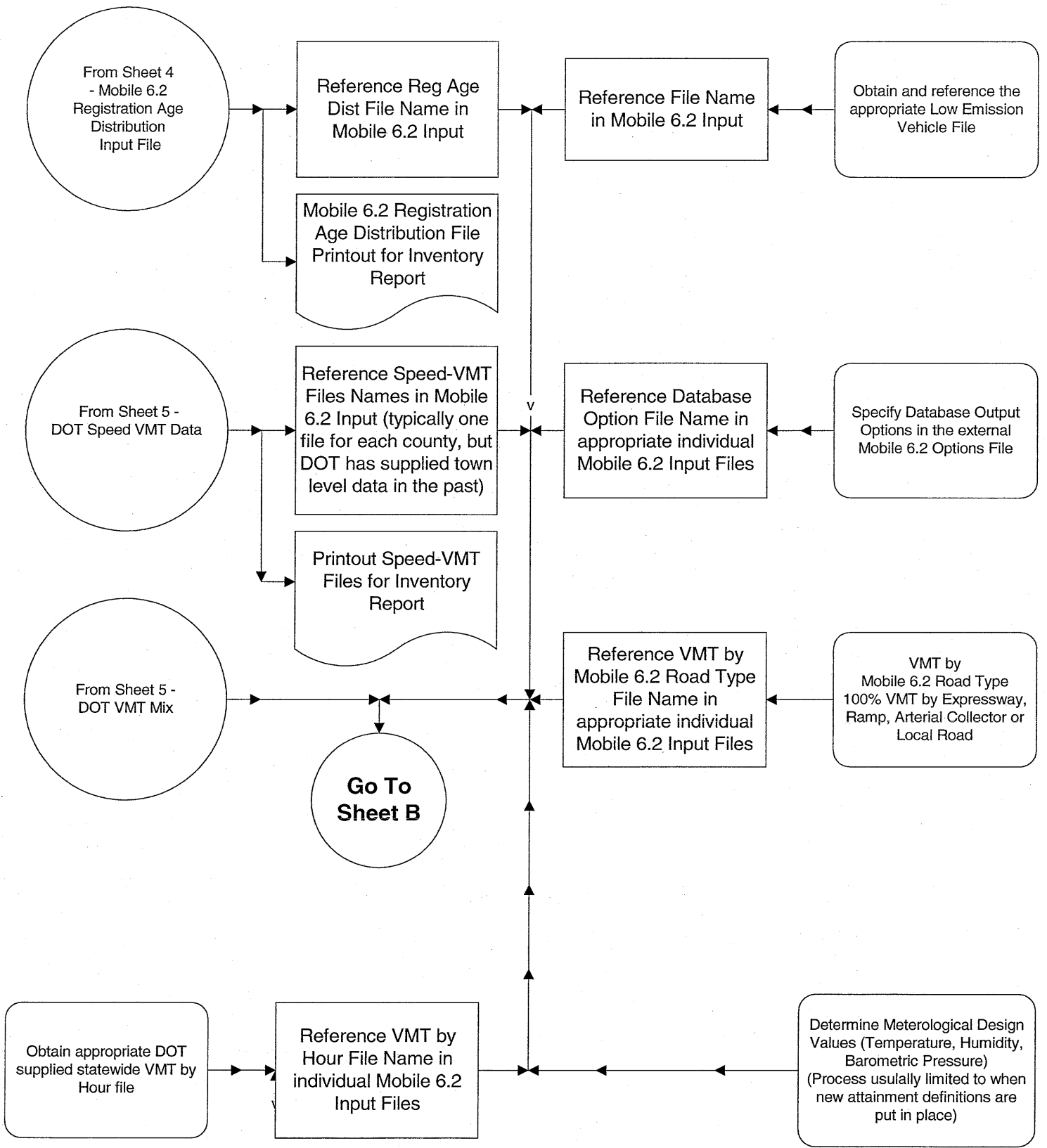
Sheet 4: General Flow Chart for the Mobile 6.2 Age Distribution File



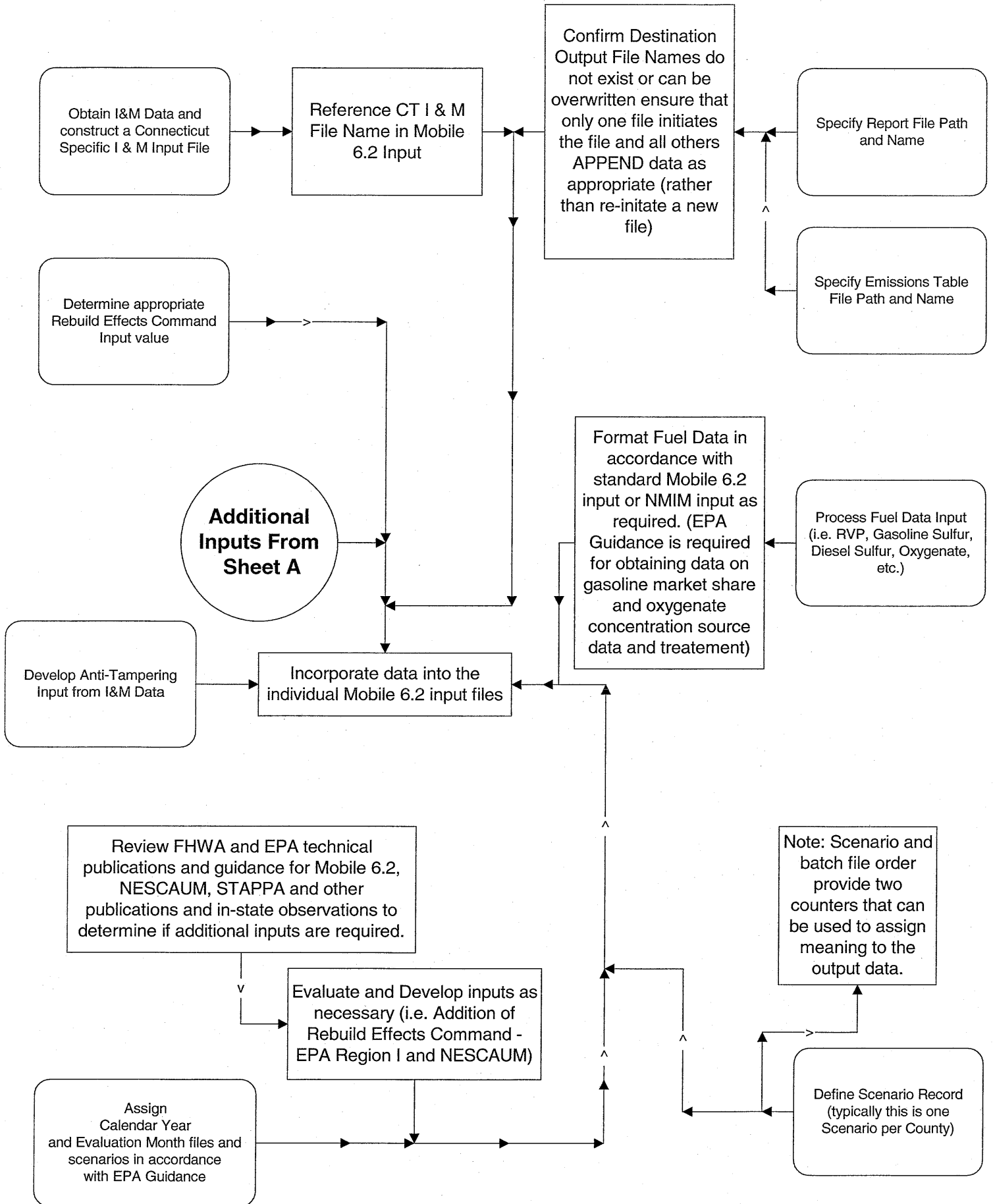
Sheet 5: Simple Flow Diagram for Connecticut Department of Transportation VMT, VMT Mix, and Speed VMT Input



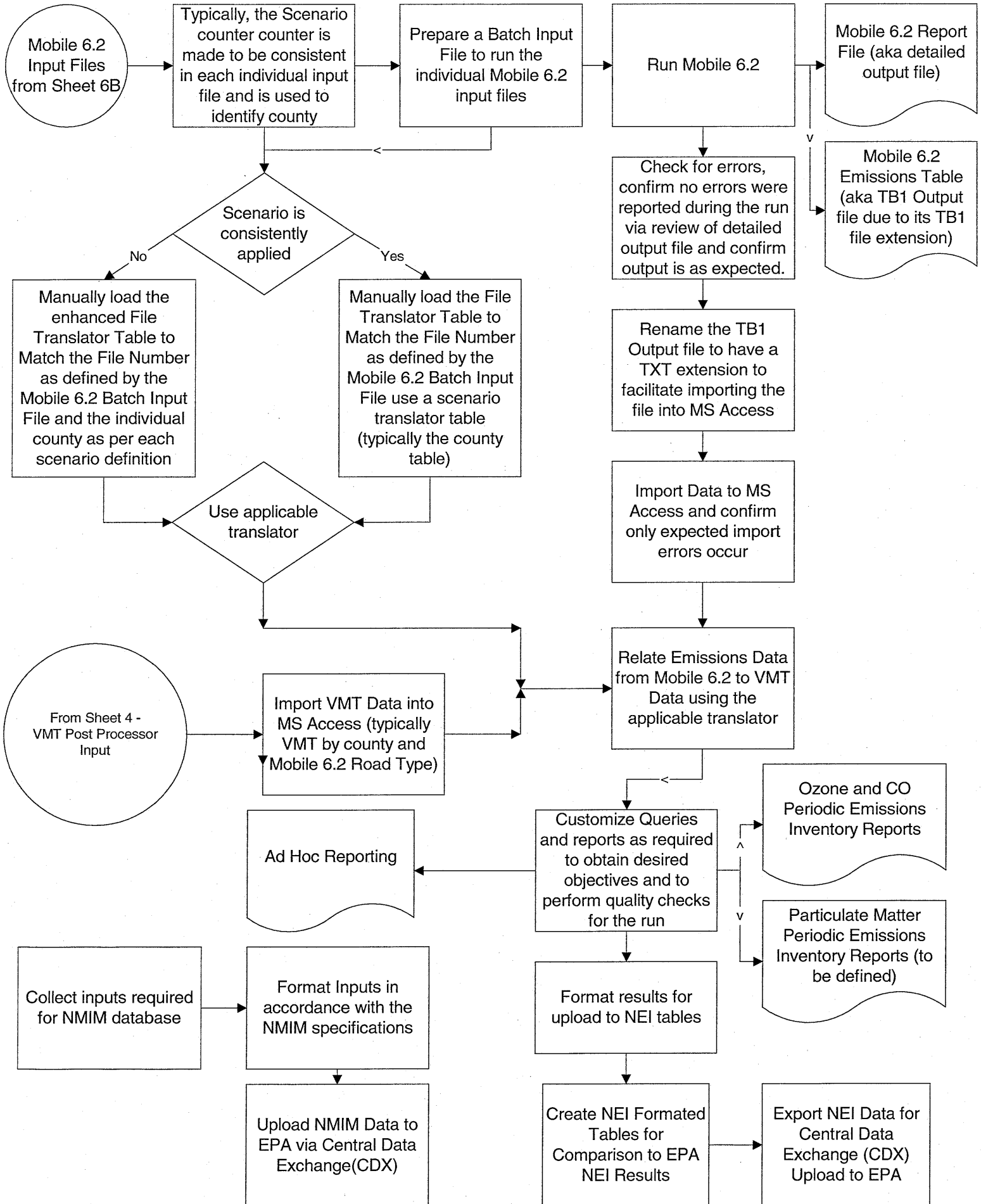
Sheet 6A: General Flow Diagram for Mobile 6.2 On Road Emission Estimate



Sheet 6B: General Flow Diagram for Mobile 6.2 On Road Emission Estimate



Sheet 6C: General Flow Diagram for Mobile 6.2 On Road Emission Estimate



Appendix C
PowerPoint Presentation
Site Information Management System
(SIMS)

An Overview of SIMS



SIMS Overview

- Project Purpose
- SIMS Data Content
- SIMS Vision
- SIMS Inquiry System
- SIMS Project Scope – Part 1
- Extraction, Transformation & Loading
- Facility/Site Reconciliation Process

Site Information Management System (SIMS)

Project Purpose

Purpose – To provide DEP staff with an exceptionally valuable tool to evaluate what activities are occurring across the State, and how is DEP responding to them.

This will be accomplished by combining technologies that provide easy access to documents, easy access to data and the mapping of that data into a powerful information resource.

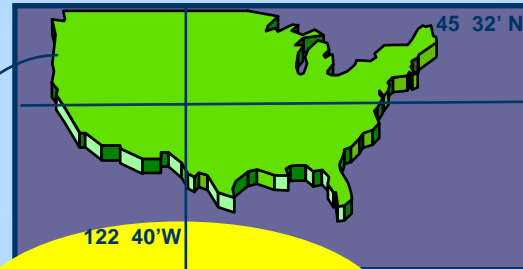
The base design of this project followed EPA's FITS2 template. All 50 states have complied with this template. The EPA provided the Network One Stop Grant that provided some funding for the development of this project.

Site Information Management System Data Content

Affiliated Parties



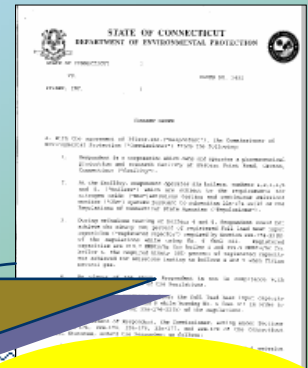
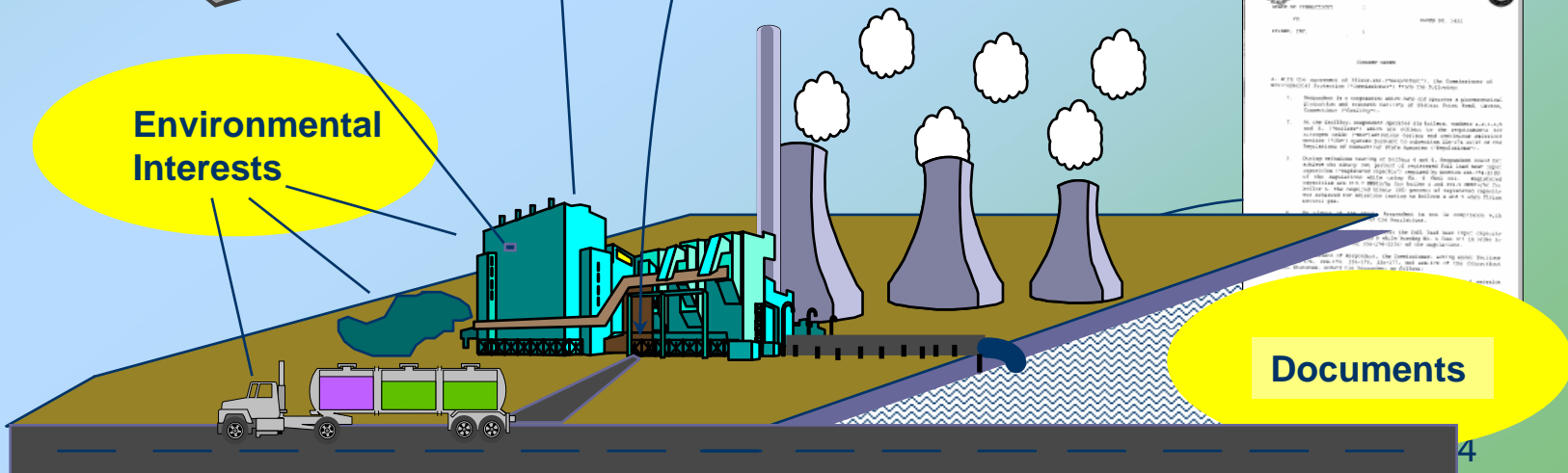
Facility / Site name,
Industry type



Spatial information

Application
Databases

Environmental
Interests



SIMS Terminology & Acronyms

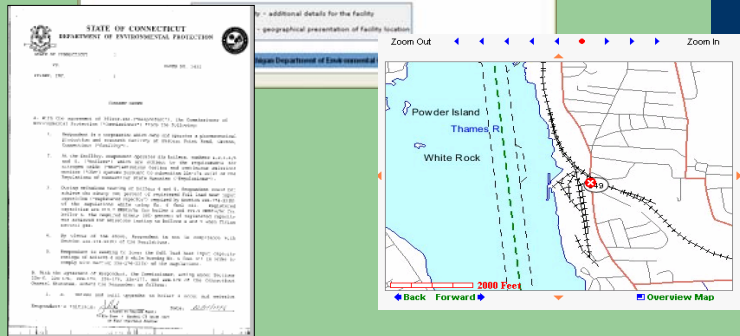
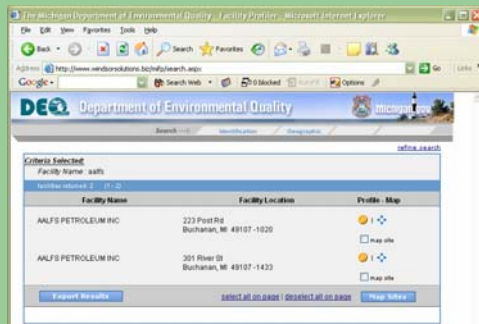
- **SIMS** – Site Information Management System
- **Environmental Interest** – This is the activity of interest to DEP; Permit, Enforcement Action, etc.
- **Facility/Site** – This is where the activity is occurring.
- **Client** – These are the known entities legally responsible for the activity
- **Feature** – Most activities are usually associated to something physical, such as an Air Emissions Stack, Underground Storage Tank, Marine Dock, etc.
- **CFI** – Common Facility Information – This is the database that stores the core information about a facility/site. (Name, Location, Client, Contacts, Environmental Interests, features)
- **ETL** – Extraction, Transformation & Loading – Process that copies data into the CFI from the 4 DEP applications & cleans & validates the data.
- **READ** – Retrieval of Environmental Action Documents – This was the agency's Document Mgt System.

SIMS Vision: Example Uses

- Inspection staff, in advance of visiting a site, will be able to compile a profile of a facility across or within programs
- Environmental analysts will be able to make assessments, using geospatial analytical capabilities, of the major regulated activities located within a watershed, to develop targeted strategies for improving the environment.
- Permit engineers will be able to locate a facility in relation to other environmental geospatial data to determine the current environmental conditions e.g. aquifer protection or endangered species areas at or near the site.
- Central CT DEP staff will be able to easily respond to public inquiries such as, "Is the construction at Main and Elm in East Hartford a permitted activity?"
- Managers will be able to provide immediate information when legislators or the Governor's Office inquire about specific clients or activities in certain municipalities.

Site Information Management System (SIMS)

Inquiry System



Search SIMS by:

Site

Environmental Interest / Client

Geographic

Spatially

Documents

Display results by:

Site

Environmental Interest

Client

Documents

Profile a Site

Map a Site

Search by ...: **Site** Environmental Interest Geographic Spatial Document

Select saved search: **Go!** **Delete** [What's this?](#) **Clear Search**

Site Identification

Site Name Search alternative name also

Site ID

Address

City/Town

State

Zip

SIC Code (#) [Research SIC Codes](#)

NAICS Code (#) [Research NAICS Codes](#)

Industry Keywords

show criteria selected on result page? display per page display by **Search**

Some Additional Benefits

- Browser based GIS mapping on agency desktops
- Advanced spatial analysis including facility data
- Facility location address cleaning and geocoding
- Identification of facility duplication in existing systems
- Allows users to query and download data
- Initiates DEP's involvement in the EPA Exchange Network
- Foundation for important agency information management needs; e.g.:
 - Case Management
 - Public Access
 - Expansion in to Environmental Conservation information

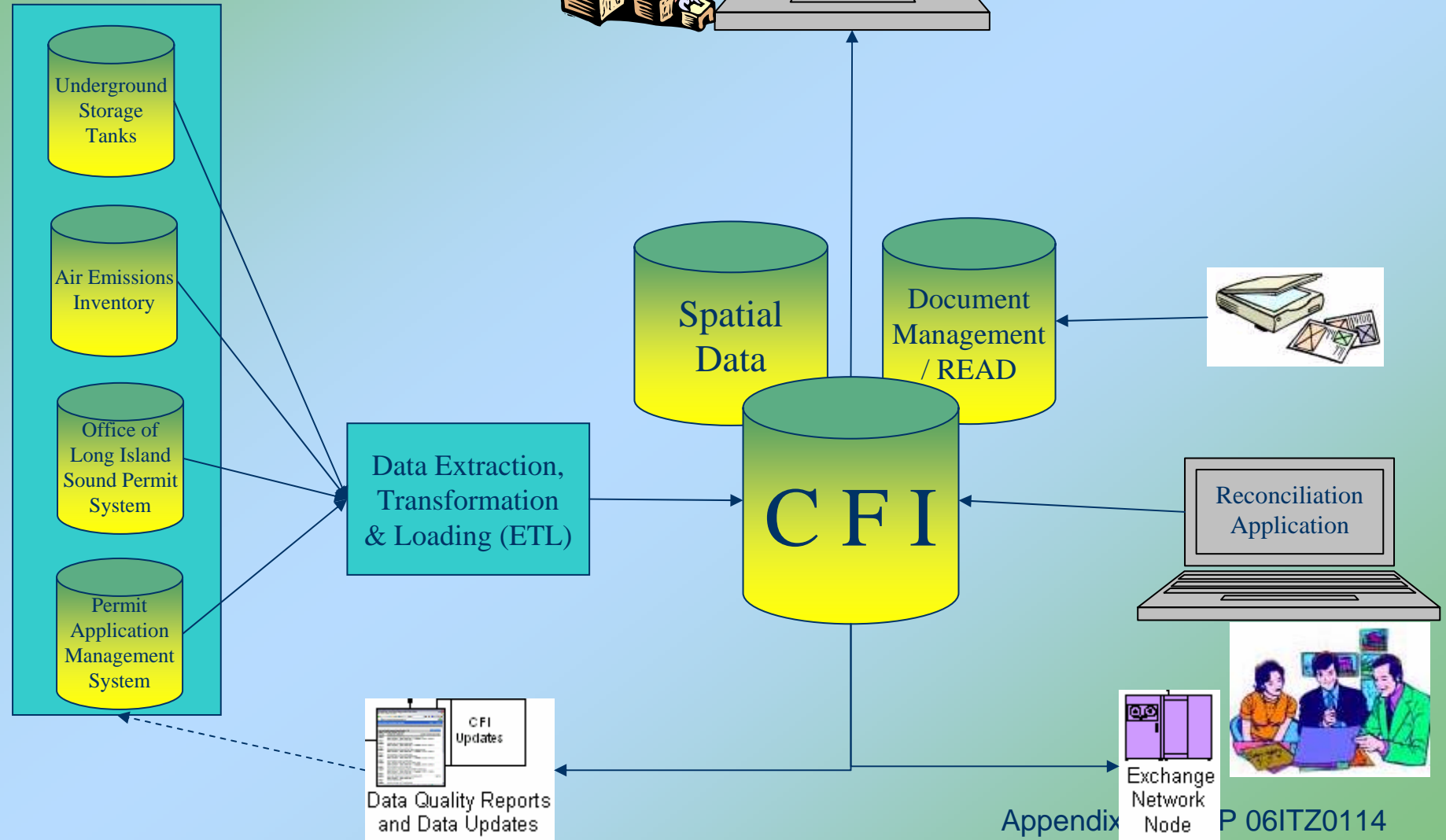
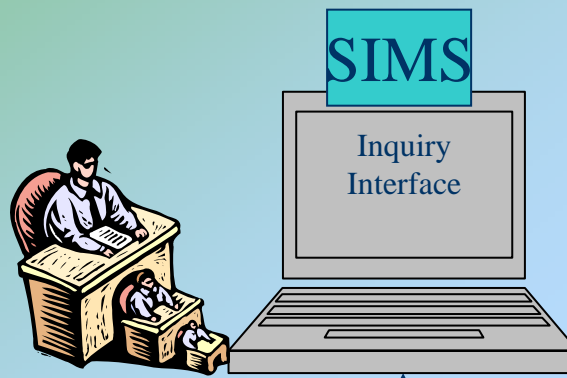
The Project Includes:

- SIMS Inquiry (with three initial systems' data)
- Facility reconciliation process and system
- Document management system
- Spatial - Facility / Feature Component
- PAMS evaluation/recommendation

SIMS Project Scope


Revised: 10/13/05

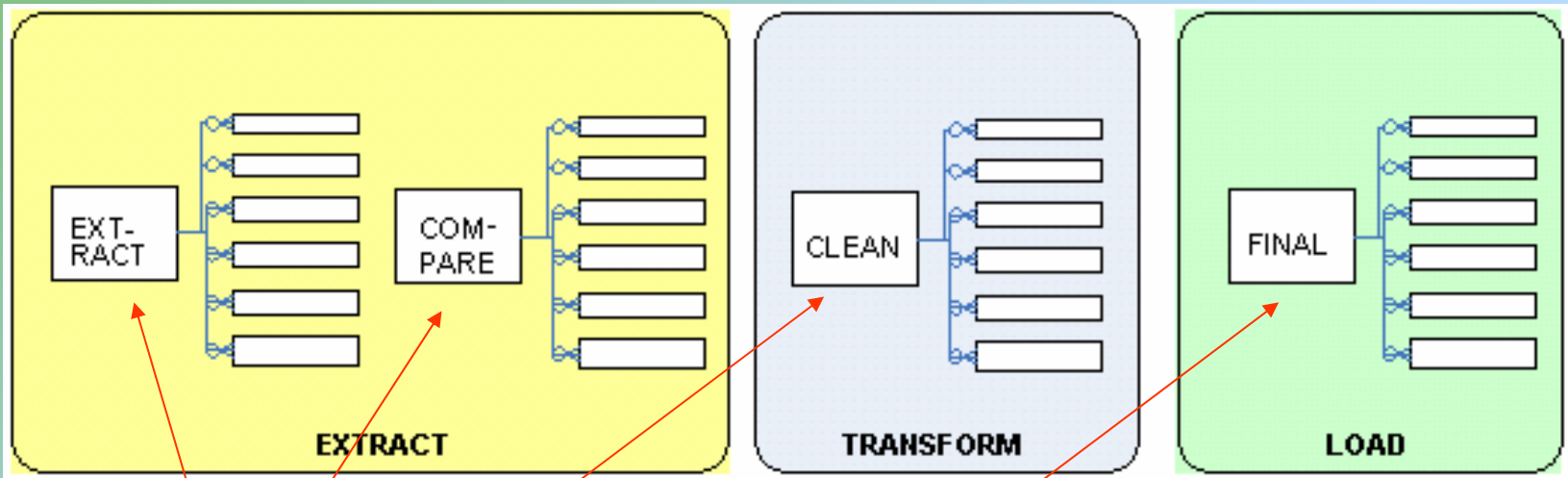
SIMS – Part 1
2006



Site Information Management System

Extraction,
Transformation &
Loading Process





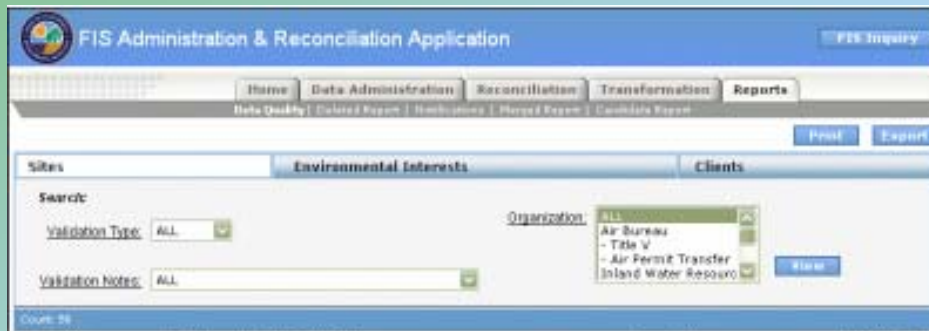
The **EXTRACT** dataset contains data from the originating systems (UST, Air, OLISP & PAMS). This dataset is emptied and repopulated during the first step of the ETL Process

The **COMPARE** dataset contains a copy of the prior data extract. This enables FIS to determine the changes between the prior data extract and the current data extract

The **CLEAN** dataset is where the majority of data cleansing, correction and validation occurs. The data in this area is subject to the following example types of data cleansing:

- Address correction is performed.
- Site Name Text is standardized.
- Site geographic coordinates are validated and/or derived

The **FINAL** dataset is the only data that is accessed and manipulated directly by users of FIS. Administrators manipulate this data directly when merging duplicate sites and performing other data cleanup operations. End users query this data directly when using the FIS user interface.



System Key	Site Information & Validation Notes	Organizations	Validation Type
00440056	<p>PRECISON TECHNOLOGIES</p> <p>Address 5200 Taft Rd - Windsor, CT 01024-4701</p> <p>Warning Notes: - Site: Distance between location coordinates and provided location address violation. (1.02 miles). FYI ></p>	<p>Air Bureau</p> <p>Corrected? Yes</p> <p>Coordinates 43.108527, - 83.453923</p>	WARNING

Loaded On: 8/9/2005

00440056	<p>SILVANIA DRYCLEANERS</p> <p>Address 33 Simon Rd - NORTHAMPTON, MA 01021-4701</p> <p>Warning Notes: - Site: Location is outside of state border tolerance violation. (96 miles). FYI ></p>	<p>Corrected? Yes</p> <p>Coordinates 43.108527, - 83.453923</p>	061SP	WARNING
00580025	<p>RUNCON</p> <p>Address Milepost 54 - MONROE, CT 01021</p> <p>Warning Notes: - Site: Postal Address is invalid. FYI > - Features: Invalid or missing coordinates. (Stack #7 - ID:4124328) FYI ></p>	<p>Corrected? No</p>	Water Bureau	WARNING
00440056	<p>HARTFORD CONCRETE EMPORIUM</p> <p>Address 123 Main Street - HARTFORD, CT 01212-4701</p> <p>Rejection Notes: - Site: No valid environmental interests. (Failed: Title V Permit #1202910, Title V Application#429162)</p> <p>Warning Notes: - Site: Distance between location coordinates and provided location address too far. (15.82 miles). FYI ></p>	<p>Corrected? Yes</p> <p>Coordinates 43.108527, - 83.453923</p>	Air Bureau	REJECTED
00580025	<p>PRATT & WHITNEY</p> <p>Address LA E Andover Ave - GREENWICH, CT 01021</p> <p>Warning Notes: - Site: Postal Address invalid. FYI > - Features: Invalid or missing coordinates. (Stack #4 - ID:0121452) FYI > - Features: Invalid or missing coordinates. (Stack #7 - ID:4124328) FYI ></p>	<p>Corrected? No</p>	Air Bureau, Waste Bureau, Water Bureau	WARNING

Site: 00440056 12:52:11 PM

Count: 88

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Site Information Management System

Facility Reconciliation
Process



Example Facility Reconciliation Rule

If two facilities are:

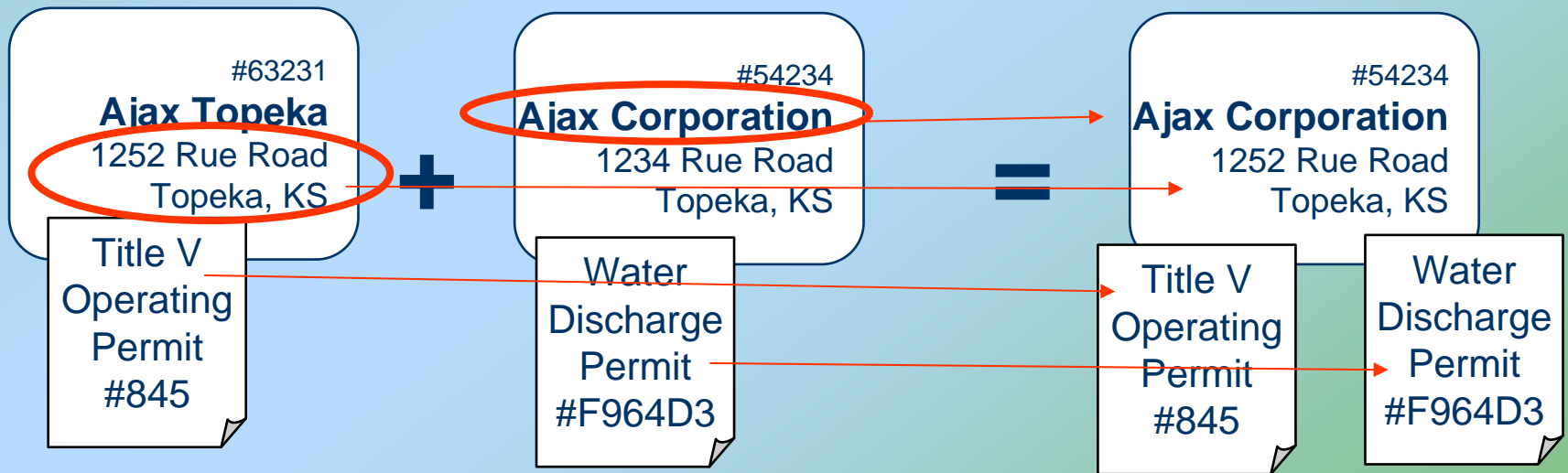
- 1. Located together, and*
 - 2. Have the same (current) owner and/or operator*
- they should be merged to be one facility.*

Merging a Facility Couplet (Simple)

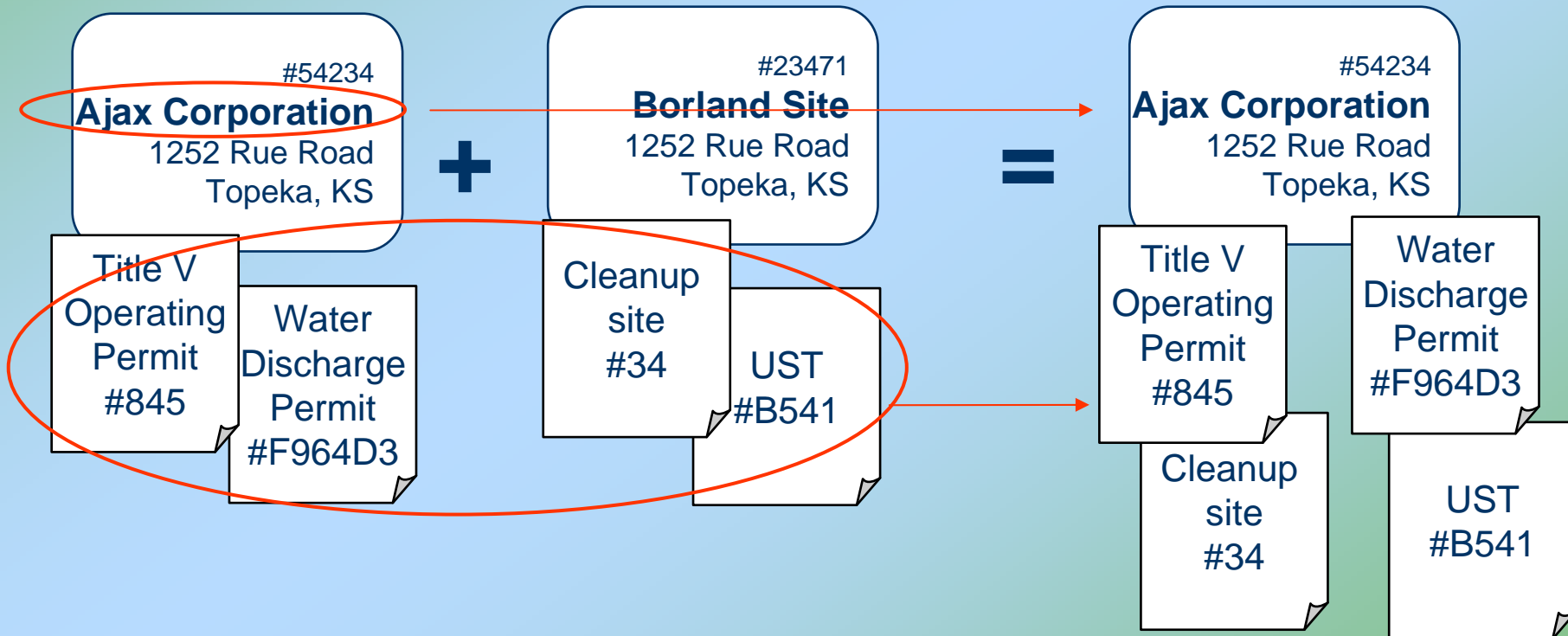
Facility

Key:

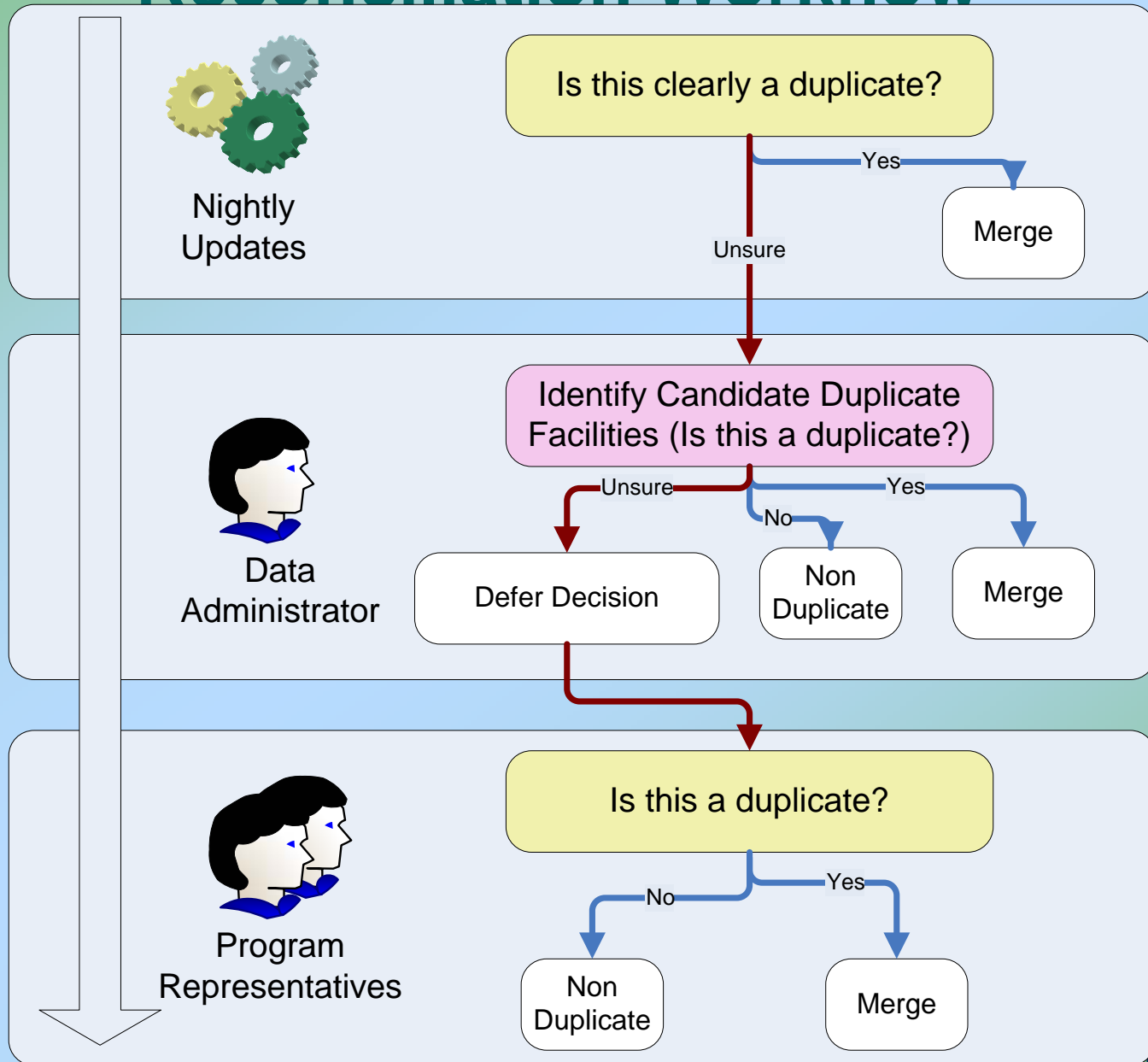
Env.
Interest



Merging a Facility Couplet (Not so simple)



Reconciliation Workflow



Reconciliation Tool Demo

Search Site Duplicates

Compare

Merge / Defer / Non-Dup

Outstanding Candidate Duplicates

Home | Data Administration | **Reconciliation** | Transformation | Reports

Search Duplicates | Candidate Duplicates | Merged Report | Rule Maintenance | Manual Merge

Find Site Duplicates | **Find Client Duplicates**

Site Information

Site Name Exactly

Starting Words First Word (based on soundex values)

Starting Chars 10

Site Address Line Street Name

Town Name All

Zip Code Zip+4 Suffix

Vicinity Search 0.25mi Radius

Client Information

Client Entire Name Exactly (concatenates all name fields and compares)

Shared Clients (all of those sites that share the same client record)

Environmental Interest Information

Shared Env. Interest All (all of those sites that likely share the same environmental interest record)

new candidates in last All Days non-dupes? limit results First 25

Appendix D
Site Information Management System (SIMS)
Air Emissions Inventory Extract Documentation

Connecticut Department of Environmental Protection

Site Information Management System

Extract – Air Emissions Inventory

September 25, 2006
Version: Final 1.0

1. Air Emissions Inventory Database Mapping Overview

1.1. Summary

The Emissions Air Program uses a SAS based file system. Data is tracked using a series of files. The system uses a series of two working files, the Premis and Detail file. The Premis file tracks site and contact information. The Detail file tracks features such as stacks and emission units.

In addition to the two working files, there is a daily “Big File” created representing all the “Active” facilities. The Big File is a combination of the site information from the Premis file and feature information from the detail file. The Big File is created every night and overwrites the previous days file. At the end of each fiscal year a copy of the Big File is stored for legacy reporting and comparison. Comparison of multiple Big Files provides the Air Emission department with a historical perspective of ownership changes, previously active facilities, etc.

Database Files

There are seven .DAT files that are exported from the Air Emissions database. These files are imported into the CFI_ETL database into staging AIR tables on a nightly basis using a SISS package. The Air Extract Stored procedure extracts data from the newly populated Air SQL Server tables. The following data files are located on \\FIS-CFI-TESTD\RemoteData\AIR:

- CLIENT.DAT
- CONTACT.DAT
- ENV_INT.DAT
- PHONE.DAT
- SITE.DAT
- STACK.DAT
- XREF.DAT

The staging AIR tables which are populated from the .DAT files are as follows:

- AIR_CLIENT
- AIR_CONTACT
- AIR_ENV_INT
- AIR_PHONE
- AIR_SITE
- AIR_STACK

These tables mimic the exact format as the flat files (.DAT) provided from the SAS system. Data is not manipulated in any way from the flat files to the staging tables. Because of this, this document outlines the procedure that extracts data from the staging tables and inserts into the EXTRACT tables.

There is one stored procedures that aids in the extraction and load process for Air Emissions Inventory data – which is located in the CFI_ETL SQL Server database.

- ETL_EXTRACT_AIR– extracts all from the AIR temp tables and imports into the Extract tables into the CFI_ETL.

Note: The above information only applies to the current (September 2006) environment at DEP. The mechanism to extract data will change once the system is deployed in the DOIT environment. See *SIMS System Maintenance Guide* for more details.

1.2. Mapping Overview

1.2.1. EXTRACT SITE

Each site in the SAS database is considered a unique site and is loaded as such, except where the site is noted as a duplicate. *All duplicate (AIR_SITE.duplicate) sites are filtered from the extract.*

Originating System Site PK:

To create a unique key for the site, the word 'AIR-' in conjunction with the town, premise, client, sequence from the site table.

Originating System Code:

AIR

Site Name:

Site name is derived from the Site_Desc field in the Site table (AIR_SITE.Site_Desc)

Address Description:

None

Address Line 1:

The Address_1 field is used from the Facility table (AIR_SITE.Address_1).

Address Line 2:

None

City:

The add_town field is used from the Site table (AIR_SITE.add_town).

State:

The st field is used from the Site table (AIR_SITE.st).

Zip:

None – the SAS system should be investigated again to determine if zip code can be extracted

Zip4:

None

1.2.2. EXTRACT ENV INTEREST

Environmental Interests from the SAS system will either be a air quality registrations or new source review permits. This is determined by the suffix of the permit number (permit_num) as described below. An air site can have one or more registration and/or new source review permit.

Originating System EI Primary Key:

To create a unique key for the environmental interest, the word 'AIR-' in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table (AIR_ENV_INT).

Originating System Code:

AIR

Environmental Interest Type Code:

The environmental interest is determined by the suffix of the permit number. If the last two characters equal “-P” then the type code is set to P-NSR which is a New Source Review Permit. If the last two characters equal “-R”, “-E”, or “-M” then the type code is set to AIR-REG which is air quality regulation.

Start Date:

The start date is derived from the start date field in the air environmental interest table (AIR_ENV_INT.start_date).

End Date:

The end date is derived from the end date field in the air environmental interest table (AIR_ENV_INT.end_date).

Status Code:

The status for all air environmental interests are set to “Active”.

Status Date:

The status date for derived by determining if the end date is populated. If it is, then use the end date as the status date, if not then use the start date as the status date.

1.2.3. EXTRACT PROGRAM

Program Code:

The three programs from the SAS system are Air Inventory, New Source Review, and Air Quality Registrations. Air Inventory is loaded/associated to every environmental interest loaded from the SAS system. The other two programs are based on the suffix of the permit number. If the last two characters equal “-P” then the program code is set to NSR which is a new source review. If the last two characters equal “-R”, “-E”, or “-M” then the type code is set to AIRREG which is air quality regulation program.

Originating System EI Primary Key:

Populated with the associated environmental interest primary key.

1.2.4. EXTRACT SIC

Originating System EI Primary Key:

To create a unique key for the environmental interest, the word ‘AIR-’ in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table (AIR_ENV_INT).

SIC Code:

The SIC code is derived from the sic field from the air environmental interest table (AIR_ENV_INT.SIC).

1.2.5. EXTRACT NAICS

Currently no NAICS codes are extracted from the SAS database.

1.2.6. EXTRACT ALTERNATIVE ID

Alternative ID's can be loaded for both sites and environmental interests. The SAS database is loading alternative id's for both the site and environmental interests.

Alternative ID:

Site: The town, premise, client, sequence is used as the alternative id for the site.

Env Int: The permit number minus the last two character suffix ("-P") is used as the alternative id for the environmental interest.

Alternative ID Type Code:

Site: Type code is set to AIR_TCPS which is Town Client Premise Sequence.

Env Int: Type code is set to PAMS_PER if suffix of permit number equals "-P", or set to AIR_REG if suffix of permit number equals "-R", "-E", or "-M".

Is Primary:

Site: Set to N.

Env Int: Set to Y. This is because the permit number is the primary identifier for the permit.

1.2.7. EXTRACT ALTERNATIVE NAME

Currently no alternative name is being loaded for the site from the SAS system.

1.2.8. EXTRACT FEATURE COORD

Features from SAS consist of two types, emissions unit and stacks. These two types are extracted from two distinct tables. Emission Units are extracted from the environmental interest table (AIR_ENV_INT), and the stacks are extracted from the stack table (AIR_STACK).

Feature Name:

Emissions Unit: The feature name is derived from the feature name from the environmental interest table (AIR_ENV_INT.feature_name).

Stack: The name for a stack is derived from the stack_desc field from the stack table (AIR_STACK.stack_desc).

Feature Type Code:

Emissions Unit: The feature type from the environmental interest table are all set to AIR-UNIT which equals Emissions Units.

Stack: The feature type the stacks table is set to AIR_STACK which is a Stack.

Status:

None

Status Date:

None

Latitude / Longitude:

None

Collection Method:

None

Reference Point Type:

None

UTM Zone:

Emissions Unit: The UTM Zone is derived from the utm zone field from the environmental interest table (AIR_ENV_INT.utm_zone)

Stack: The UTM Zone is derived from the utm zone field from the stack table (AIR_STACK.utm_zone)

UTM Easting:

Emissions Unit: The UTM Easting is derived from the utm_x field multiplied by 1000 from the environmental interest table (AIR_ENV_INT.utm_x)

Stack: The UTM Easting is derived from the utm_x field multiplied by 1000 from the stack table (AIR_STACK.utm_x)

UTM Northing:

Emissions Unit: The UTM Zone is derived from the utm_y field multiplied by 1000 from the environmental interest table (AIR_ENV_INT.utm_y)

Stack: The UTM Zone is derived from the utm zone field multiplied by 1000 from the stack table (AIR_STACK.utm_y)

Start Date:

None

1.2.9. EXTRACT FEATURE DETAIL

Currently no feature details codes are extracted from the SAS database.

1.2.10. EXTRACT SITE ENV INT

Originating System Site Primary Key:

Represented by the site id as such: 'AIR-' in conjunction with the town, premise, client, sequence from the site table.

Originating System Env Interest Primary Key:

Represented by the environmental interest: 'AIR-' in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table (AIR_ENV_INT).

Originating System Feature Primary Key:

Emission Units: Represented by the stack as such: 'AIR-' in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table.

Stacks: Represented by the stack as such: 'AIR-' in conjunction with the town, premise, client, sequence as well as stack number from the stack tables.

1.2.11. EXTRACT CLIENT

Clients are loaded from the client table expect where they are marked as duplicate (AIR_CLIENT.duplicate).

Originating System Client Primary Key:

To create a unique key for the client, the word 'AIR' in conjunction with the client id from the Client table (AIR_CLIENT.client).

Client Type Code:

Set to Unknown

Client Last Name:

The last name is derived from the parent name from the client table (AIR_CLIENT.parent_name)

Client First Name:

None

Client Prefix:

None

Client Suffix:

None

Taxpayer ID:

None

URL:

None

1.2.12. EXTRACT CLIENT ALT NAME

Alternative names for the client are derived by using the site description (site name) only if the site name that does not match the client name.

Originating System Client Primary Key:

Represented by the client as such: the word 'AIR' in conjunction with the client id from the Client table (AIR_CLIENT.client).

Client Alternative Name:

The alternative name is derived from the site description from the site table (AIR_SITE.site_desc).

Client Alternative Name Type:

Set to AKA which is also known as.

1.2.13. EXTRACT AFFIL

Originating System Client Primary Key:

To create a unique key for the client, the word 'AIR' in conjunction with the client id from the Client table (AIR_CLIENT.client).

Originating System Affiliate Primary Key:

To create a unique key for the affiliate, the word 'AIR-' in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table (AIR_ENV_INT).

Originating System Environmental Interest Primary Key:

The affiliation is based on the environmental interest that the client is associated to. To create a unique key for the environmental interest, the word 'AIR-' in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table (AIR_ENV_INT).

Affiliate Type Code:

Set to OWNOP, which is Owner/Operator.

Address Line 1:

The parent address field is used from the Client table (AIR_CLIENT.parent_address).

Address Line 2:

None

City:

The parent town field is used from the Client table (AIR_CLIENT.parent_address).

State:

The parent state field is used from the Client table (AIR_CLIENT.parent_state).

Zip:

The parent zip field is used from the Client table (AIR_CLIENT.parent_zip).

Zip4:

None

County:

None

Country:

None

Start Date:

None

End Date:

None

1.2.14. EXTRACT AFFIL_PHONE

Originating System Affiliate Primary Key:

To create a unique key for the affiliate, the word 'AIR-' in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table (AIR_ENV_INT).

Phone:

Phone number is derived from the area code and phone number fields from the clients table (AIR_CLIENT.area_code + AIR_CLIENT.phone_number).

Phone Extension:

Phone extension is derived from the phone ext field from the client table (AIR_CLIENT.phone_ext).

Phone Type Code:

If phone type (AIR_CLIENT.phone_type) equals Voice then code is set to 'CON' which equals contact. Otherwise load the phone_type as it is populated.

1.2.15. EXTRACT CONTACT

Originating System Contact Primary Key:

To create a unique key for the contact, the word 'AIR-' in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table

Contact Name:

The first name and last name for contact are stored in one field called name in the Contact table (AIR_CONTACT.name).

Contact Title:

None

Email

None

Address Line 1

The address line 1 is derived from the address_1 field from the contact table (AIR_CONTACT.address_1).

Address Line 2

None

City:

The a_town field is used from the Contact table (AIR_Contact.a_town).

State:

The st field is used from the Contact table (AIR_CONTACT.st).

Zip:

The zip field is used from the Contact table (AIR_Contact.zip).

Zip4:

None

County:

None

Country:

None

Originating System Affiliate Primary Key:

To create a unique key for the affiliate, the word 'AIR-' in conjunction with the town, premise, client, sequence as well as permit number from the environmental interest table (AIR_ENV_INT).

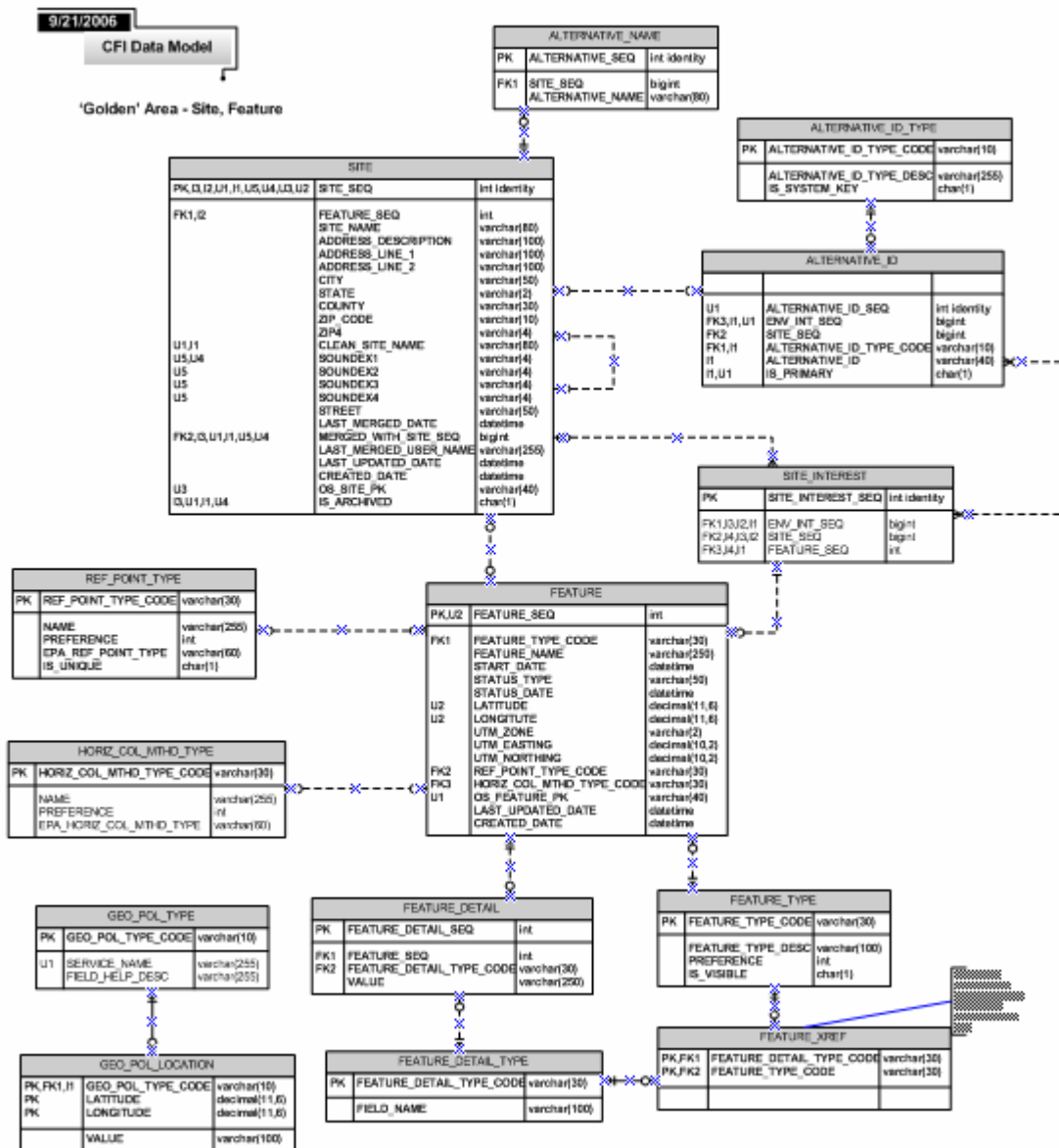
Appendix E

SIMS Data Model and Data Dictionary

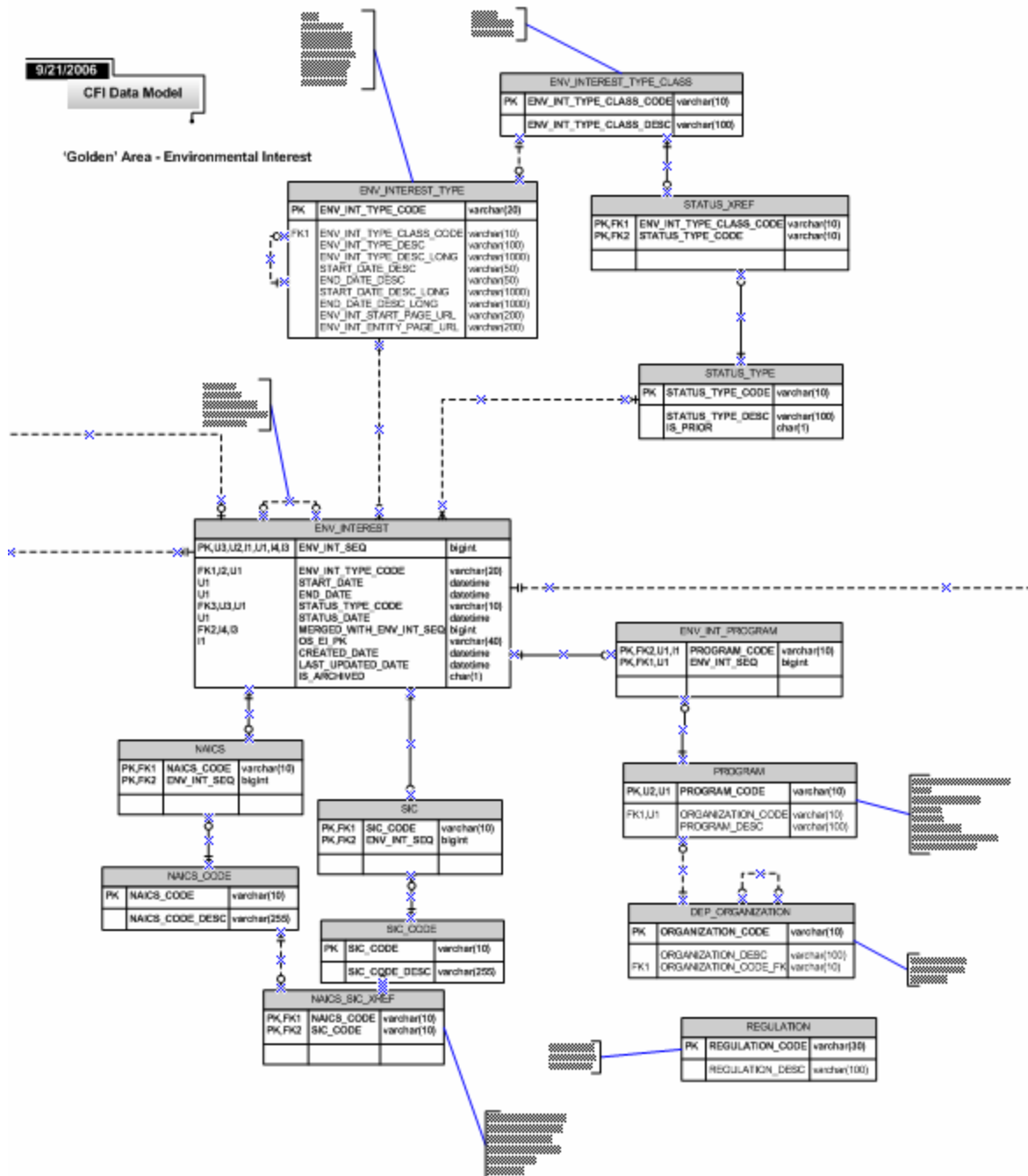
1. SIMS Reconciliation & Administration Database Design

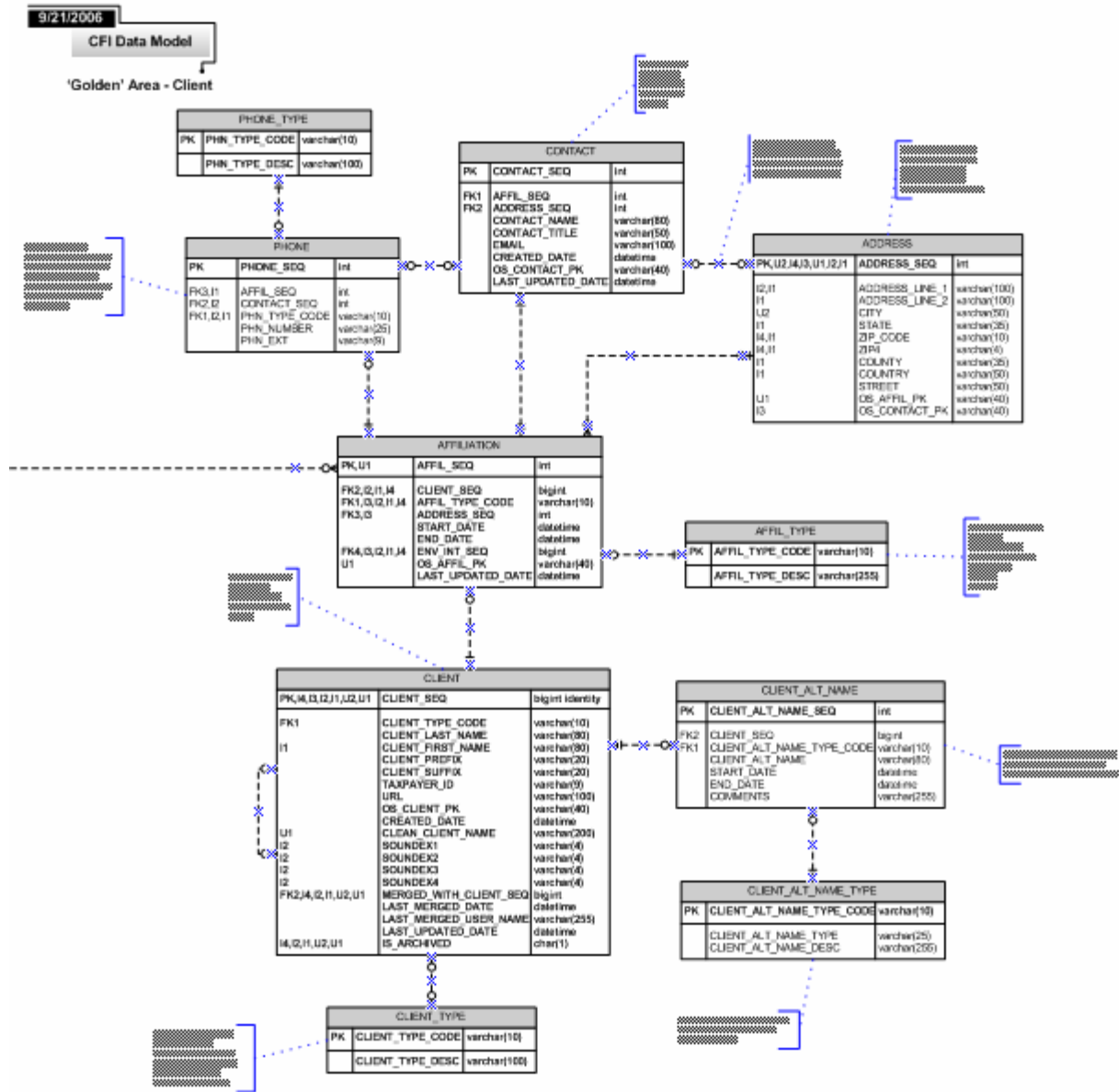
1.1. 'Golden' Tables

1.1.1. Data Model



Connecticut DEP - Site Information Management System |
Reconciliation & Administration Application Design





1.1.2. Data Dictionary

1.1.2.1. ADDRESS

Physical name: ADDRESS
Notes: Contains the standard address used to send mail to a contact or an affiliate through the US Postal Service.
Primary key: ADDRESS_SEQ

Column details

1. ADDRESS_SEQ

Physical name: ADDRESS_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Address. | Example: 99812

2. ADDRESS_LINE_1

Physical name: ADDRESS_LINE_1
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The first line of the address location. | Example: 1220 Main St

3. ADDRESS_LINE_2

Physical name: ADDRESS_LINE_2
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The second line of the address location. | Example: Suite 285

4. CITY

Physical name: CITY
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The name of the city or town. | Example: Groton

5. STATE

Physical name: STATE
Physical data type: varchar(35)
Allow NULLs: Allowed
Notes: The 2-letter USPS state abbreviation. | Example: CT

6. ZIP_CODE

Physical name: ZIP_CODE
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The Postal code (not always USPS ZIP) | Example: 06340

7. ZIP4

Physical name: ZIP4
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: If the postal code is a USPS ZIP code, the 4-digit extension to the 5-digit Zip code. | Example: 3489

8. COUNTY

Physical name: COUNTY
Physical data type: varchar(35)
Allow NULLs: Allowed
Notes: The county the address is located | Example: Fairfield

9. COUNTRY

Physical name: COUNTRY
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The country the address is located | Example: United States

10. STREET

Physical name: STREET
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The street name that the Site is located. | Example: Main

1.1.2.2. ADDRESS

Physical name: ADDRESS
Notes: Contains the standard address used to send mail to a contact or an affiliate through the US Postal Service.
Primary key: ADDRESS_SEQ

Column details

1. ADDRESS_SEQ (U1,U2,I1,I2,I3,I4)

Physical name: ADDRESS_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Address. | Example: 99812

2. ADDRESS_LINE_1 (I1,I2)

Physical name: ADDRESS_LINE_1
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The first line of the address location. | Example: 1220 Main St

3. ADDRESS_LINE_2 (I1)

Physical name: ADDRESS_LINE_2
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The second line of the address location. | Example: Suite 285

4. CITY (U2)

Physical name: CITY
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The name of the city or town. | Example: Groton

5. STATE (I1)

Physical name: STATE
Physical data type: varchar(35)
Allow NULLs: Allowed
Notes: The 2-letter USPS state abbreviation. | Example: CT

6. ZIP_CODE (I1,I4)

Physical name: ZIP_CODE
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The Postal code (not always USPS ZIP) | Example: 06340

7. ZIP4 (I1,I4)

Connecticut DEP - Site Information Management System |
Reconciliation & Administration Application Design

Physical name: ZIP4
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: If the postal code is a USPS ZIP code, the 4-digit extension to the 5-digit Zip code. | Example: 3489

8. COUNTY (I1)

Physical name: COUNTY
Physical data type: varchar(35)
Allow NULLs: Allowed
Notes: The county the address is located | Example: Fairfield

9. COUNTRY (I1)

Physical name: COUNTRY
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The country the address is located | Example: United States

10. STREET

Physical name: STREET
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The street name that the Site is located. | Example: Main

11. OS AFFIL PK (U1)

Physical name: OS_AFFIL_PK
Physical data type: varchar(40)
Allow NULLs: Allowed
Notes: The primary key of the Affiliation address from the original source system. | Example: 77484d

12. OS CONTACT PK (I3)

Physical name: OS_CONTACT_PK
Physical data type: varchar(40)
Allow NULLs: Allowed
Notes: The primary key of the Contact from the original source system. | Example: JSMI883

Index details

ADDRESS IX2

Column(s): ADDRESS_SEQ (Asc)
STATE (Asc)
COUNTRY (Asc)
ADDRESS_LINE_1 (Asc)
ADDRESS_LINE_2 (Asc)
COUNTY (Asc)
ZIP_CODE (Asc)
ZIP4 (Asc)
Unique: No

ADDRESS LINE1

Column(s): ADDRESS_SEQ (Asc)
ADDRESS_LINE_1 (Asc)
Unique: No

ADDRESS OS AFFIL PK

Column(s): OS_AFFIL_PK (Asc)
ADDRESS_SEQ (Asc)
Unique: Yes

ADDRESS OS CONTACT PK

Column(s): OS_CONTACT_PK (Asc)
ADDRESS_SEQ (Asc)
Unique: No

ZIP_CODE ZIP 4

Column(s): ZIP_CODE (Asc)
ZIP4 (Asc)
ADDRESS_SEQ (Asc)
Unique: No

ADDRESS CITY

Column(s): CITY (Asc)
ADDRESS_SEQ (Asc)
Unique: Yes

1.1.2.3. AFFIL_TYPE

Physical name: AFFIL_TYPE
Notes: Contains a list of affiliate types that describe the role of a client or contact.
Primary key: AFFIL_TYPE_CODE

Column details

1. AFFIL TYPE CODE

Physical name: AFFIL_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Affiliate Type that serves as a unique identifier. | Example: LO, Atty, ParCorp

2. AFFIL TYPE DESC

Physical name: AFFIL_TYPE_DESC
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: The description of the affiliation type. | Example: Land Owner, Attorney, Parent Corporation

1.1.2.4. AFFILIATION

Physical name: AFFILIATION
Notes: An association that indicates a relationship between an Environmental Interest and a Client/Contact.
Primary key: AFFIL_SEQ

Column details

1. AFFIL SEQ (U1)

Physical name: AFFIL_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Affiliation. | Example: 78735A

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2. CLIENT_SEQ (FK,I1,I2,I4)

Physical name: CLIENT_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Client. | Example: 77658

3. AFFIL_TYPE_CODE (FK,I1,I2,I3,I4)

Physical name: AFFIL_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Affiliate Type that serves as a unique identifier. | Example: LO, Atty, ParCorp

4. ADDRESS_SEQ (FK,I3)

Physical name: ADDRESS_SEQ
Physical data type: int
Allow NULLs: Allowed
Notes: Incremental numeric field used to uniquely identify the Address. | Example: 99812

5. START_DATE

Physical name: START_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The beginning date of the affiliation with the environmental interest. | Example: 1/4/05

6. END_DATE

Physical name: END_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The ending date of the affiliation with the environmental interest. | Example: 5/5/05

7. ENV_INT_SEQ (FK,I1,I2,I3,I4)

Physical name: ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The Environmental Interest associated with the Affiliation. | Example: 7763

8. OS_AFFIL_PK (U1)

Physical name: OS_AFFIL_PK
Physical data type: varchar(40)
Allow NULLs: Allowed
Notes: The primary key of the Affiliation from the original source system. | Example: 5W983

9. LAST_UPDATED_DATE

Physical name: LAST_UPDATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the Affiliation record was last updated. | Example: 9/17/06

Index details

AFFIL_TYPE_CODE

Column(s): AFFIL_TYPE_CODE (Asc)
 CLIENT_SEQ (Asc)
 ENV_INT_SEQ (Asc)
Unique: No

AFFILIATION_UC2

Column(s): OS_AFFIL_PK (Asc)

Unique:	AFFIL_SEQ (Asc) Yes
<u>CLIENT ENV INTEREST</u>	
Column(s):	CLIENT_SEQ (Asc) ENV_INT_SEQ (Asc) AFFIL_TYPE_CODE (Asc)
Unique:	No
<u>ENV INTEREST ADDRESS</u>	
Column(s):	ENV_INT_SEQ (Asc) ADDRESS_SEQ (Asc) AFFIL_TYPE_CODE (Asc)
Unique:	No
<u>ENV INTEREST CLIENT</u>	
Column(s):	ENV_INT_SEQ (Asc) CLIENT_SEQ (Asc) AFFIL_TYPE_CODE (Asc)
Unique:	No

Foreign key details (child)

AFFI AFTY FK

Relationship type:	Non-Identifying
Cardinality:	One -to- Zero-or-More
Allow NULLs:	Not allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

AFFI ENTI FK

Relationship type:	Non-Identifying
Cardinality:	One -to- Zero-or-More
Allow NULLs:	Not allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

ADDRESS AFFILIATION FK1

Relationship type:	Non-Identifying
Cardinality:	Zero-or-One -to- Zero-or-More
Allow NULLs:	Allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

ENV INTEREST AFFILIATION FK1

Relationship type:	Non-Identifying
Cardinality:	One -to- Zero-or-More
Allow NULLs:	Not allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

1.1.2.5. ALTERNATIVE_ID

Physical name:	ALTERNATIVE_ID
Notes:	Contains alternative identifiers by which the site or environmental interest is known

to a particular program, department or bureau.

Primary key:

Column details

1. ALTERNATIVE ID SEQ (U1)

Physical name: ALTERNATIVE_ID_SEQ
Physical data type: int identity
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Alternative ID. | Example: 133011

2. ENV INT SEQ (FK,U1,I1)

Physical name: ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Allowed
Notes: The Environmental Interest associated with the Alternative Id. | Example: 8838

3. SITE SEQ (FK)

Physical name: SITE_SEQ
Physical data type: bigint
Allow NULLs: Allowed
Notes: The Site associated with the Alternative Id. | Example: 32433

4. ALTERNATIVE ID TYPE CODE (FK,I1)

Physical name: ALTERNATIVE_ID_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The code assigned to the Alternative type. | Example: OLISPID

5. ALTERNATIVE ID (I1)

Physical name: ALTERNATIVE_ID
Physical data type: varchar(40)
Allow NULLs: Not allowed
Notes: The alternative identification number or code that a site may use. | Example: T938XZ

6. IS PRIMARY (U1,I1)

Physical name: IS_PRIMARY
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Indicates if the Alternate ID is the primary identification method for a site or environmental interest. | Values: Y (Yes), N (No)

Index details

ALTERNATIVE ID IX2

Column(s): ENV_INT_SEQ (Asc)
 IS_PRIMARY (Asc)
 ALTERNATIVE_ID_SEQ (Asc)
Unique: Yes

IX ALTERNATIVE ID PRIMARY

Column(s): ALTERNATIVE_ID (Asc)
 ALTERNATIVE_ID_TYPE_CODE (Asc)
 ENV_INT_SEQ (Asc)
 IS_PRIMARY (Asc)
Unique: No

Foreign key details (child)

ALID ALIT FK

Relationship type: Non-Identifying

Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.6. ALTERNATIVE_ID_TYPE

Physical name: ALTERNATIVE_ID_TYPE
Notes: Contains a list of alternative ID types, such as the Dun & Bradstreet, and the NPDES Permit, that identify a site.
Primary key: ALTERNATIVE_ID_TYPE_CODE

Column details

1. ALTERNATIVE_ID_TYPE_CODE

Physical name: ALTERNATIVE_ID_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Alternative ID Type that serves as a unique identifier. | Example: PER, OLISPID, DUNS

2. ALTERNATIVE_ID_TYPE_DESC

Physical name: ALTERNATIVE_ID_TYPE_DESC
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: Description of the alternative id type. | Example: Permit number, OLISP Site ID, Dun & Bradstreet Number

3. IS_SYSTEM_KEY

Physical name: IS_SYSTEM_KEY
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Indicates if the ID Type is the primary key in the source system. | Example: True

Index details

ALIT_UK

Column(s):
Unique: Yes

1.1.2.7. ALTERNATIVE_NAME

Physical name: ALTERNATIVE_NAME
Notes: Contains the names that a site may also use or is known by to a particular program, department or bureau.
Primary key: ALTERNATIVE_SEQ

Column details

1. ALTERNATIVE_SEQ

Physical name: ALTERNATIVE_SEQ
Physical data type: int identity
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Alternative Name. | Example: 133011

2. SITE_SEQ (FK)

Physical name: SITE_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The SITE_SEQ number associated with the alternative name. | Example: 65323

3. ALTERNATIVE_NAME

Physical name: ALTERNATIVE_NAME
Physical data type: varchar(80)
Allow NULLs: Not allowed
Notes: The name that a site may also use or be known. | Example: Site 123

Foreign key details (child)

ALID ENIN FK

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.8. CLIENT

Physical name: CLIENT
Notes: Contains an individual, company, or government agency that the Department regulates or maintains correspondence with or is in some way affiliated with an Environmental Interest or Facility Site.
Primary key: CLIENT_SEQ

Column details

1. CLIENT_SEQ (U1,U2,I1,I2,I3,I4)

Physical name: CLIENT_SEQ
Physical data type: bigint identity
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Client. | Example: 77658

2. CLIENT_TYPE_CODE (FK)

Physical name: CLIENT_TYPE_CODE
Physical data type: varchar(10)

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Allow NULLs: Allowed
Notes: The code assigned to describe the Client Type. | Example: Ind, Co, Fed

3. CLIENT_LAST_NAME

Physical name: CLIENT_LAST_NAME
Physical data type: varchar(80)
Allow NULLs: Not allowed
Notes: The last name or business name of the client. | Example: Johnson, XYZ Electric

4. CLIENT_FIRST_NAME (11)

Physical name: CLIENT_FIRST_NAME
Physical data type: varchar(80)
Allow NULLs: Allowed
Notes: The first name of the client. | Example: William

5. CLIENT_PREFIX

Physical name: CLIENT_PREFIX
Physical data type: varchar(20)
Allow NULLs: Allowed
Notes: The title of a person. | Example: Mr., Mrs.

6. CLIENT_SUFFIX

Physical name: CLIENT_SUFFIX
Physical data type: varchar(20)
Allow NULLs: Allowed
Notes: Descriptive text that is added to the end of a person's name. | Example: P.E., Sr.

7. TAXPAYER_ID

Physical name: TAXPAYER_ID
Physical data type: varchar(9)
Allow NULLs: Allowed
Notes: The identification number used by the Internal Revenue Service for tax purposes. Usually Social Security Number or Individual Taxpayer ID Number. | Example: 111-11-1111

8. URL

Physical name: URL
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The web site address (Uniform Resource Locator) of the client. | Example: www.xyz.com

9. OS_CLIENT_PK

Physical name: OS_CLIENT_PK
Physical data type: varchar(40)
Allow NULLs: Allowed
Notes: The primary key of the Client from the original source system. | Example: AQFREDHUMPHRIES0012

10. CREATED_DATE

Physical name: CREATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the site record was added to the FIS system. | Example: 7/20/03

11. CLEAN_CLIENT_NAME (U1)

Physical name: CLEAN_CLIENT_NAME
Physical data type: varchar(200)
Allow NULLs: Not allowed
Notes: The concatenated client name items with certain words (e.g., INC) standardized to improve the results of reconciliation searches

12. SOUNDEX1 (I2)

Physical name: SOUNDEX1
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The first index for capturing the phonetic algorithm of the client name (similar pronunciation). | Example: F630

13. SOUNDEX2 (I2)

Physical name: SOUNDEX2
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The second index for capturing the phonetic algorithm of the client name (similar pronunciation). | Example: F630

14. SOUNDEX3 (I2)

Physical name: SOUNDEX3
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The third index for capturing the phonetic algorithm of the client name (similar pronunciation). | Example: F630

15. SOUNDEX4 (I2)

Physical name: SOUNDEX4
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The fourth index for capturing the phonetic algorithm of the client name (similar pronunciation). | Example: F630

16. MERGED WITH CLIENT SEQ (FK,U1,U2,I1,I2,I4)

Physical name: MERGED_WITH_CLIENT_SEQ
Physical data type: bigint
Allow NULLs: Allowed
Notes: If this client has been merged, this is the key of the parent client that is shared with the other clients with which this client was merged

17. LAST MERGED DATE

Physical name: LAST_MERGED_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date that the client record was last merged with another client. | Example: 6/25/04

18. LAST MERGED USER NAME

Physical name: LAST_MERGED_USER_NAME
Physical data type: varchar(255)
Allow NULLs: Allowed
Notes: The user that last merged the site record with another site. | Example: 75

19. LAST UPDATED DATE

Physical name: LAST_UPDATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The last date the site record was updated. | Example: 8/3/04

20. IS ARCHIVED (U1,U2,I1,I2,I4)

Physical name: IS_ARCHIVED
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Indicates that the record has been deleted. The record is retained in case other manually entered data has been associated to it, such as DMS documents. | Values 1

(True), 0 (False)

Index details

CLIENT_UC1

Column(s): CLEAN_CLIENT_NAME (Asc)
 CLIENT_SEQ (Asc)
 MERGED_WITH_CLIENT_SEQ (Asc)
 IS_ARCHIVED (Asc)

Unique: Yes

CLIENT_UC2

Column(s): MERGED_WITH_CLIENT_SEQ (Asc)
 CLIENT_SEQ (Asc)
 IS_ARCHIVED (Asc)

Unique: Yes

CLIENT_FIRSTNAME

Column(s): CLIENT_FIRST_NAME (Asc)
 CLIENT_SEQ (Asc)
 MERGED_WITH_CLIENT_SEQ (Asc)
 IS_ARCHIVED (Asc)

Unique: No

CLIENT_SOUNDEXSEARCH

Column(s): SOUNDEX1 (Asc)
 SOUNDEX2 (Asc)
 SOUNDEX3 (Asc)
 SOUNDEX4 (Asc)
 CLIENT_SEQ (Asc)
 MERGED_WITH_CLIENT_SEQ (Asc)
 IS_ARCHIVED (Asc)

Unique: No

CLIENT_UK_OS_CLIENT_PK

Column(s): CLIENT_SEQ (Asc)

Unique: No

MERGED_WITH_CLIENT_SEQ

Column(s): MERGED_WITH_CLIENT_SEQ (Asc)
 CLIENT_SEQ (Asc)
 IS_ARCHIVED (Asc)

Unique: No

Foreign key details (child)

ENTI_ENTY_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.9. CLIENT_ALT_NAME

Physical name: CLIENT_ALT_NAME
Notes: Contains the names that a client may also use or is known by to a particular program, department or bureau.
Primary key: CLIENT_ALT_NAME_SEQ

Column details

1. CLIENT_ALT_NAME_SEQ

Physical name: CLIENT_ALT_NAME_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Client Alternate Name. Example: 999765

2. CLIENT_SEQ (FK)

Physical name: CLIENT_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The Client sequence number associated with the Client Alternative Name. | Example: 763985

3. CLIENT_ALT_NAME_TYPE_CODE (FK)

Physical name: CLIENT_ALT_NAME_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The code assigned to describe the Client Alternative Name Type. | Example: DBA, PLN

4. CLIENT_ALT_NAME

Physical name: CLIENT_ALT_NAME
Physical data type: varchar(80)
Allow NULLs: Not allowed
Notes: The alternative name that the client is known. | Example: XYZ Corporation

5. START_DATE

Physical name: START_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date the alternative name is associated to the client. Used only for those clients that legally change their name. | Example: 7/5/04

6. END_DATE

Physical name: END_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date the alternative name is unassociated to the client. Used only for those clients that legally change their name. | Example 9/15/03

7. COMMENTS

Physical name: COMMENTS
Physical data type: varchar(255)
Allow NULLs: Allowed
Notes: Additional comments about the alternative name. | Example: Company was purchased, but has not changed its name.

Index details

ENTY UK

Column(s):

Unique: Yes

Foreign key details (child)

CLIENT ALT NAME TYPE CLIENT ALT NAME FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

CLIENT CLIENT ALT NAME FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.10. CLIENT_ALT_NAME_TYPE

Physical name: CLIENT_ALT_NAME_TYPE
Notes: Contains a list of the alternative types that a client may have, including DBA, Reconciled, or Previous legal name.
Primary key: CLIENT_ALT_NAME_TYPE_CODE

Column details

1. CLIENT_ALT_NAME_TYPE_CODE

Physical name: CLIENT_ALT_NAME_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the alternative client name type code that serves as a unique identifier of the client alternate name type. | Example: DBA, PLN

2. CLIENT_ALT_NAME_TYPE

Physical name: CLIENT_ALT_NAME_TYPE
Physical data type: varchar(25)
Allow NULLs: Not allowed
Notes: The alternative name type description. | Example: Doing Business As, Previous Legal Name

3. CLIENT_ALT_NAME_DESC

Physical name: CLIENT_ALT_NAME_DESC
Physical data type: varchar(255)
Allow NULLs: Allowed
Notes: A description of the alternative name type used to clarify the type meaning. | Example: PLN - The former legal name of the client.

Index details

ENTY UK

Column(s):
Unique: Yes

1.1.2.11. CLIENT_TYPE

Physical name: CLIENT_TYPE
Notes: Contains a list of roles that a client may have, including company, individual, or government agency.
Primary key: CLIENT_TYPE_CODE

Column details

1. CLIENT_TYPE_CODE

Physical name: CLIENT_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Client Type that serves as a unique identifier. | Example: Ind, Co, Fed

2. CLIENT_TYPE_DESC

Physical name: CLIENT_TYPE_DESC
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The description of the client type. | Example: Individual/Person, Company, Federal

1.1.2.12. CONTACT

Physical name: CONTACT
Notes: Contains the individual that is associated with either a Client or affiliated with an Environmental Interest. A contact may have any number of possible relationships to a Client or Affiliation, other than legal responsibility.
Primary key: CONTACT_SEQ

Column details

1. CONTACT_SEQ

Physical name: CONTACT_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Contact. | Example: 22622

2. AFFIL_SEQ (FK)

Physical name: AFFIL_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: The Affiliation sequence number associated with the Contact. | Example: 78735A

3. ADDRESS_SEQ (FK)

Physical name: ADDRESS_SEQ
Physical data type: int
Allow NULLs: Allowed
Notes: The Address sequence number associated with the Contact. | Example: 6444

4. CONTACT_NAME

Physical name: CONTACT_NAME
Physical data type: varchar(80)

Allow NULLs: Not allowed
Notes: The contact's full name. | Example: Keith Johnson

5. CONTACT_TITLE

Physical name: CONTACT_TITLE
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The title of the contact. | Example: Director

6. EMAIL

Physical name: EMAIL
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The e-mail address of the contact. | Example: kjohnson@xyz.com

7. CREATED_DATE

Physical name: CREATED_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date the contact record was added to the FIS system. | Example: 7/20/03

8. OS_CONTACT_PK

Physical name: OS_CONTACT_PK
Physical data type: varchar(40)
Allow NULLs: Allowed
Notes: The primary key of the Contact from the original source system. | Example: 9876DEF

9. LAST_UPDATED_DATE

Physical name: LAST_UPDATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the Contact record was last updated. | Example: 4/17/06

Foreign key details (child)

AFFILIATION_CONTACT_FK1

Relationship type: Non-Identifying
Cardinality: One -to- One-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ADDRESS_CONTACT_FK1

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.13. DEP_ORGANIZATION

Physical name: DEP_ORGANIZATION
Notes: Contains a list of the Connecticut DEP departments, divisions, and bureaus. Examples include Bureau of Water and Division of Field Operations.
Primary key: ORGANIZATION_CODE

Column details

1. ORGANIZATION_CODE

Physical name: ORGANIZATION_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The alphanumeric code assigned to the DEP Organization that serves as a unique identifier. | Example: BW, FO

2. ORGANIZATION_DESC

Physical name: ORGANIZATION_DESC
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The description of the DEP organization. | Example: Bureau of Water, Division of Field Operations

3. ORGANIZATION_CODE_FK (FK)

Physical name: ORGANIZATION_CODE_FK
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The alphanumeric code assigned to the DEP Organization that serves as a reference to the heirarchy of departments within DEP. | Example: BW, FO

Foreign key details (child)

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.14. ENV_INT_PROGRAM

Physical name: ENV_INT_PROGRAM
Notes: Associates the Environmental Interest to the Program responsible.
Primary key: 1. PROGRAM_CODE
 2. ENV_INT_SEQ

Column details

1. PROGRAM_CODE (FK,U1,I1)

Physical name: PROGRAM_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The Program code associated with the Environmental Interest. | Example: 401, ASB, COP

2. ENV_INT_SEQ (FK,U1)

Physical name: ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The Environmental Interest that is associated to the Program. | Example: 86734

Index details

ENV_INT_PROGRAM_IX

Column(s): PROGRAM_CODE (Asc)
 Unique: No

ENV_INT_PROGRAM

Column(s): ENV_INT_SEQ (Asc)
 PROGRAM_CODE (Asc)
 Unique: Yes

Foreign key details (child)

ALID_ENIN_FK

Relationship type: Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Ref. Integrity on update: No action
 Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Ref. Integrity on update: No action
 Ref. Integrity on delete: No action

1.1.2.15. ENV_INT_TYPE

Physical name: ENV_INT_TYPE
 Primary key: ENV_INT_TYPE_SEQ

Column details

1. ENV_INT_TYPE_SEQ

Physical name: ENV_INT_TYPE_SEQ
 Physical data type: decimal(10,0)
 Allow NULLs: Not allowed

2. ENV_INT_TYPE_CODE

Physical name: ENV_INT_TYPE_CODE
 Physical data type: varchar(10)
 Allow NULLs: Not allowed

3. ENV_INT_TYPE_DESC

Physical name: ENV_INT_TYPE_DESC
 Physical data type: varchar(100)
 Allow NULLs: Not allowed

4. ENV_INT_TYPE_DESC_LONG

Physical name: ENV_INT_TYPE_DESC_LONG
 Physical data type: varchar(2500)
 Allow NULLs: Allowed

5. START_DATE_DESC

Physical name: START_DATE_DESC
 Physical data type: varchar(50)
 Allow NULLs: Not allowed

6. END_DATE_DESC

Physical name: END_DATE_DESC

Physical data type: varchar(50)
Allow NULLs: Not allowed

7. START_DATE_DESC_LONG

Physical name: START_DATE_DESC_LONG
Physical data type: varchar(1000)
Allow NULLs: Allowed

8. END_DATE_DESC_LONG

Physical name: END_DATE_DESC_LONG
Physical data type: varchar(1000)
Allow NULLs: Allowed

9. ENV_INT_START_PAGE_URL

Physical name: ENV_INT_START_PAGE_URL
Physical data type: varchar(200)
Allow NULLs: Allowed

10. ENV_INT_FACILITY_PAGE_URL

Physical name: ENV_INT_FACILITY_PAGE_URL
Physical data type: varchar(200)
Allow NULLs: Allowed

1.1.2.16. ENV_INTEREST

Physical name: ENV_INTEREST
Notes: Associates the site location, affiliation (client and contact), environmental interest type, status, regulation, and industry coding. An Environmental Interest is a need or activity that causes a program to be interested in a specific facility site; it is usually related to a regulation or regulatory program that applies to a Facility Site, such as an application, permit, and enforcement actions.
Primary key: ENV_INT_SEQ

Column details

1. ENV_INT_SEQ (U1,U2,U3,I1,I3,I4)

Physical name: ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Environmental Interest. | Example: 78735

2. ENV_INT_TYPE_CODE (FK,U1,I2)

Physical name: ENV_INT_TYPE_CODE
Physical data type: varchar(20)
Allow NULLs: Not allowed
Notes: The code assigned to describe the Environmental Interest Type. | Example: NOV, Reg, NPDES

3. START_DATE (U1)

Physical name: START_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date on which the Environmental Interest became of interest to the program. | Example: 5/7/00

4. END_DATE (U1)

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Physical name: END_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date on which the Environmental Interest ceased to be of interest to the program. | Example: 7/18/04

5. STATUS_TYPE_CODE (FK,U1,U3)

Physical name: STATUS_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The code assigned to describe the Status Type. | Example: ACT (Active), CLS (Closed)

6. STATUS_DATE (U1)

Physical name: STATUS_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date on which the Environmental Interest status began or changed. | Example: 10/22/95

7. MERGED_WITH_ENV_INT_SEQ (FK,I3,I4)

Physical name: MERGED_WITH_ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Allowed
Notes: The EI SEQ number that references itself, to allow for a heirarchy of EI's. | Example: 78736

8. OS_EI_PK (I1)

Physical name: OS_EI_PK
Physical data type: varchar(40)
Allow NULLs: Allowed
Notes: The primary key of the Environmental Interest from the original source system. | Example: 12345ABC

9. CREATED_DATE

Physical name: CREATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the Environmental Interest record was added to the FIS system. | Example: 7/20/03

10. LAST_UPDATED_DATE

Physical name: LAST_UPDATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the Environmental Interest record was last updated. | Example: 7/17/06

11. IS_ARCHIVED

Physical name: IS_ARCHIVED
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Indicates that the record has been deleted. The record is retained in case other manually entered data has been associated to it, such as DMS documents. | Values Y (Yes), N (No)

Index details

ENV_INT_ALL

Column(s): ENV_INT_SEQ (Asc)
ENV_INT_TYPE_CODE (Asc)
STATUS_TYPE_CODE (Asc)

	STATUS_DATE (Asc) START_DATE (Asc) END_DATE (Asc)
Unique:	Yes
<u>ENV_INT_OS_PK</u>	
Column(s):	OS_EI_PK (Asc) ENV_INT_SEQ (Asc)
Unique:	No
<u>ENV_INT_SEQ</u>	
Column(s):	ENV_INT_SEQ (Asc)
Unique:	Yes
<u>ENV_INT_STATUS</u>	
Column(s):	STATUS_TYPE_CODE (Asc) ENV_INT_SEQ (Asc)
Unique:	Yes
<u>ENV_INT_TYPE_CODE</u>	
Column(s):	ENV_INT_TYPE_CODE (Asc)
Unique:	No
<u>ENV_INTEREST_MERGED_IX</u>	
Column(s):	ENV_INT_SEQ (Asc) MERGED_WITH_ENV_INT_SEQ (Asc)
Unique:	No
<u>MERGED_WITH_ENV_INT_SEQ</u>	
Column(s):	MERGED_WITH_ENV_INT_SEQ (Asc) ENV_INT_SEQ (Asc)
Unique:	No

Foreign key details (child)

ALID_ENIN_FK

Relationship type:	Non-Identifying
Cardinality:	One -to- Zero-or-More
Allow NULLs:	Not allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

ENV_INTEREST_ENV_INTEREST_FK1

Relationship type:	Non-Identifying
Cardinality:	Zero-or-One -to- Zero-or-More
Allow NULLs:	Allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

STATUS_TYPE_ENV_INTEREST_FK1

Relationship type:	Non-Identifying
Cardinality:	Zero-or-One -to- Zero-or-More
Allow NULLs:	Allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

1.1.2.17. ENV_INTEREST_TYPE

Physical name: ENV_INTEREST_TYPE
Notes: Contains the environmental interest type and associated dates related to the environmental interest.
Primary key: ENV_INT_TYPE_CODE

Column details

1. ENV_INT_TYPE_CODE

Physical name: ENV_INT_TYPE_CODE
Physical data type: varchar(20)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Environmental Interest Type Code that identifies the Environmental Interest. | Example: NOV, Reg, NPDES

2. ENV_INT_TYPE_CLASS_CODE (FK)

Physical name: ENV_INT_TYPE_CLASS_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The code assigned to describe the Environmental Interest Type Class. | Example: APP (Application)

3. ENV_INT_TYPE_DESC

Physical name: ENV_INT_TYPE_DESC
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The description of the Environmental Interest Type. | Example: Notice of Violation, Registration, NPDES Permit

4. ENV_INT_TYPE_DESC_LONG

Physical name: ENV_INT_TYPE_DESC_LONG
Physical data type: varchar(1000)
Allow NULLs: Allowed
Notes: The long description of the Environmental Interest Type. | Example: NPDES - The National Pollutant Discharge Elimination System under federal law, which regulates discharge into surface water.

5. START_DATE_DESC

Physical name: START_DATE_DESC
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The start date label used to describe the specific environmental interest. | Example: Permit issue date, Application receive date

6. END_DATE_DESC

Physical name: END_DATE_DESC
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The end date label used to describe the specific environmental interest. | Example: Permit expiration date, Application decision date

7. START_DATE_DESC_LONG

Physical name: START_DATE_DESC_LONG
Physical data type: varchar(1000)
Allow NULLs: Allowed
Notes: Detailed description of the start date description meaning. | Example: Application receive date - The date the applicaiton is received by the CPPU.

8. END_DATE_DESC_LONG

Physical name: END_DATE_DESC_LONG
Physical data type: varchar(1000)
Allow NULLs: Allowed
Notes: Detailed description of the end date description meaning. | Example: Application decision date - The date a determination is made on an application and notice sent.

9. ENV_INT_START_PAGE_URL

Physical name: ENV_INT_START_PAGE_URL
Physical data type: varchar(200)
Allow NULLs: Allowed
Notes: The web home page URL of the environmental interest source system (if available). | Example: http://pams.com

10. ENV_INT_ENTITY_PAGE_URL

Physical name: ENV_INT_ENTITY_PAGE_URL
Physical data type: varchar(200)
Allow NULLs: Allowed
Notes: The web page URL of the specific environmental interest record (if available). | Example: http://pams.com/applicaiton=123

Foreign key details (child)

SIC_SICO_FK

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ENV_INTEREST_TYPE_ENV_INTEREST_TYPE_FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.18. ENV_INTEREST_TYPE_CLASS

Physical name: ENV_INTEREST_TYPE_CLASS
Notes: Contains a list of the environmental interest types classes.
Primary key: ENV_INT_TYPE_CLASS_CODE

Column details

1. ENV_INT_TYPE_CLASS_CODE

Physical name: ENV_INT_TYPE_CLASS_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Environmental Interest Type Class that serves as a unique identifier. | Example: PER, EA, App

2. ENV_INT_TYPE_CLASS_DESC

Physical name: ENV_INT_TYPE_CLASS_DESC
Physical data type: varchar(100)
Allow NULLs: Not allowed

Notes: The description of the Environmental Interest type class. | Example: Permits, Enforcement Actions, Applicaitons

1.1.2.19. FEATURE

Physical name: FEATURE
Notes: Contains the association between geographic location and features that describes the physical location of a site feature
Primary key: FEATURE_SEQ

Column details

1. FEATURE_SEQ (U2)

Physical name: FEATURE_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Feature. | Example: 78735

2. FEATURE_TYPE_CODE (FK)

Physical name: FEATURE_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: The code used to describe the type of feature. | Example: SDFOUT85 (Outfall), COPDAM27 (Dam)

3. FEATURE_NAME

Physical name: FEATURE_NAME
Physical data type: varchar(250)
Allow NULLs: Allowed
Notes: The name of the feature. | Example: Tank 123

4. START_DATE

Physical name: START_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date the feature began, for example constructed, discovered, permitted. End date will be inferred by the status date if the status is for example, plugged, removed, decommissioned.

5. STATUS_TYPE

Physical name: STATUS_TYPE
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The freeform status of the feature. | Example: Open, In use

6. STATUS_DATE

Physical name: STATUS_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date the status type was created or updated. | Example: 3/1/05

7. LATITUDE (U2)

Physical name: LATITUDE
Physical data type: decimal(11,6)
Allow NULLs: Allowed

Notes: The measure of the angular distance on a meridian north or south of the equator. | Example: 412552.4307

8. LONGITUDE (U2)

Physical name: LONGITUDE
Physical data type: decimal(11,6)
Allow NULLs: Allowed
Notes: The measure of the angular distance on a meridian east or west of the prime meridian. | Example: -720600.9041

9. UTM_ZONE

Physical name: UTM_ZONE
Physical data type: varchar(2)
Allow NULLs: Allowed
Notes: The north-south zone that is 6 degrees in longitude (total of 60 zones, with zone 1 from 180 deg West to 174 deg West). | Example: NE

10. UTM_EASTING

Physical name: UTM_EASTING
Physical data type: decimal(10,2)
Allow NULLs: Allowed
Notes: The east-west position, in meters from the center meridian of the UTM zone (with the center meridian having a value of 500,000). | Example: 742296.5560

11. UTM_NORTHING

Physical name: UTM_NORTHING
Physical data type: decimal(10,2)
Allow NULLs: Allowed
Notes: The North-South position in meters from the equator. | Example: 4590476.0113

12. REF_POINT_TYPE_CODE (FK)

Physical name: REF_POINT_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Allowed
Notes: Alphanumeric code used to describe the type of reference point. | Example: Center, Entrance, NW, NE, SW

13. HORIZ_COL_MTHD_TYPE_CODE (FK)

Physical name: HORIZ_COL_MTHD_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Allowed
Notes: Alphanumeric code used to describe the type of horizontal collection method. | Example: C1, D1, B2

14. OS_FEATURE_PK (U1)

Physical name: OS_FEATURE_PK
Physical data type: varchar(40)
Allow NULLs: Allowed
Notes: The primary key of the Feature from the original source system. | Example: 12345ABC

15. LAST_UPDATED_DATE

Physical name: LAST_UPDATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the feature was last updated. | Example: 8/2/06

16. CREATED_DATE

Physical name: CREATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed

Notes: The date the feature was created. | Example: 6/7/06

Index details

FEATURE UC1

Column(s): OS_FEATURE_PK (Asc)
Unique: Yes

FEATURE UC2

Column(s): LATITUDE (Asc)
 LONGITUDE (Asc)
 FEATURE_SEQ (Asc)
Unique: Yes

Foreign key details (child)

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

FACI_REPT_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

FACI_HCMT_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.20. FEATURE_DETAIL

Physical name: FEATURE_DETAIL
Notes: Contains the numerical and descriptive text values of the feature for a given feature detail type.
Primary key: FEATURE_DETAIL_SEQ

Column details

1. FEATURE_DETAIL_SEQ

Physical name: FEATURE_DETAIL_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Feature Detail. | Example: 78735

2. FEATURE_SEQ (FK)

Physical name: FEATURE_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: The FEATURE_SEQ associated with the feature detail information. | Example: 8383

3. FEATURE_DETAIL_TYPE_CODE (FK)

Physical name: FEATURE_DETAIL_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: Alphanumeric code used to describe the type of feature. | Example: STK, UST, BR

4. VALUE

Physical name: VALUE
Physical data type: varchar(250)
Allow NULLs: Not allowed
Notes: The value of the feature detail. | Example: Gas (UST), 200 Gallon (UST), 100 Feet (Air Stack)

Foreign key details (child)

ALID ENIN FK

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

FEATURE_DETAIL_TYPE FEATURE_DETAIL FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.21. FEATURE_DETAIL_TYPE

Physical name: FEATURE_DETAIL_TYPE

Notes: Contains a list of feature detail types that are associated with a feature type. The feature detail types are attributes that describe the feature.
Primary key: FEATURE_DETAIL_TYPE_CODE

Column details

1. FEATURE_DETAIL_TYPE_CODE

Physical name: FEATURE_DETAIL_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Feature Detail Type that serves as a unique identifier. | Example: CON

2. FIELD_NAME

Physical name: FIELD_NAME
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The attribute of the feature type. | Example: Product (UST), Capacity (UST), Height (Air Stack)

1.1.2.22. FEATURE_TYPE

Physical name: FEATURE_TYPE
Notes: Contains a list of feature types that are associated with a feature, such as a air stack, underground storage tank, or boiler.
Primary key: FEATURE_TYPE_CODE

Column details

1. FEATURE_TYPE_CODE

Physical name: FEATURE_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Feature Type that serves as a unique identifier. | Example: STK, UST, BR

2. FEATURE_TYPE_DESC

Physical name: FEATURE_TYPE_DESC
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The description of the feature type. | Example: Air stack, underground storage tank, boiler.

3. PREFERENCE

Physical name: PREFERENCE
Physical data type: int
Allow NULLs: Allowed
Notes: The number that determines the relative accuracy of the location. A higher number means a greater precision in accuracy. | Example: 15, 30

4. IS_VISIBLE

Physical name: IS_VISIBLE
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Indicates that the feature type code is visible to users in drop-down lists. | Values: Y (Yes), N (No)

1.1.2.23. FEATURE_XREF

Physical name: FEATURE_XREF
Notes: Associates the feature type to the feature detail type to determine which feature details can be stored for particular feature type.
Primary key: 1. FEATURE_DETAIL_TYPE_CODE
 2. FEATURE_TYPE_CODE

Column details

1. FEATURE_DETAIL_TYPE_CODE (FK)
Physical name: FEATURE_DETAIL_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: The code assigned to describe the detail type of feature. | Example: STK, UST, BR

2. FEATURE_TYPE_CODE (FK)
Physical name: FEATURE_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: The code assigned to describe the feature type. | Example: COPTID124 (Tide Gate), AIR_STACK (Emissions Stack)

Foreign key details (child)

FEATURE_DETAIL_TYPE FEATURE_XREF FK1
Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

FEATURE_TYPE FEATURE_XREF FK1
Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.24. GEO_POL_LOCATION

Physical name: GEO_POL_LOCATION
Notes: Contains the geo-political description that is associated with the feature location with the geo-political type.
Primary key: 1. GEO_POL_TYPE_CODE
 2. LATITUDE
 3. LONGITUDE

Column details

1. GEO_POL_TYPE_CODE (FK,I1)

Physical name: GEO_POL_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Geo-political type that serves as a unique identifier. | Example: CON

2. LATITUDE

Physical name: LATITUDE
Physical data type: decimal(11,6)
Allow NULLs: Not allowed
Notes: The measure of the angular distance on a meridian north or south of the equator. | Example: 412552.4307

3. LONGITUDE

Physical name: LONGITUDE
Physical data type: decimal(11,6)
Allow NULLs: Not allowed
Notes: The measure of the angular distance on a meridian east or west of the prime meridian. | Example: -720600.9041

4. VALUE

Physical name: VALUE
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The geo-political location value or description of the feature. | Example: 1st Congressional District, Fairfield county

Index details

IX GEO_POL_LOCATION

Column(s): GEO_POL_TYPE_CODE (Asc)
Unique: No

Foreign key details (child)

FACI_HCMT_FK

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.25. GEO_POL_TYPE

Physical name: GEO_POL_TYPE
Notes: Contains a list of the geo-political type information and information about the source of the data.
Primary key: GEO_POL_TYPE_CODE

Column details

1. GEO_POL_TYPE_CODE

Physical name: GEO_POL_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Geo-political type that serves as a unique identifier. | Example: CON

2. SERVICE_NAME (U1)

Physical name: SERVICE_NAME
Physical data type: varchar(255)
Allow NULLs: Allowed
Notes: The web service name that provided the geo-political location information. | Example: State_Features

3. FIELD_HELP_DESC

Physical name: FIELD_HELP_DESC
Physical data type: varchar(255)
Allow NULLs: Allowed
Notes: Additional description of the field name. | Example: County - The area controlled by a local government, with the boundary determined by the state.

Index details

FACI_CITY

Column(s): SERVICE_NAME (Asc)
Unique: Yes

FACI_CLEAN FACILITY NAME

Column(s):
Unique: No

FACI CONG DISTRICT NUM

Column(s):
Unique: No

FACI COUNTY_SEQ

Column(s):
Unique: No

FACI HOUSE DISTRICT NUM

Column(s):
Unique: No

FACI SENATE DISTRICT NUM

Column(s):
Unique: No

FACI SOUNDEX12345

Column(s):
Unique: No

FACI WATER BASIN NUM

Column(s):
Unique: No

FACI ZIP4

Column(s):
Unique: No

FACI ZIP CODE

Column(s):
Unique: No

FACI LATITUDE LONGITUDE

Column(s):
Unique: No

1.1.2.26. HORIZ_COL_MTHD_TYPE

Physical name: HORIZ_COL_MTHD_TYPE
Notes: Contains a list of various types of horizontal collection methods, both manual and electronic, that are used to capture a feature location.
Primary key: HORIZ_COL_MTHD_TYPE_CODE

Column details

1. HORIZ_COL_MTHD_TYPE_CODE

Physical name: HORIZ_COL_MTHD_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the horizontal collection method type that serves as a unique identifier. | Example: C1, D1, B22

2. NAME

Physical name: NAME
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: The description of the technique used to collect the coordinates of a site. | Example: Garmin etrex, US Census TIGER Street Address

3. PREFERENCE

Physical name: PREFERENCE
Physical data type: int
Allow NULLs: Not allowed
Notes: The number that determines the relative accuracy of the collection method. Note: This field is no longer used for this purpose. | Example: 7, 4000, 9999

4. EPA_HORIZ_COL_MTHD_TYPE

Physical name: EPA_HORIZ_COL_MTHD_TYPE
Physical data type: varchar(60)
Allow NULLs: Allowed
Notes: The EPA horizontal collection method classification. | Example: Interpolation - Map, Address Matching - House Number

1.1.2.27. NAICS

Physical name: NAICS
Notes: Associates the Environmental Interest to the NAICS Code.
Primary key: 1. NAICS_CODE
 2. ENV_INT_SEQ

Column details

1. NAICS_CODE (FK)

Physical name: NAICS_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The US National Industry Classification System (NAICS) code associated with the Environmental Interest. | Example: 337211

2. ENV_INT_SEQ (FK)

Physical name: ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The Environmental Interest associated with the NAICS code. | Example: 9378

Foreign key details (child)

NAIC_NACO_FK

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.28. NAICS_CODE

Physical name: NAICS_CODE
Notes: Contains a list of the National Industry Classification System (NAICS) codes and descriptions.
Primary key: NAICS_CODE

Column details

1. NAICS_CODE

Physical name: NAICS_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The US National Industry Classification System (NAICS) code that represents a subdivision of an industry the environmental interest is associated, and serves as a unique identifier. | Example: 337211, 221122

2. NAICS_CODE_DESC

Physical name: NAICS_CODE_DESC
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: The description of the US National Industry Classification System (NAICS) code. | Example: Wood Office Furniture Manufacturing, Electric power distribution systems

Index details

NACO_UK

Column(s):
Unique: Yes

1.1.2.29. NAICS_SIC_XREF

Physical name: NAICS_SIC_XREF
Notes: Associates the SIC code to the NAICS code, which provides a method to map the SIC code and the NAICS code to one another. [The SIC code, with 1,004 industries, is being replaced by the NAICS code, which has 1,170 industries. Therefore the cross reference is not a one to one match].
Primary key: 1. NAICS_CODE
 2. SIC_CODE

Column details

1. NAICS_CODE (FK)

Physical name: NAICS_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The NAICS code used to cross-reference the SIC code. | Example: 337211, 221122

2. SIC_CODE (FK)

Physical name: SIC_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The SIC code used to cross-reference the NAICS code. | Example: 2653, 2211

Foreign key details (child)

NAICS_CODE NAICS SIC XREF FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

SIC_CODE NAICS SIC XREF FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.30. PHONE

Physical name: PHONE
Notes: Contains the telephone number of a client or contact.
Primary key: PHONE_SEQ

Column details

1. PHONE_SEQ

Physical name: PHONE_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Phone. | Example: 87663

2. AFFIL_SEQ (FK,I1)

Physical name: AFFIL_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Affiliation. | Example: 78735A

3. CONTACT_SEQ (FK,I2)

Physical name: CONTACT_SEQ
Physical data type: int
Allow NULLs: Allowed
Notes: Incremental numeric field used to uniquely identify the Contact. | Example: 22622

4. PHN_TYPE_CODE (FK,I1,I2)

Physical name: PHN_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Phone Type that serves as a unique identifier. | Example: WK, FX, MB

5. PHN_NUMBER

Physical name: PHN_NUMBER
Physical data type: varchar(25)
Allow NULLs: Not allowed
Notes: The phone number of the affiliate or contact. | Example: 860-882-1560

6. PHN_EXT

Physical name: PHN_EXT
Physical data type: varchar(9)
Allow NULLs: Allowed
Notes: The phone number extension of the affiliate or contact. | Example: 512

Index details

PHONE_IX1

Column(s): AFFIL_SEQ (Asc)
 PHN_TYPE_CODE (Asc)
Unique: No

PHONE_IX2

Column(s): CONTACT_SEQ (Asc)
 PHN_TYPE_CODE (Asc)
Unique: No

Foreign key details (child)

AFFI_ENTI_FK

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Ref. Integrity on update: No action
 Ref. Integrity on delete: No action

CONTACT_PHONE_FK1

Relationship type: Non-Identifying
 Cardinality: Zero-or-One -to- Zero-or-More
 Allow NULLs: Allowed
 Ref. Integrity on update: No action
 Ref. Integrity on delete: No action

AFFILIATION_PHONE_FK1

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Ref. Integrity on update: No action
 Ref. Integrity on delete: No action

1.1.2.31. PHONE

Physical name: PHONE
 Primary key: PHONE_SEQ

Column details

1. PHONE_SEQ

Physical name: PHONE_SEQ
 Physical data type: int
 Allow NULLs: Not allowed

2. PHN_TYPE_CODE (FK)

Physical name: PHN_TYPE_CODE
 Physical data type: varchar(10)
 Allow NULLs: Not allowed

3. PHN_NUMBER

Physical name: PHN_NUMBER
 Physical data type: varchar(25)
 Allow NULLs: Not allowed

4. PHN_EXT

Physical name: PHN_EXT
 Physical data type: varchar(9)
 Allow NULLs: Allowed

Foreign key details (child)

AFFI_ENTI_FK

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Ref. Integrity on update: No action
 Ref. Integrity on delete: No action

1.1.2.32. PHONE_TYPE

Physical name: PHONE_TYPE
Primary key: PHN_TYPE_CODE

Column details

1. PHN_TYPE_CODE

Physical name: PHN_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed

2. PHN_TYPE_DESC

Physical name: PHN_TYPE_DESC
Physical data type: decimal(10,0)
Allow NULLs: Not allowed

3. PHONE_TYPE

Physical name: PHONE_TYPE
Notes: Contains a list of the phone number types that a client or contact may have, including business, fax, or cell.
Primary key: PHN_TYPE_CODE

Column details

1. PHN_TYPE_CODE

Physical name: PHN_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Phone Type that serves as a unique identifier. | Example: WK, FX, MB

2. PHN_TYPE_DESC

Physical name: PHN_TYPE_DESC
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The description of the phone type. | Example: Work, Fax, Mobile

1.1.2.33. PROGRAM

Physical name: PROGRAM
Notes: Contains a list of programs that are conducted by a DEP organization which and is defined or created by statute or regulation.
Primary key: PROGRAM_CODE

Column details

1. PROGRAM_CODE (U1,U2)

Physical name: PROGRAM_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The code assigned to the Program that serves as a unique identifier. | Example: 401, ASB, COP

2. ORGANIZATION_CODE (FK,U1)

Physical name: ORGANIZATION_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The organization code associated to the Program: | Example: Water (Bureau of Water)

3. PROGRAM_DESC

Physical name: PROGRAM_DESC
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The description of the Program related to the environmental interest. | Example: 401 Water Quality Certificate, Asbestos, Certificate of Permission

Index details

PROGRAM_UK

Column(s): PROGRAM_CODE (Asc)
 ORGANIZATION_CODE (Asc)
Unique: Yes

PROGRAM_UC2

Column(s): PROGRAM_CODE (Asc)
Unique: Yes

Foreign key details (child)

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.34. REF_POINT_TYPE

Physical name: REF_POINT_TYPE
Notes: Contains a list of the types of referecne points that describe a feature location at a site, such a front door, or northwest corner.
Primary key: REF_POINT_TYPE_CODE

Column details

1. REF POINT TYPE CODE

Physical name: REF_POINT_TYPE_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the reference point type that serves as a unique identifier. | Example: Center, Entrance, NW, NE, SW

2. NAME

Physical name: NAME
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: The description of the general feature location relative to the site. | Example: Center of a facility or station, leading edge.

3. PREFERENCE

Physical name: PREFERENCE
Physical data type: int
Allow NULLs: Not allowed
Notes: The number that determines the relative accuracy of the reference point type. | Example: 1, 2, 9999

4. EPA REF POINT TYPE

Physical name: EPA_REF_POINT_TYPE
Physical data type: varchar(60)
Allow NULLs: Allowed
Notes: The EPA reference point type classification. | Example: Center of Facility, Plant Entrance, Facility Centroid

5. IS UNIQUE

Physical name: IS_UNIQUE
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Indicates if the reference point type is unique to the feature location, and therefore present the one point. | Values: Y (Yes), N (No)

1.1.2.35. REGULATION

Physical name: REGULATION
Notes: Contains a list of the laws, regulations, or statutes that the environmental interest must legally follow.
Primary key: REGULATION_CODE

Column details

1. REGULATION_CODE

Physical name: REGULATION_CODE
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: The alphanumeric regulatory code that is associated to the environmental interest that serves as a unique identifier. | Example: 22a-449 (d)-102, 22a-430

2. REGULATION_DESC

Physical name: REGULATION_DESC
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The description of the regulation or law that is associated to the environmental interest. | Example: UST systems: design, construction installation and notification specifications.

1.1.2.36. SIC

Physical name: SIC
Notes: Associates the Environmental Interest to the SIC Code.
Primary key: 1. SIC_CODE
2. ENV_INT_SEQ

Column details

1. SIC_CODE (FK)

Physical name: SIC_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The Standard Industrial Classification (SIC) code associated with the Environmental Interest. | Example: 637596

2. ENV_INT_SEQ (FK)

Physical name: ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The Environmental Interest associated with the SIC code. | Example: 5242

Foreign key details (child)

SIC_SICO_FK

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.37. SIC_CODE

Physical name: SIC_CODE
Notes: Contains a list of the Standard Industrial Classification system codes and descriptions.
Primary key: SIC_CODE

Column details

1. SIC_CODE

Physical name: SIC_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The Standard Industrial Classification (SIC) code that represents an industry the environmental interest is associated, and serves as a unique identifier. | Example: 2653, 2211

2. SIC_CODE_DESC

Physical name: SIC_CODE_DESC
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: The description of the Standard Industrial Classification (SIC) code. | Example: Corrugated and Solid Fiber Boxes, Broadwoven Fabric Mills - Cotton

Index details

SICO_UK

Column(s):
Unique: Yes

1.1.2.38. SITE

Physical name: SITE
Notes: Contains the place where regulatory activities of interest to the agency occur, or have occurred in the past.
Primary key: SITE_SEQ

Column details

1. SITE_SEQ (U1,U2,U3,U4,U5,I1,I2,I3)

Physical name: SITE_SEQ
Physical data type: int identity
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Site. | Example: 34758

2. FEATURE_SEQ (FK,I2)

Physical name: FEATURE_SEQ
Physical data type: int
Allow NULLs: Allowed
Notes: The feature that has been selected to best reflect the single coordinate for the site

3. SITE_NAME

Physical name: SITE_NAME
Physical data type: varchar(80)
Allow NULLs: Not allowed

Notes: The name of the site. | Example: Patterson Laboratories Inc.

4. ADDRESS DESCRIPTION

Physical name: ADDRESS_DESCRIPTION
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The address description of a site that could not be converted to USPS standards. | Example: Mile Post 91, intersection of Interstate 90 and Junction 15 , exit 4A, Underpass of John's bridge

5. ADDRESS LINE 1

Physical name: ADDRESS_LINE_1
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The first line of the address of the Site. | Example: 255 Main St

6. ADDRESS LINE 2

Physical name: ADDRESS_LINE_2
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The second line of the address of the Site. | Example: Bldg 2, Ste 160

7. CITY

Physical name: CITY
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The name of the city or town in which the Site is located. | Example: Hartford

8. STATE

Physical name: STATE
Physical data type: varchar(2)
Allow NULLs: Allowed
Notes: The 2-letter USPS abbreviation for the state in which the Site is located. | Example: CT

9. COUNTY

Physical name: COUNTY
Physical data type: varchar(30)
Allow NULLs: Allowed
Notes: The name of the county in which the Site is located. | Example: Fairfield

10. ZIP CODE

Physical name: ZIP_CODE
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The 5-digit Zip code of the address where the Site is located. | Example: 06114

11. ZIP4

Physical name: ZIP4
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The 4-digit extension to the 5-digit Zip code where the Site is located. | Example: 6790

12. CLEAN SITE NAME (U1,I1)

Physical name: CLEAN_SITE_NAME
Physical data type: varchar(80)
Allow NULLs: Allowed
Notes: The cleansed and standardized site name (used for site name searches but not displayed). | Example: PATTERSON LABS INC

13. SOUNDEX1 (U4,U5)

Physical name: SOUNDEX1
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The first index for capturing the phonetic algorithm of the site name (similar pronunciation). | Example: F630

14. SOUNDEX2 (U5)

Physical name: SOUNDEX2
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The second index for capturing the phonetic algorithm of the site name (similar pronunciation). | Example: M360

15. SOUNDEX3 (U5)

Physical name: SOUNDEX3
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The third index for capturing the phonetic algorithm of the site name (similar pronunciation). | Example: C000

16. SOUNDEX4 (U5)

Physical name: SOUNDEX4
Physical data type: varchar(4)
Allow NULLs: Allowed
Notes: The fourth index for capturing the phonetic algorithm of the site name (similar pronunciation). | Example: D616

17. STREET

Physical name: STREET
Physical data type: varchar(50)
Allow NULLs: Allowed
Notes: The street name that the Site is located. | Example: Main

18. LAST MERGED DATE

Physical name: LAST_MERGED_DATE
Physical data type: datetime
Allow NULLs: Allowed
Notes: The date that the site record was last merged with another site. | Example: 6/25/04

19. MERGED WITH SITE SEQ (FK,U1,U4,U5,I1,I3)

Physical name: MERGED_WITH_SITE_SEQ
Physical data type: bigint
Allow NULLs: Allowed
Notes: If this site has been merged, this is the key of the parent site that is shared with the other sites with which this site was merged

20. LAST MERGED USER NAME

Physical name: LAST_MERGED_USER_NAME
Physical data type: varchar(255)
Allow NULLs: Allowed
Notes: The user that last merged the site record with another site. | Example: 75

21. LAST UPDATED DATE

Physical name: LAST_UPDATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The last date the site record was updated. | Example: 8/3/04

22. CREATED DATE

Physical name: CREATED_DATE

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Reconciliation & Administration Application Design

Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the site record was added to the FIS system. | Example: 7/20/03

23. OS_SITE_PK (U3)

Physical name: OS_SITE_PK
Physical data type: varchar(40)
Allow NULLs: Allowed
Notes: The primary key identifier of the originating system. | Example: 77364

24. IS_ARCHIVED (U1,U4,I1,I3)

Physical name: IS_ARCHIVED
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Indicates that the record has been deleted. The record is retained in case other manually entered data has been associated to it, such as DMS documents. | Values Y (Yes), N (No)

Index details

CLEAN_SITE_NAME

Column(s): CLEAN_SITE_NAME (Asc)
 MERGED_WITH_SITE_SEQ (Asc)
 IS_ARCHIVED (Asc)
 SITE_SEQ (Asc)
Unique: No

SITE_CLEAN_NAME

Column(s): CLEAN_SITE_NAME (Asc)
 SITE_SEQ (Asc)
 MERGED_WITH_SITE_SEQ (Asc)
 IS_ARCHIVED (Asc)
Unique: Yes

SITE_FEATURE_SEQ

Column(s): FEATURE_SEQ (Asc)
 SITE_SEQ (Asc)
Unique: No

SITE_MERGED_SEQ

Column(s): MERGED_WITH_SITE_SEQ (Asc)
 SITE_SEQ (Asc)
 IS_ARCHIVED (Asc)
Unique: No

SITE_MERGED_SEQ2

Column(s): SITE_SEQ (Asc)
Unique: Yes

SITE_UC6

Column(s): OS_SITE_PK (Asc)
 SITE_SEQ (Asc)
Unique: Yes

SITE_UC7

Column(s): SOUNDEX1 (Asc)
 IS_ARCHIVED (Asc)
 MERGED_WITH_SITE_SEQ (Asc)
 SITE_SEQ (Asc)
Unique: Yes

SITE_SOUNDEX1234

Column(s): SOUNDEX1 (Asc)
 SOUNDEX2 (Asc)
 SOUNDEX3 (Asc)
 SOUNDEX4 (Asc)
 SITE_SEQ (Asc)
 MERGED_WITH_SITE_SEQ (Asc)

Unique: Yes

Foreign key details (child)

FACI_REPT_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.39. SITE_INTEREST

Physical name: SITE_INTEREST
Notes: Associates the Environmental Interest, Feature, and Site to each other.
Primary key: SITE_INTEREST_SEQ

Column details

1. SITE_INTEREST_SEQ

Physical name: SITE_INTEREST_SEQ
Physical data type: int identity
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Site Interest. | Example: 93938

2. ENV_INT_SEQ (FK,I1,I2,I3)

Physical name: ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The Environmental Interest associated with the Site Interest record. | Example: 8837

3. SITE_SEQ (FK,I2,I3,I4)

Physical name: SITE_SEQ
Physical data type: bigint
Allow NULLs: Allowed
Notes: The Site associated with the Site Interest record. | Example: 32542

4. FEATURE_SEQ (FK,I1,I4)

Physical name: FEATURE_SEQ
Physical data type: int
Allow NULLs: Allowed
Notes: The Feature associated with the Site Interest record. | Example: 18655

Index details

ENV_INT_FEATURE

Column(s): ENV_INT_SEQ (Asc)
 FEATURE_SEQ (Asc)
Unique: No

ENV_INT_SITE

Column(s): ENV_INT_SEQ (Asc)
 SITE_SEQ (Asc)
Unique: No

SITE_ENV_INT

Column(s): SITE_SEQ (Asc)
 ENV_INT_SEQ (Asc)
Unique: No

SITE_FEATURE

Column(s): SITE_SEQ (Asc)
 FEATURE_SEQ (Asc)
Unique: No

Foreign key details (child)

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- One-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ALID_ENIN_FK

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- One-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.1.2.40. STATUS_TYPE

Physical name: STATUS_TYPE
Notes: Contains a list of the environmental interest statuses.
Primary key: STATUS_TYPE_CODE

Column details

1. STATUS_TYPE_CODE

Physical name: STATUS_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the Status Type that serves as a unique identifier. |

Example: ACT, CLS

2. STATUS_TYPE_DESC

Physical name:

STATUS_TYPE_DESC

Physical data type:

varchar(100)

Allow NULLs:

Not allowed

Notes:

The status description of the Environmental Interest. | Example: Active, Closed

3. IS_PRIOR

Physical name:

IS_PRIOR

Physical data type:

char(1)

Allow NULLs:

Allowed

Notes:

Indicates that the status has been completed, and is used for grouping status types when using SIMS Inquiry. | Values: Y (Yes), N (No)

1.1.2.41. STATUS_XREF

Physical name: STATUS_XREF
Notes: Associates the Status Type to the Environmental Interest Type Class to determine which status type can be stored for a particular Environmental Interest Type class.
Primary key: 1. ENV_INT_TYPE_CLASS_CODE
 2. STATUS_TYPE_CODE

Column details

1. ENV_INT_TYPE_CLASS_CODE (FK)
Physical name: ENV_INT_TYPE_CLASS_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The code assigned to determine the Status Type for the Environmental Interest Type Class. | Example: APP (Application)

2. STATUS_TYPE_CODE (FK)
Physical name: STATUS_TYPE_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The code assigned to describe the Status Type. | Example: ACT (Active), EX (Expired)

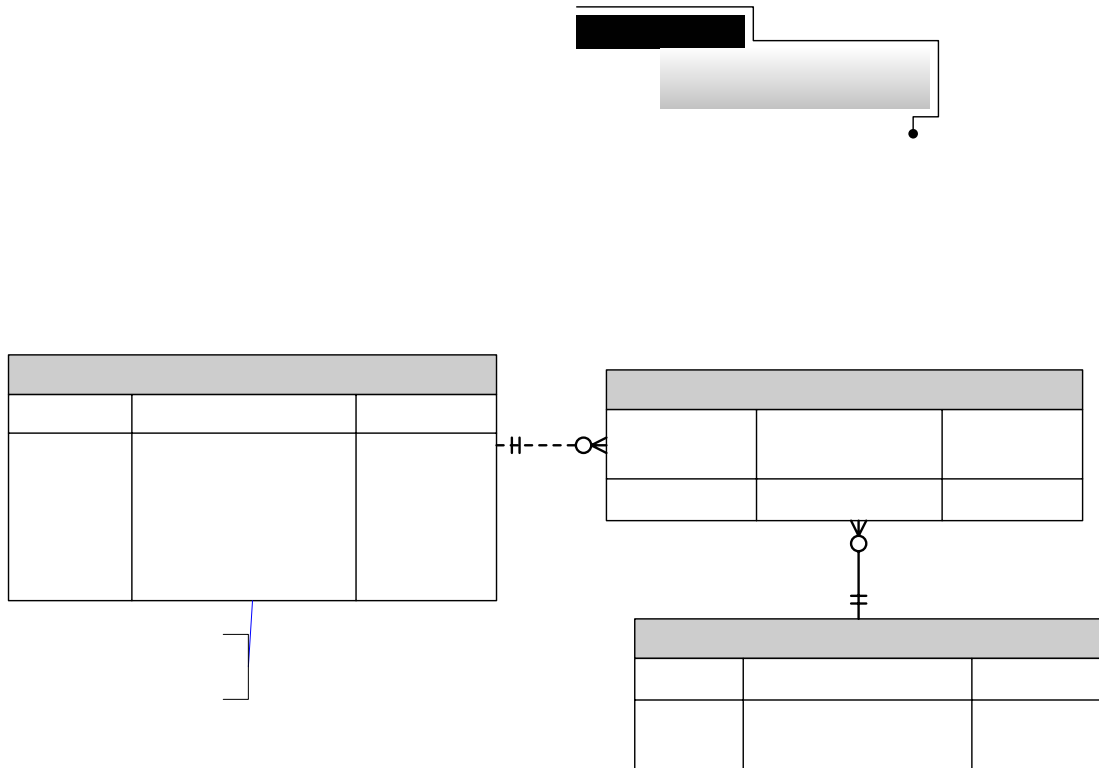
Foreign key details (child)

ENV_INTEREST_TYPE_CLASS STATUS_XREF FK1
Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

STATUS_TYPE STATUS_XREF FK1
Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.2. 'Security' Tables

1.2.1. Data Model



1.2.2. Data Dictionary

1.2.2.1. APP_USER_PROGRAM

Physical name: APP_USER_PROGRAM
Notes: A user that is permitted to resolve duplicate sites or clients that are associated to environmental interests for their program.
Primary key: 1. PROGRAM_CODE
 2. USER_NAME

Column details

1. USER_NAME (FK,U1,U2)

Physical name: USER_NAME
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: Network account user name. | Example: John Smith

2. PROGRAM_CODE (FK,U1,U2)

Physical name: PROGRAM_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The code assigned to the Program that the user is associated. | Example: 401, ASB, COP

Index details

APP_USER_PROGRAM_UC1

Column(s): USER_NAME (Asc)
 PROGRAM_CODE (Asc)
Unique: Yes

UK_APP_USER_PROGRAM

Column(s): PROGRAM_CODE (Asc)
 USER_NAME (Asc)
Unique: Yes

Foreign key details (child)

AUPE_APUS_FK

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

ENV_INTEREST_TYPE_APP_USER_PROGRAM_FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

AUPE_APUS_FK

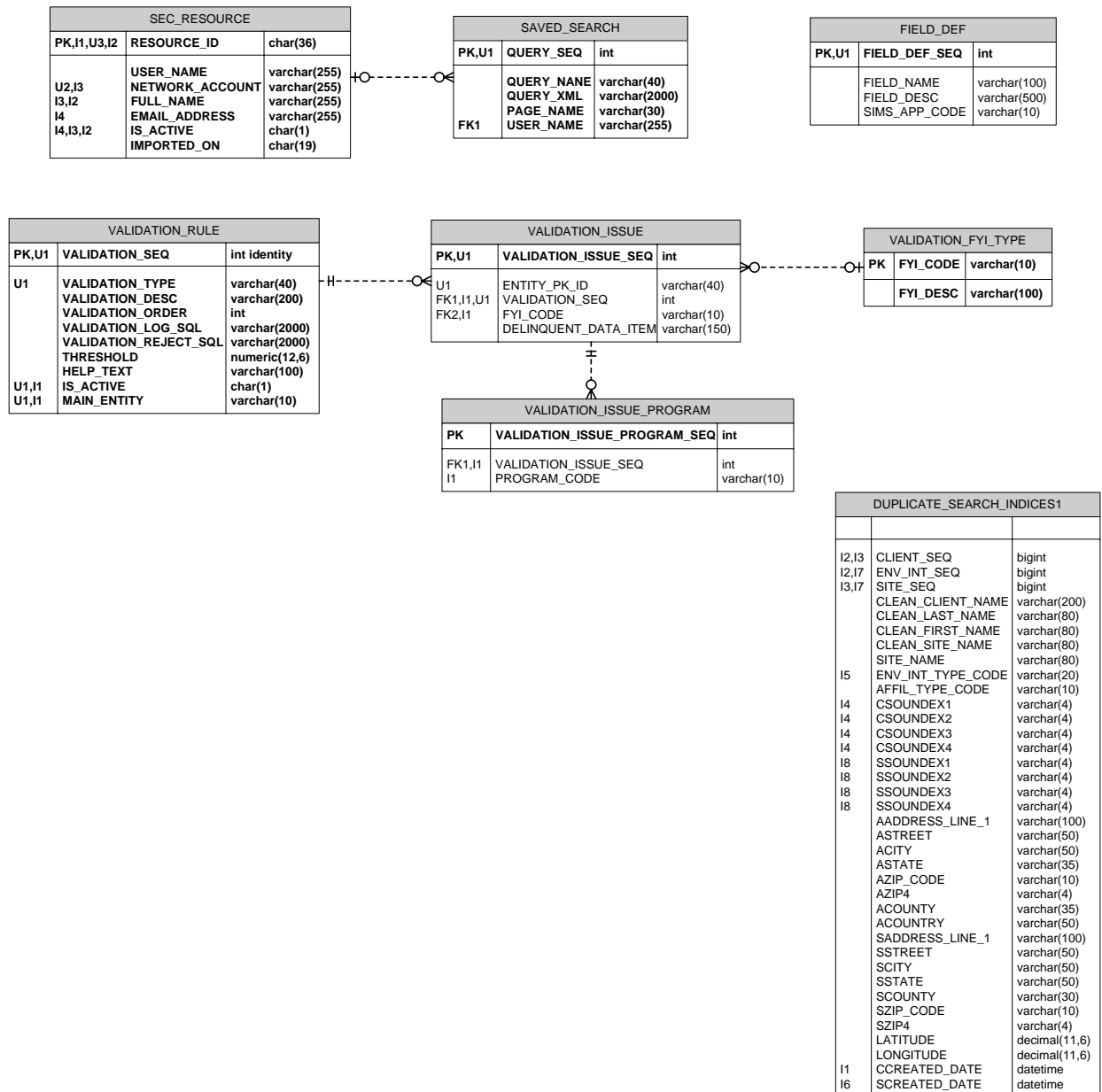
Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.3. 'Administration' Tables

1.3.1. Data Model

9/21/2006
CFI Data Model

ADMINISTRATION TABLES – CTDEP CFI DATABASE



1.3.2. Data Dictionary

1.3.2.1. DUPLICATE_SEARCH_INDICES

Physical name: DUPLICATE_SEARCH_INDICES
Notes: Contains fields used throughout CFI and is designed to help query performance during reconcilaion tasks.
Primary key:

Column details

1. CLIENT_SEQ (I2,I3)

Physical name: CLIENT_SEQ
Physical data type: bigint
Allow NULLs: Allowed
Notes: The Client sequence number for the duplicate search indicies. | Example: 883839

2. ENV_INT_SEQ (I2,I7)

Physical name: ENV_INT_SEQ
Physical data type: bigint
Allow NULLs: Allowed

3. SITE_SEQ (I3,I7)

Physical name: SITE_SEQ
Physical data type: bigint
Allow NULLs: Allowed

4. CLEAN_CLIENT_NAME

Physical name: CLEAN_CLIENT_NAME
Physical data type: varchar(200)
Allow NULLs: Allowed

5. CLEAN_LAST_NAME

Physical name: CLEAN_LAST_NAME
Physical data type: varchar(80)
Allow NULLs: Allowed

6. CLEAN_FIRST_NAME

Physical name: CLEAN_FIRST_NAME
Physical data type: varchar(80)
Allow NULLs: Allowed

7. CLEAN_SITE_NAME

Physical name: CLEAN_SITE_NAME
Physical data type: varchar(80)
Allow NULLs: Allowed

8. SITE_NAME

Physical name: SITE_NAME
Physical data type: varchar(80)
Allow NULLs: Allowed

9. ENV_INT_TYPE_CODE (I5)

Physical name: ENV_INT_TYPE_CODE
Physical data type: varchar(20)
Allow NULLs: Allowed

10. AFFIL_TYPE_CODE

Physical name: AFFIL_TYPE_CODE
Physical data type: varchar(10)

Allow NULLs:	Allowed
<u>11. CSOUNDEX1</u> (I4)	
Physical name:	CSOUNDEX1
Physical data type:	varchar(4)
Allow NULLs:	Allowed
<u>12. CSOUNDEX2</u> (I4)	
Physical name:	CSOUNDEX2
Physical data type:	varchar(4)
Allow NULLs:	Allowed
<u>13. CSOUNDEX3</u> (I4)	
Physical name:	CSOUNDEX3
Physical data type:	varchar(4)
Allow NULLs:	Allowed
<u>14. CSOUNDEX4</u> (I4)	
Physical name:	CSOUNDEX4
Physical data type:	varchar(4)
Allow NULLs:	Allowed
<u>15. SSOUNDEX1</u> (I8)	
Physical name:	SSOUNDEX1
Physical data type:	varchar(4)
Allow NULLs:	Allowed
<u>16. SSOUNDEX2</u> (I8)	
Physical name:	SSOUNDEX2
Physical data type:	varchar(4)
Allow NULLs:	Allowed
<u>17. SSOUNDEX3</u> (I8)	
Physical name:	SSOUNDEX3
Physical data type:	varchar(4)
Allow NULLs:	Allowed
<u>18. SSOUNDEX4</u> (I8)	
Physical name:	SSOUNDEX4
Physical data type:	varchar(4)
Allow NULLs:	Allowed
<u>19. AADDRESS LINE 1</u>	
Physical name:	AADDRESS_LINE_1
Physical data type:	varchar(100)
Allow NULLs:	Allowed
<u>20. ASTREET</u>	
Physical name:	ASTREET
Physical data type:	varchar(50)
Allow NULLs:	Allowed
<u>21. ACITY</u>	
Physical name:	ACITY
Physical data type:	varchar(50)
Allow NULLs:	Allowed
<u>22. ASTATE</u>	
Physical name:	ASTATE
Physical data type:	varchar(35)
Allow NULLs:	Allowed

23. AZIP_CODE

Physical name: AZIP_CODE
Physical data type: varchar(10)
Allow NULLs: Allowed

24. AZIP4

Physical name: AZIP4
Physical data type: varchar(4)
Allow NULLs: Allowed

25. ACOUNTY

Physical name: ACOUNTY
Physical data type: varchar(35)
Allow NULLs: Allowed

26. AOUNTRY

Physical name: AOUNTRY
Physical data type: varchar(50)
Allow NULLs: Allowed

27. SADDRESS_LINE_1

Physical name: SADDRESS_LINE_1
Physical data type: varchar(100)
Allow NULLs: Allowed

28. SSTREET

Physical name: SSTREET
Physical data type: varchar(50)
Allow NULLs: Allowed

29. SCITY

Physical name: SCITY
Physical data type: varchar(50)
Allow NULLs: Allowed

30. SSTATE

Physical name: SSTATE
Physical data type: varchar(50)
Allow NULLs: Allowed

31. SCOUNTY

Physical name: SCOUNTY
Physical data type: varchar(30)
Allow NULLs: Allowed

32. SZIP_CODE

Physical name: SZIP_CODE
Physical data type: varchar(10)
Allow NULLs: Allowed

33. SZIP4

Physical name: SZIP4
Physical data type: varchar(4)
Allow NULLs: Allowed

34. LATITUDE

Physical name: LATITUDE
Physical data type: decimal(11,6)
Allow NULLs: Allowed

35. LONGITUDE

Physical name: LONGITUDE
 Physical data type: decimal(11,6)
 Allow NULLs: Allowed

36. CCREATED_DATE (I1)

Physical name: CCREATED_DATE
 Physical data type: datetime
 Allow NULLs: Allowed

37. SCREATED_DATE (I6)

Physical name: SCREATED_DATE
 Physical data type: datetime
 Allow NULLs: Allowed

Index details

IX CCREATED_DATE

Column(s): CCREATED_DATE (Asc)
 Unique: No

IX CLIENT_SEQ

Column(s): CLIENT_SEQ (Asc)
 ENV_INT_SEQ (Asc)
 Unique: No

IX CLIENT_SITE_SEQ

Column(s): CLIENT_SEQ (Asc)
 SITE_SEQ (Asc)
 Unique: No

IX CSOUNDEX

Column(s): CSOUNDEX1 (Asc)
 CSOUNDEX2 (Asc)
 CSOUNDEX3 (Asc)
 CSOUNDEX4 (Asc)
 Unique: No

IX ENV_INT_TYPE

Column(s): ENV_INT_TYPE_CODE (Asc)
 Unique: No

IX SCREATED_DATE

Column(s): SCREATED_DATE (Asc)
 Unique: No

IX SITE_SEQ

Column(s): SITE_SEQ (Asc)
 ENV_INT_SEQ (Asc)
 Unique: No

IX SSOUNDEX

Column(s): SSOUNDEX1 (Asc)
 SSOUNDEX2 (Asc)
 SSOUNDEX3 (Asc)
 SSOUNDEX4 (Asc)
 Unique: No

1.3.2.2. FIELD_DEF

Physical name: FIELD_DEF
Notes: This table is used to store field definitions for the web inquiry system.
Primary key: FIELD_DEF_SEQ

Column details

1. FIELD_DEF_SEQ (U1)

Physical name: FIELD_DEF_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify each field name used throughout FIS. | Example: 15

2. FIELD_NAME

Physical name: FIELD_NAME
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: The name of the field. | Example: Alternative Names

3. FIELD_DESC

Physical name: FIELD_DESC
Physical data type: varchar(500)
Allow NULLs: Allowed
Notes: The description of the field name, which is used for contact sensitive help. | Example: A list of other names by which the facility is known. These can either be alternative business names, names that are used by some DEQ staff to better describe the facility for their own purposes, or names that the facility used to go by, but have since changed.

4. SIMS_APP_CODE

Physical name: SIMS_APP_CODE
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The SIMS application that uses the field definition. | Example: FIS, SIMS, DMS

Index details

FIELD_DEF_UC1

Column(s): FIELD_DEF_SEQ (Asc)
Unique: Yes

1.3.2.3. SAVED_SEARCH

Physical name: SAVED_SEARCH
Notes: A set of user search criteria that was entered in the SIMS inquiry system and saved for later use.
Primary key: QUERY_SEQ

Column details

1. QUERY_SEQ (U1)

Physical name: QUERY_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the each saved query by a user of FIS. | Example: 34758

2. QUERY_NANE

Physical name: QUERY_NANE
Physical data type: varchar(40)
Allow NULLs: Not allowed
Notes: The name given by the user to identify their search. | Example: Active Permits in Fairfield County

3. QUERY_XML

Physical name: QUERY_XML
Physical data type: varchar(2000)
Allow NULLs: Not allowed
Notes: The XML script that stores the specific criteria about the user's search. | Example: <?xml version="1.0"?> <ei> <application> </ei>

4. PAGE_NAME

Physical name: PAGE_NAME
Physical data type: varchar(30)
Allow NULLs: Not allowed
Notes: The name of the page that the query will display the results. | Example: by_site, by_client, by_ei

5. USER_NAME (FK)

Physical name: USER_NAME
Physical data type: varchar(255)
Allow NULLs: Allowed
Notes: Network account user name. | Example: John Smith

Index details

SAVED_SEARCH_UC1

Column(s): QUERY_SEQ (Asc)
Unique: Yes

Foreign key details (child)

SEC_RESOURCE_SAVED_SEARCH_FK1

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.3.2.4. VALIDATION_FYI_TYPE

Physical name: VALIDATION_FYI_TYPE
Notes: A user determined reason to dismiss a data validation issue.
Primary key: FYI_CODE

Column details

1. FYI_CODE

Physical name: FYI_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: Alphanumeric code assigned to the FYI description that serves as a unique identifier. | Example: IG, HIS

2. FYI_DESC

Physical name: FYI_DESC
Physical data type: varchar(100)
Allow NULLs: Not allowed
Notes: The description of the reason that the validation should not apply to the data. | Example: Historical Irreversible, Ignore

1.3.2.5. VALIDATION_ISSUE

Physical name: VALIDATION_ISSUE
Notes: An issue with a specific record in the CLEAN tables
Primary key: VALIDATION_ISSUE_SEQ

Column details

1. VALIDATION_ISSUE_SEQ (U1)

Physical name: VALIDATION_ISSUE_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the validation issue. | Example: 3664

2. ENTITY_PK_ID (U1)

Physical name: ENTITY_PK_ID
Physical data type: varchar(40)
Allow NULLs: Not allowed
Notes: The primary key of the specific main entity. | Example: SITE, CLIENT, ENVIRONMENTAL INTERST

3. VALIDATION_SEQ (FK,U1,I1)

Physical name: VALIDATION_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: The Validation sequence number assigned to the Validation Issue. | Example: 8838

4. FYI_CODE (FK,I1)

Physical name: FYI_CODE
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The code assigned to the FYI description that serves as a unique identifier. | Example: IG, HIS

5. DELINQUENT DATA ITEM

Physical name: DELINQUENT_DATA_ITEM
Physical data type: varchar(150)
Allow NULLs: Not allowed
Notes: The data value, if available, that caused the validation to fail. | Example:

Index details

VALIDATION ISSUE UC1

Column(s): ENTITY_PK_ID (Asc)
 VALIDATION_SEQ (Asc)
 VALIDATION_ISSUE_SEQ (Asc)
Unique: Yes

ENTITY PK ID VALIDATION SEQ

Column(s): FYI_CODE (Asc)
 VALIDATION_SEQ (Asc)
Unique: No

Foreign key details (child)

VALIDATION RULE VALIDATION ISSUE FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

VALIDATION FYI TYPE VALIDATION ISSUE FK1

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.3.2.6. VALIDATION_ISSUE_PROGRAM

Physical name: VALIDATION_ISSUE_PROGRAM
Notes: The program that is associated with the validation issue.
Primary key: VALIDATION_ISSUE_PROGRAM_SEQ

Column details

1. VALIDATION_ISSUE_PROGRAM_SEQ

Physical name: VALIDATION_ISSUE_PROGRAM_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Numeric field used to uniquely identify the validation issue program. | Example: 123

2. VALIDATION_ISSUE_SEQ (FK,I1)

Physical name: VALIDATION_ISSUE_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: The Validation Issue sequence number used to uniquely identify the validation issue. | Example: 3664

3. PROGRAM_CODE (I1)

Physical name: PROGRAM_CODE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The Program code associated with the Validation Program. | Example:

Index details

VALIDATION_ISSUE_SEQ_PROGRAM_CODE

Column(s): VALIDATION_ISSUE_SEQ (Asc)
PROGRAM_CODE (Asc)
Unique: No

Foreign key details (child)

VALIDATION_ISSUE_VALIDATION_ISSUE_PROGRAM_FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.3.2.7. VALIDATION_RULE

Physical name: VALIDATION_RULE
Notes: A validation rule that is applied to data from source systems to determine if it should be rejected, or a warning noted.
Primary key: VALIDATION_SEQ

Column details

1. VALIDATION_SEQ (U1)

Physical name: VALIDATION_SEQ
Physical data type: int identity
Allow NULLs: Not allowed
Notes: Numeric field used to uniquely identify the validation routine. | Example: 123

2. VALIDATION_TYPE (U1)

Physical name: VALIDATION_TYPE
Physical data type: varchar(40)
Allow NULLs: Not allowed
Notes: The validation effect if the threshold of the rule is met. | Example: WARNING, REJECTION

3. VALIDATION_DESC

Physical name: VALIDATION_DESC
Physical data type: varchar(200)
Allow NULLs: Not allowed
Notes: The description of the validation rule. | Example: Distance between postal address and provided coordinates violation

4. VALIDATION_ORDER

Physical name: VALIDATION_ORDER
Physical data type: int
Allow NULLs: Not allowed
Notes: The order in which the rule must be applied. | Example: 1, 2, 3

5. VALIDATION_LOG_SQL

Physical name: VALIDATION_LOG_SQL
Physical data type: varchar(2000)
Allow NULLs: Not allowed
Notes: The SQL statement used to validate the rule and record issues in the VALIDATION_ISSUE table

6. VALIDATION REJECT SQL

Physical name: VALIDATION_REJECT_SQL
Physical data type: varchar(2000)
Allow NULLs: Allowed
Notes: The SQL statement used to validate the rule and set the reject flag in the source CLEAN_ table.

7. THRESHOLD

Physical name: THRESHOLD
Physical data type: numeric(12,6)
Allow NULLs: Allowed
Notes: The minimum level that must be reached for the rule to take effect and is used as a parameter to the SQL statement. | Example: 10

8. HELP TEXT

Physical name: HELP_TEXT
Physical data type: varchar(100)
Allow NULLs: Allowed
Notes: Text that describes the THRESHOLD value. | Example: TBD

9. IS_ACTIVE (U1,I1)

Physical name: IS_ACTIVE
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Flag to determine if the validation is active. | Values: Y (Yes), N (No)

10. MAIN_ENTITY (U1,I1)

Physical name: MAIN_ENTITY
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The table entity that the validation is being applied. | Example: SITE, CLIENT, ENVIRONMENTAL_INTEREST

Index details

MAIN_ENTITY IS ACTIVE

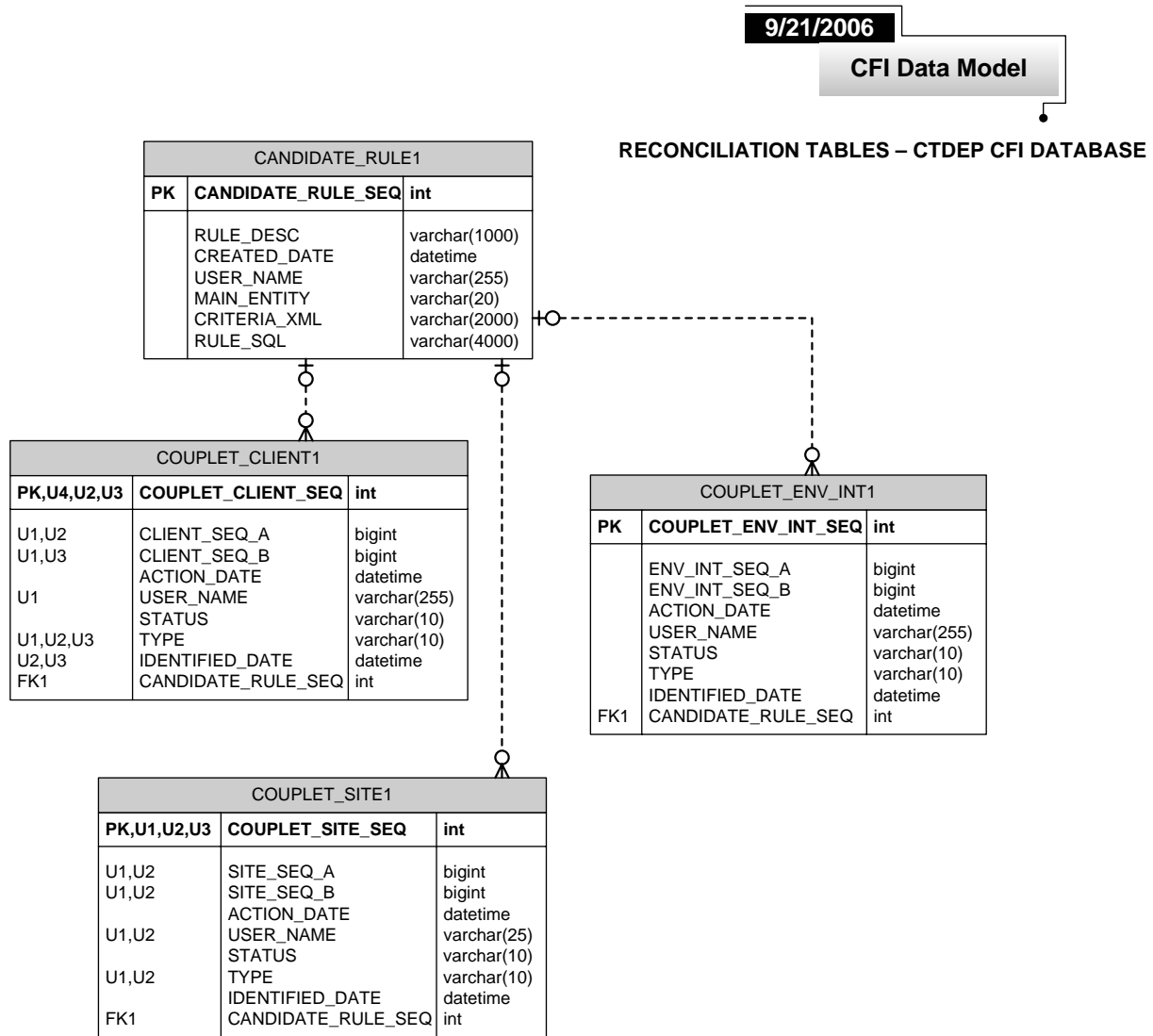
Column(s): MAIN_ENTITY (Asc)
 IS_ACTIVE (Asc)
Unique: No

VALIDATION_RULE_UC2

Column(s): VALIDATION_SEQ (Asc)
 VALIDATION_TYPE (Asc)
 IS_ACTIVE (Asc)
 MAIN_ENTITY (Asc)
Unique: Yes

1.4. 'Reconciliation' Tables

1.4.1. Data Model



1.4.2. Data Dictionary

1.4.2.1. CANDIDATE_RULE

Physical name: CANDIDATE_RULE
Notes: A set of criteria that specify sets of client or sites that should be automatically marked as candidate duplicates for user review.
Primary key: CANDIDATE_RULE_SEQ

Column details

1. CANDIDATE_RULE_SEQ

Physical name: CANDIDATE_RULE_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Numeric field used to uniquely identify the candidate rule. | Example: 8533

2. RULE_DESC

Physical name: RULE_DESC
Physical data type: varchar(1000)
Allow NULLs: Not allowed
Notes: The name / description of the merge candidate rule. | Example: Same Name - Address - Town

3. CREATED_DATE

Physical name: CREATED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the candidate rule was created. | Example: 8/19/2006

4. USER_NAME

Physical name: USER_NAME
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: The name of the user that created the candidate rule. | Example: Jlarson

5. MAIN_ENTITY

Physical name: MAIN_ENTITY
Physical data type: varchar(20)
Allow NULLs: Not allowed
Notes: The reconciliation area the candidate rule is applied. | Values: SITE, CLIENT

6. CRITERIA_XML

Physical name: CRITERIA_XML
Physical data type: varchar(2000)
Allow NULLs: Not allowed
Notes: The criteria for the candidate rule in XML format. | Example: <?xml version="1.0"?><ReconSiteCriteria...

7. RULE_SQL

Physical name: RULE_SQL
Physical data type: varchar(4000)
Allow NULLs: Allowed
Notes: The SQL statement that applies the rule defined. | Example: SELECT DISTINCT RTRIM(S.CLEAN_SITE_NAME)+'|'+RTRIM(S.SADDRESS...

1.4.2.2. COUPLET_CLIENT

Physical name: COUPLET_CLIENT
Notes: A pairing of Clients either because the pairing is a potential duplicate, or because it has been determined to be a non-duplicate (and thus does not warrant re-consideration).
Primary key: COUPLET_CLIENT_SEQ

Column details

1. COUPLET_CLIENT_SEQ (U2,U3,U4)

Physical name: COUPLET_CLIENT_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Couplet Client. | Example: 77658

2. CLIENT_SEQ_A (FK,U1,U2)

Physical name: CLIENT_SEQ_A
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The A (first) client sequence number of the couplet. | Example: 945193

3. CLIENT_SEQ_B (FK,U1,U3)

Physical name: CLIENT_SEQ_B
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The B (second) client sequence number of the couplet. | Example: 955644

4. ACTION_DATE

Physical name: ACTION_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the couplet of the clients occurred. | Example: 9/8/2006

5. USER_NAME (U1)

Physical name: USER_NAME
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: The user that created the client couplet. The system name is entered if the couplet occurred automatically. | Example: JJones, SIMS_ETL

6. STATUS

Physical name: STATUS
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The status of the couplet. | Example: New, On Hold, Assigned

7. TYPE (U1,U2,U3)

Physical name: TYPE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The type of client couplet. | Values: CANDIDATE, NON_DUP

8. IDENTIFIED_DATE (U2,U3)

Physical name: IDENTIFIED_DATE
Physical data type: datetime
Allow NULLs: Not allowed

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Notes: The date the couplet became a candidate either automatically or manually. |
 Example: 9/1/2006

9. CANDIDATE_RULE_SEQ (FK)

Physical name: CANDIDATE_RULE_SEQ
Physical data type: int
Allow NULLs: Allowed
Notes: The rule sequence that was used to create the candidate. If populated, then the candidate was automatically created. | Example: 6/15/2006

Index details

IX CLIENT A CLIENT B

Column(s): CLIENT_SEQ_A (Asc)
 CLIENT_SEQ_B (Asc)
 TYPE (Asc)
 USER_NAME (Asc)
Unique: Yes

COUPLET_CLIENT_UC2

Column(s): COUPLET_CLIENT_SEQ (Asc)
 CLIENT_SEQ_A (Asc)
 TYPE (Asc)
 IDENTIFIED_DATE (Asc)
Unique: Yes

COUPLET_CLIENT_UC3

Column(s): COUPLET_CLIENT_SEQ (Asc)
 CLIENT_SEQ_B (Asc)
 TYPE (Asc)
 IDENTIFIED_DATE (Asc)
Unique: Yes

PK COUPLET_CLIENT

Column(s): COUPLET_CLIENT_SEQ (Asc)
Unique: Yes

Foreign key details (child)

CANDIDATE_RULE_COUPLET_CLIENT_FK1

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

CLIENT_COUPLET_CLIENT_FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

CLIENT_COUPLET_CLIENT_FK2

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.4.2.3. COUPLET_ENV_INT

Physical name: COUPLET_ENV_INT
Notes: A pairing of Environmental Interests because the pairing is a duplicate.
Primary key: COUPLET_ENV_INT_SEQ

Column details

1. COUPLET_ENV_INT_SEQ

Physical name: COUPLET_ENV_INT_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Couplet Environmental Interest. | Example: 983632

2. ENV_INT_SEQ_A

Physical name: ENV_INT_SEQ_A
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The A (first) environmental interest sequence number of the couplet. | Example: 987193

3. ENV_INT_SEQ_B

Physical name: ENV_INT_SEQ_B
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The B (second) environmental interest sequence number of the couplet. | Example: 955104

4. ACTION_DATE

Physical name: ACTION_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the couplet of the environmental interest occurred. | Example: 3/28/2006

5. USER_NAME

Physical name: USER_NAME
Physical data type: varchar(255)
Allow NULLs: Allowed
Notes: The user that created the site environmental interest The system name is entered if the couplet occurred automatically. | Example: JJones, SIMS_ETL

6. STATUS

Physical name: STATUS
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The status of the couplet. | Example: New, On Hold, Assigned

7. TYPE

Physical name: TYPE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The type of site couplet. | Values: CANDIDATE, NON_DUP

8. IDENTIFIED_DATE

Physical name: IDENTIFIED_DATE
Physical data type: datetime
Allow NULLs: Not allowed

Notes: The date the couplet became a candidate either automatically or manually. |
 Example: 7/21/2006

9. CANDIDATE_RULE_SEQ (FK)

Physical name: CANDIDATE_RULE_SEQ
Physical data type: int
Allow NULLs: Allowed
Notes: The rule sequence that was used to create the candidate. If populated, then the candidate was automatically created. | Example: 8/19/2006

Foreign key details (child)

CANDIDATE_RULE_COUPLET_ENV_INT_FK1

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

1.4.2.4. COUPLET_SITE

Physical name: COUPLET_SITE
Notes: A pairing of Sites either because the pairing is a potential duplicate, or because it has been determined to be a non-duplicate (and thus does not warrant re-consideration).
Primary key: COUPLET_SITE_SEQ

Column details

1. COUPLET_SITE_SEQ (U1,U2,U3)

Physical name: COUPLET_SITE_SEQ
Physical data type: int
Allow NULLs: Not allowed
Notes: Incremental numeric field used to uniquely identify the Couplet Site. | Example: 61658

2. SITE_SEQ_A (FK,U1,U2)

Physical name: SITE_SEQ_A
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The A (first) site sequence number of the couplet. | Example: 33193

3. SITE_SEQ_B (FK,U1,U2)

Physical name: SITE_SEQ_B
Physical data type: bigint
Allow NULLs: Not allowed
Notes: The B (second) site sequence number of the couplet. | Example: 53454

4. ACTION_DATE

Physical name: ACTION_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the couplet of the sites occurred. | Example: 2/18/2006

5. USER_NAME (U1,U2)

Physical name: USER_NAME
Physical data type: varchar(25)
Allow NULLs: Not allowed

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Notes: The user that created the site couplet. The system name is entered if the couplet occurred automatically. | Example: JJones, SIMS_ETL

6. STATUS

Physical name: STATUS
Physical data type: varchar(10)
Allow NULLs: Allowed
Notes: The status of the couplet. | Example: New, On Hold, Assigned

7. TYPE (U1,U2)

Physical name: TYPE
Physical data type: varchar(10)
Allow NULLs: Not allowed
Notes: The type of site couplet. | Values: CANDIDATE, NON_DUP

8. IDENTIFIED DATE

Physical name: IDENTIFIED_DATE
Physical data type: datetime
Allow NULLs: Not allowed
Notes: The date the couplet became a candidate either automatically or manually. | Example: 4/11/2006

9. CANDIDATE RULE SEQ (FK)

Physical name: CANDIDATE_RULE_SEQ
Physical data type: int
Allow NULLs: Allowed
Notes: The rule sequence that was used to create the candidate. If populated, then the candidate was automatically created. | Example: 8/1/2006

Index details

IX TYPE SITE A SITE B

Column(s): SITE_SEQ_A (Asc)
 SITE_SEQ_B (Asc)
 TYPE (Asc)
 USER_NAME (Asc)
 COUplet_SITE_SEQ (Asc)
Unique: Yes

COUplet SITE UC2

Column(s): SITE_SEQ_B (Asc)
 SITE_SEQ_A (Asc)
 TYPE (Asc)
 USER_NAME (Asc)
 COUplet_SITE_SEQ (Asc)
Unique: Yes

PK COUplet SITE

Column(s): COUplet_SITE_SEQ (Asc)
Unique: Yes

Foreign key details (child)

CANDIDATE RULE COUplet SITE FK1

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Ref. Integrity on update: No action
Ref. Integrity on delete: No action

SITE COUplet SITE FK1

Relationship type:	Non-Identifying
Cardinality:	One -to- Zero-or-More
Allow NULLs:	Not allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

SITE COUplet SITE FK2

Relationship type:	Non-Identifying
Cardinality:	One -to- Zero-or-More
Allow NULLs:	Not allowed
Ref. Integrity on update:	No action
Ref. Integrity on delete:	No action

Appendix F

Connecticut Greenhouse Gas Reporting

Data Elements

Overview

The Air Emissions Data Exchange (AirDEX) working group was formed to develop a common protocol that would facilitate the exchange of data between different data systems, including corporate inventory systems, calculation tools, verification management systems, and emissions registries. By providing for electronic data exchange, emissions data quality, access, and validation can be improved. This spreadsheet provides a guide to the specific data elements required by the GHG emissions data exchange standards XML schema.

Guide to this Spreadsheet

The 'Structure - XML' tab provides an overview of the basic structure of the XML schema, as well as information on data elements required by the schema. For the data elements, information is provided regarding its XML tag name, nesting level, data type, whether or not it is required, and a description. The 'XML Complex Type Definitions' tab provides information on the complex data types (a data type comprised of multiple nested data elements) and each of the sub elements. This tab contains the same columns as the 'Structure - XML' tab. Specific information on each column of data is described below.

Columns

XML Tag Name
This column contains the actual XML tag (data element) name required of XML submission files conforming to the schema.

XML Type
This column contains the XML data type of the associated XML tag. Simple types are typically of the form xs:abc. If the type is an italicized string containing capital letters, the data type is a complex type consisting of multiple elements. The 'XML Complex Type Definitions' tab provides information on the data elements contained by the complex types defined for this schema.

Required?
This column indicates whether a data element is required by the schema. A data element not required by the schema does not necessarily mean that it is not required by the reporting program for which data is being submitted. A required data element indicates that the element is required for all reporting programs. However, if a parent data element is indicated as not required, but a child data element of that parent is indicated as required, the parent's requirement takes precedence. The aforementioned child data element is required ONLY IF the parent data element is provided.

Description
This column provides a description of the data element.

Code Set?
If the values provided for a particular data element are restricted to a list of predefined codes, the name of the code set is listed in this column. The code sets and available values are defined in a separate spreadsheet.

XML Tag Name	XML Type	Required?	Definition	Code Set?
EmissionStatement	<i>complex</i>	yes	The Emissions Statement complex data element contains subsequent elements which store information on emissions data from specific registries. One of the goals of this standard is to allow for multi-pollutant and multi-program submissions under one data file. For this reason, many of the elements are broken down further into nested elements, to allow for several sequences of data, where necessary. The elements nested below are referred to as the Emission Statement data elements.	
MajorVersion	xs:string	yes	The major version number of the XML schema	

MinorVersion	xs:string	yes	The minor version number of the XML schema	
Revision	xs:string	yes	The revision version number of the XML schema	
ReportingProgram	<i>ReportingProgramType</i>	yes	The reporting program for which data is being submitted. This complex data element is comprised of the following 3 fields: Registry Code, Program Identifier Code, and the Program Name. Data may be submitted for one or more reporting programs. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.	
TotalStatementReportingPeriod	<i>ReportingPeriodType</i>	yes	A complex data element that containing the subsequent 3 elements which specify the full period of time for which emissions are being reported. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.	
SubmissionDate	xs:date	no	The date (YYYYMMDD) that the XML file was received by the host system. This date is dynamic and changes for each host system when the file is received.	
Comment	xs:string	no	Comments provided by the user or software to clarify information on any of the Emission Statement data elements.	
SubmissionStatus	<i>StatusType</i>	no	A complex data element that contains subsequent elements which store information on the submissions status. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.	
VerificationInformation	<i>VerificationInformationType</i>	no	A complex data element that contains subsequent elements which store information on the file's verification. Only one entry allowed per registry.	
FileCreateDate	xs:date	no	The date (YYYYMMDD) the XML file was created by the registry. This date is static and is only created when an XML file is created.	
FileCreateSource	xs:string	no	The original registry that created the XML file.	
SubmissionContact	<i>ContactType</i>	yes	A complex data element that contains subsequent elements which provide contact information. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.	
SupportingDocument	<i>DocumentType</i>		A complex data element that contains subsequent elements which store information on documents attached to the XML file to support any of the Emission Statement data elements. Multiple supporting documents may be attached. A maximum of ten (10) files are allowed with a file size limit of 2 megabytes per file. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.	
EmitterInformation	<i>complex</i>		The Emitter Information complex data element contains subsequent elements which store information the emitter, whether that be a corporation, facility, unit, or activity. The elements nested below are referred to as the Emitter Information data elements.	
ReportingLevelCode	xs:string	yes	The code that identifies the reporting level for the emitting organization. (i.e. Corporation, Facility, Unit).	Reporting Level Code

Name	xs:string	no	The name of the corporation, facility, unit, or activity, for which emissions data is being supplied
Address	<i>AddressType</i>	no	The address of the corporation, facility, unit, or activity. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.
Corporation	<i>EmitterInformationType</i>	no	A complex data element that contains information on identifying the entity/corporation. This data element, and the subsequent elements, are only needed if the reporting level is defined as "Entity" or "Corporation". Only one entry is allowed per registry. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.
Facility	<i>EmitterInformationType</i>	no	A complex type serving as the unique identifier for the facility. This data element is only needed if the reporting level is defined as "Facility" and only allows one entry per registry. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.
Unit	<i>EmitterInformationType</i>	no	A complex type serving as the unique identifier for the unit or activity. This data element is only needed if the reporting level is defined as "Unit" or "Activity", and only allows one entry per registry. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.
Comment	xs:string	no	Comments provided by the user or software to clarify information on any of the Emitter Information data elements.
SupportingDocument	<i>DocumentType</i>	no	A complex data element that contains subsequent elements which store information on documents attached to the XML file to support any of the Emitter Information data elements. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.
Status	<i>StatusType</i>	no	A complex data element that contains subsequent elements which store information on the status.
VerificationInformation	<i>VerificationInformationType</i>	no	A complex data element that contains subsequent elements which store information on the verification of the Emitter Information data elements. Only one entry allowed per registry. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.
EmissionRecord	<i>complex</i>	yes	The Emission Record complex data element contains subsequent elements which store information on the emissions data. The elements nested below are referred to as the Emission Record data elements.
ReportingIntervalBeginDateTime	xs:string	yes	The first date (YYYYMMDDThh: mm:ss) of the supplied emissions data that is reported. This data element, along with the ReportingIntervalEndDate, allows the user to specify the portion of time for the emissions data they wish to submit. For example, if the ReportingIntervalCode is defined as "Quarterly" and the user wishes to submit 1st quarter data, they would enter 20060101T00:00:00 as the ReportingIntervalBeginDateTime.

ReportingIntervalEndDateTime	xs:string	yes	The last date and time (YYYYMMDDThh: mm:ss) of the supplied emissions data that is reported. This data element, along with the ReportingIntervalBeginDateTime, allows the user to specify the portion of time for the emissions data they wish to submit. For example, if the ReportingIntervalCode is defined as "Quarterly" and the user wishes to submit 1st quarter data, they would enter 20061231T23:59:590 as the ReportingIntervalEndDateTime. This process would need to be repeated for 2nd, 3rd, and 4th quarter data.	Emission Scope Code
EmissionScopeCode	xs:string	no	The code that identifies the scope of emissions data being supplied. For example, the scope can include Scope 1 which is direct emissions, Scope 2 which are emissions produced from purchased electricity, heat, or steam, or Scope 3 which includes all other indirect emissions.	Emission Type Code
EmissionTypeCode	xs:string	no	The code that identifies a more detailed scope of emissions. For example, a Scope 1 EmissionScopeCode might have an EmissionTypeCode of Stationary, Mobile, Fugitive, or Process.	
FuelProductVariable	FuelProductVariableType	yes	A complex data element that contains subsequent data elements which store information on the fuels, products, and/or equipment used in the emission process. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.	
PollutantRecord	PollutantRecordType	yes	A complex data element that contains subsequent data elements which store information on the pollutant emitted during the emissions process. The elements nested below are referred to as the Pollutant Record data elements. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.	
OtherDataRecord	OtherDataRecordType	no	A complex data element that contains subsequent data elements which store information on the emissions data not covered in the pollutant record. The elements nested below are referred to as the Other Data Record data elements. Please refer to the 'XML Complex Type Definitions' tab for the data required by this complex type.	

XML Tag Name	XML Type	Required?	Definition	Code Set?
StatusType				
RegistryCode	xs:string	yes	The code that identifies the registry which is supplying the emissions data	RegistryCode
StatusCode	xs:string	yes	The code that identifies the status of the submitted file. This data element is provided based on a determined list of codes related to the submission status.	StatusCode
StatusDescription	xs:string	no	The description of the submission status. This data element is used in conjunction with the StatusCode and is the corresponding description of the code.	

ReportingProgramType				
RegistryCode	xs:string	yes	The code that identifies the registry to which the emissions data is being submitted. This data element is provided based on a determined list of codes representing existing registry systems.	RegistryCode
ProgramIdentifierCode	xs:string	yes	Identifies the subsequent reporting program for which emissions data is being submitted. The value provided must be one of the reporting program identifier codes listed in the associated code set.	ProgramIdentifierCode
ProgramName	xs:string	no	The full character name of the reporting program. This data element is used in conjunction with the ProgramIdentifierCode, and is the corresponding name of the reporting program.	

ReportingPeriodType				
ReportingIntervalCode	xs:string	yes	The frequency in which the data is reported based on the reporting program (i.e. hourly, daily, monthly, quarterly, yearly). For example, if the user reports quarterly but wishes to report all four quarters of the year, they would enter the identify the ReportingIntervalCode as "Quarterly" but enter begin and end dates that encompass the entire year as the BeginDate. Only one ReportingIntervalCode (i.e. daily, quarterly, yearly) is allowed per XML file submission.	ReportingIntervalCode
BeginDate	xs:date	yes	The first date (YYYYMMDD) of the supplied emissions data that is reported. This date, along with the EndDate under this complex data element, indicates the total span of time that encompasses the supplied emissions data. For example, if the user reports quarterly but wishes to report all four quarters of the year, they would enter the 2006/01/01 as the BeginDate.	
EndDate	xs:date	yes	The last date (YYYYMMDD) of the supplied emissions data that is reported. This date, along with the BeginDate under this complex data element, indicates the total span of time that encompasses the supplied emissions data. For example, if the user reports quarterly but wishes to report all four quarters of the year, they would enter the 2006/12/31 as the EndDate.	

ContactType				
Person	PersonType	yes	A complex data element that contains subsequent elements which store information on the contact person. This complex type is defined below.	
ContactRoleCode	xs:string	no	A code that indicates either general or specific roles/responsibilities of the contact	ContactRoleCode

Organization	xs:string	no	The organization of the contact	
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PersonType

Prefix	xs:string	no	The Person's prefix as used to announce a person, such as "The Honorable"	
FirstName	xs:string	yes	The first name of the contact person	
MiddleName	xs:string	no	The middle name of the contact person	
LastName	xs:string	yes	The last name of the contact person	
Suffix	xs:string	no	The contact person's suffix	
Title	xs:string	no	The title of the person within an organization, such as CEO, Senator, Policy Analyst	
Salutation	xs:string	no	A descriptor used when addressing the person directly	
PersonIdentifier	xs:string	no	Identifier to a specific person	
Communication	<i>complex</i>	yes	A complex data element that contains subsequent elements which store information on ways in which to communicate with a person or organization.	
ElectronicAddress	xs:string	yes	Well-formed internet address with <username>@<servername>.<domain>	
URL	xs:string	no	Uniform Resource Locator for finding documents on the internet. <protocol>://<servername>.<domain>	
Telephone	<i>TelephoneType</i>	yes	A complex data element that contains subsequent elements which contains telephone number information. This complex type is defined below.	
Address	<i>AddressType</i>	yes	A complex data element that contains subsequent elements that store information on the address of the contact person or organization. This complex type is defined below.	

TelephoneType

TypeCode	xs:string	no	The code describing the kind of phone using this telephone number, such as Home, Office, Mobile, TDD, Fax.	TypeCode
CountryDialingCode	xs:string	no	The International Country Code as assigned and maintained by the International Telecommunications Union < http://www.itu.int/home/ >	
AreaDialingCode	xs:string	no	The area code associated with the telephone number. For countries with International Country Code 1, area codes are assigned and maintained by the U.S. Federal Communications Commission.	
DialNumber	xs:string	yes	The local area dialing number with special characters (space and dash) as commonly used.	
Extension	xs:string	no	The string of characters that make up a telephone number extension.	

AccessCode	xs:string	no	The numerical code entered after connection in order to identify a particular entity.	
Comment	xs:string	no	Instructions on the use of the telephone number, such as appropriate times to call	

AddressType				
Line1	xs:string	yes	Address line 1 for the entity	
Line2	xs:string	no	Address line 2 for the entity	
Line3	xs:string	no	Address line 3 for the entity	
CityName	xs:string	yes	Name of the entity's city.	
PostalCode	xs:string	yes	ZIP code + 4 for US entities or Postal Code for International entities	
CountrySubdivision	complex	no	A complex data element that contains subsequent elements which store information on the areas of a country that are subdivided	
CountrySubdivisionID	xs:string	no	Identification of the name of the division of a country or other geographical entity. This could be states, provinces, cantons, counties, etc.	
CountrySubdivisionName	xs:string	no	Name of a division of a country or other geographic entity. This could be states, provinces, cantons, counties, etc.	
Country	complex	no	A complex data element that contains subsequent elements that store information the country being referenced	
CountryID	xs:string	no	Code that indicates the entity's country.	CountryID
CountryName	xs:string	no	Name of country or other geographical entity as specified in ISO 3166	

DocumentType				
DocumentName	xs:string	yes	The name or title of the attached document	
DocumentDescription	xs:string	no	A description of what information the attached document contains relative to the Emissions Statement data elements	
DocumentType	xs:string	no	The file extension of the document. File extensions can include .doc, .pdf, .jpeg etc	
DocumentAuthor	xs:string	no	The author of the attached document	
DocumentKeywords	xs:string	no	The term(s) or word(s) entered into a internet search engine that would result in the identification of similar web pages	
DocumentBinaryData	xs:base64Binary	no	This data element serves to attach the supporting document to the XML file using an embedded binary standard.	
DocumentReferenceURI	xs:string	no	The Uniform Resource Identifier that references the document. This URI can include web-links, ftp sites, mailto: addresses etc.	

IsPublic			Indicates whether the supporting document is a public or private document. A "1" is indicated if the document is considered a public document.	
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EmitterInformationType				
RegistryCode	RegistryCodeType	yes	The code that identifies the registry to which data is being submitted.	RegistryCode
EmitterIdentifier	xs:string	yes	The unique identifier for the entity/corporation	

PollutantRecordType				
PollutantCode	xs:string	yes	A code that identifies the pollutant. This data element is provided based on a determined list of codes related to pollutants and GHG emissions.	PollutantCode
CalculationMethodDescription	xs:string	no	A description of the method used to calculate emissions	
CalculationMethodComment	xs:string	no	Comment provided by the user or software to clarify the calculation method	
Formula	complex	no	A complex data element that contains subsequent element which store information on the formula used to calculate emissions	
RegistryCode	RegistryCodeType	yes	The code that identifies the registry which is supplying the emissions data	
FormulaIdentifier	xs:string	yes	An identifier associated with the formula.	
Description	xs:string	no	A description of the emissions formula used	
Source	xs:string	no	The source of the emissions formula used	
IsCustom	xs:boolean	no	Indicates whether a custom formula is used	
FormulaVariable	FormulaVariableType	yes	A complex data element that contains subsequent data elements which store information on the variables associated with the formula. The elements nested below are referred to as the Formula Variable data elements.	
(Included via type extension)	DataRecordType		A complex data element that contains subsequent data element which can be used to store information on the amount of the pollutant emitted, units of measure, sources of the emissions data, etc.	
Quantity	xs:string	yes	The total emissions emitted by the particular pollutant	
UnitOfMeasureCode	xs:string	yes	The unit of measure for the pollutant quantity	UOMCode
Source	xs:string	no	The source or reference for the emissions data being provided.	
Comment	xs:string	no	Comments provided by the user or software to clarify data in emission record	
SupportingDocument	DocumentType	no	A complex data element that contains subsequent elements which store information on documents attached to the XML file to support the Pollutant Record information.	

Status	StatusType	yes	A complex data element that contains subsequent elements which store information on the status of Pollutant Record.	
VerificationInformation	VerificationInformationType	no	A complex data element that contains subsequent elements which store information on the verification of the Pollutant Record data elements. Only one entry allowed per registry.	
ConversionFactor	xs:string	no	Global warming potential (GWP) used to calculate CO2e	
ConversionFactorSource	xs:string	no	The source or reference of the GWP value	
CO2e	xs:string	no	The total CO2 equivalent emissions	
CO2eUnitOfMeasureCode	xs:string	no	The code that identifies the unit of measure for the CO2 equivalent emissions	UOMCode
IsDeMinimis	xs:boolean	no	Indicates whether emissions are de minimus	

FormulaVariableType				
VariableTypeCode	xs:string	yes	A code that identifies the type of formula variable. These variable include emission factor, oxidation rate, heat value, removal rate etc.	VariableType Code
OtherVariableType	xs:string	no	The name or description of the variable, if user chooses "other" for VariableTypeCode.	
IsCustom	xs:boolean	no	Indicates whether the value is the provided by the calculation method/tool, or is a custom value.	
FormulaVariableRecord	FormulaVariableRecordType		A complex data element that contains subsequent data elements which store information on each of the specific variables used in the formula. The elements nested below are referred to as the Formula Variable Record data elements.	

FormulaVariableRecordType				
Value	xs:string	yes	The value of the variable defined in the emissions formula.	
UnitOfMeasureCode	xs:string	yes	A code that identifies the unit of measure of the variable defined in the emissions formula.	UOMCode
Source	xs:string	no	The source of the emissions value	
Justification	xs:string	no	Justification for the emissions value	
Comment	xs:string	no	Comments provided by the user to clarify information on any of the Formula Variable Record data elements.	

VerificationInformationType				
RegistryCode	xs:string	yes	The code that identifies the registry which is verifying the Emitter	RegistryCode

			Information	
Contact	ContactType	yes	A complex data element that contains subsequent elements which store information on contact information for the verifier.	
Date	xs:date	yes	The date the verification took place.	
FindingsCode	xs:string	yes	A code that identifies the result or findings of the verification. This data element is provided based on a determined list of codes related to the verification results.	FindingsCode
FindingsDescription	xs:string	no	A description of the results or findings of the verification. This data element is used in conjunction with the FindingsCode data element and is the corresponding description of the code.	
Opinion	xs:string	no	Any opinions that the verifier wishes to state about the Emitter Information data.	
Exceptions	xs:string	no	Any exceptions that the verifier wishes to state about the Emitter Information data.	
Comment	xs:string	no	Any comments that the verifier wishes to state about the Emitter Information data.	
SupportingDocument	DocumentType		A complex data element that contains subsequent elements which store information on documents attached to the XML file to support any verification information.	

FuelProductVariableType				
FuelProductTypeCode	xs:string	yes	A code that identifies the fuel consumed or product produced. This data element is provided based on a determined list of codes related to fuels and products.	FuelProductTypeCode
FuelProductDescription	xs:string	no	The description of the FuelProductCode. This data element is used in conjunction with the FuelProductTypeCode data element and is the corresponding description of the code.	
EquipmentTypeCode	xs:string	no	A code that identifies the vehicle type used in the emissions process. This data element is provided based on a determined list of codes related to vehicles.	EquipmentTypeCode
EquipmentYear	xs:positiveInteger	no	The vehicle year	
(included via type extension)	DataRecordType	yes	A complex data element that contains subsequent data element which can be used to store information on the quantity of fuel consumed or product produced/consumed.	

OtherDataRecordType				
RecordNameCode	xs:string	yes	The code that identifies the any other data elements not covered in the Pollutant Record, such as operating hours, MWh produced, kWh sold, etc. This data element is provided based on a determined list of codes.	RecordNameCode

RecordNameDescription	xs:string	yes	A description of the other data element defined in the RecordNameCode.	
DataRecord	DataRecordType	yes	A complex data element that contains subsequent data element which can be used to store information on the value, unit of measure, source, etc. of the defined data element	

DataRecordType				
Quantity	xs:string	yes	The quantitative value of the data element defined	
UnitOfMeasureCode	xs:string	yes	The unit of measure for the data element defined	UOMCode
Source	xs:string	no	The source of data for the data element provided.	
Justification	xs:string	no	Any justification for the data element	
Comment	xs:string	no	Comments provided by the user to clarify Other Data Record elements	
SupportingDocument	DocumentType	no	A complex data element that contains subsequent elements which store information on documents attached to the XML file to support the Other Data Record information.	
Status	StatusType	no	A complex data element that contains subsequent elements which store information on the status of Other Data Record.	
VerificationInformation	VerificationInformationType	no	A complex data element that contains subsequent elements which store information on the verification of the Other Data Record data elements. Only one entry allowed per registry.	

Appendix G

Cross-Media Electronic Reporting Rule

(CROMERR) Requirements

Cross-Media Electronic Reporting Rule (CROMERR)

Mary Greene, EPA
September 27, 2005



CROMERR Update

- Rule and companion Notice signed by Administrator on September 21, 2005
- Publication in early October 2005
- Would be effective 90 days after publication
- Does not include record-keeping
- Does not mandate electronic reporting, but establishes minimum requirements when electronic reporting is used

Applicability

- 40 CFR Part 3 applies to:
 - Persons who submit reports or documents to EPA to satisfy other parts of 40 CFR
 - States, tribes and local governments that administer authorized programs
- 40 CFR Part 3 does not apply to:
 - Documents submitted via fax or magnetic or optical media
 - Administrative information exchanged between EPA and states, tribes or local governments as part of the implementation of authorized programs

Electronic Reporting to EPA

- Electronic documents must be transmitted to CDX or other electronic receiving system designated by the Administer
- Documents must have valid electronic signature if required under Title 40 to sign the paper document:
 - Unless EPA announces special provisions to accept handwritten signature on a separate paper submission; and
 - Signatory provides handwritten signature

Changes to CDX

- Changes in CDX hardware/software that affect the report transmission process
 - Significant changes to CDX - require notice in FR and EPA will seek comments on changes
 - Other changes in CDX - will provide 60 days notice of implementation
 - *De minimis* or transparent changes – may provide notice on a case-by-case basis
 - Emergency changes – provide notice of changes other than *de minimis*/transparent, to the extent consistent with ensuring the security and integrity of the system

State, Tribal or Local Authorized Program Approvals

- May seek approval through 40 CFR Part 3 or applicable program approval or revision portions of other Parts of Title 40
- Programs not currently receiving electronic reports would need to seek approval prior to receiving electronic reports
- Programs with existing electronic reporting would need to submit an application to revise no later than 2 years after publication of the rule

Applications

- Must contain:
 - Certification of sufficient legal authority to implement electronic reporting signed by the Attorney General
 - Listing of all electronic document receiving systems being addressed, with a description for each system that specifies how the system meets the requirements of Section 3.2000 of the rule
 - A schedule of upgrades for the systems that have a potential for affecting the program's conformance
 - Other information needed to fully evaluate the application

Application Review

- Part 3 application review:
 - Consolidated applications may be submitted
 - Completeness review within 75 days of application receipt
 - Application amendment completeness review within 30 days of receipt
 - Incomplete or deficient applications can be acted upon
 - Complete applications not acted on within 180 days are considered automatically approved
 - Applications for existing systems submitted close to the end of the 2 year grace period have a 360 day review period prior to approval

Section 3.2000 Requirements

- Authorized programs must:
 - Use an acceptable electronic document receiving system
 - Require that any electronic document bear a valid electronic signature if the signatory is required to sign the paper document (unless EPA approves handwritten signature on separate paper submission)

Section 3.2000 Requirements (Cont.)

- Systems must be able to generate data with respect to the electronic document that proves the document:
 - Was not altered without detection
 - Alterations are documented
 - Was submitted knowingly
 - Submitter had an opportunity to review the copy of record in a human-readable format and repudiate the document based on the review

Section 3.2000 Requirements (Cont.)

- When electronic signatures are required on a document, the system must ensure:
 - The signatures are valid and cannot be altered
 - The signatory had an opportunity to review
 - The signatory has agreements for the signature device
- Electronic receiving systems must acknowledge receipt of the document and certain data
- State, tribe or local government determines the identity of individual entitled to use signature device

Section 3.2000 Requirements (Cont.)

- An authorized program using electronic reporting must ensure that:
 - A person is subject to penalties and remedies for failure to comply with electronic reporting
 - Electronic signatures legally bind or obligate the signatory the same as a handwritten signature
 - Proof that a particular signature device was used will suffice to establish intent to sign the electronic document and give it effect
 - Nothing in the authorized program limits the use of electronic documents or information derived from electronic documents in enforcement proceedings

Next Steps

- Publication will occur early in October
- Effective in early 2006
- Guidance and training are planned for both EPA and authorized programs
- Internal review and approval procedures are under development

Appendix H

DOIT Guidelines for Web-Based Applications

1. Development Guidelines for Web Based Applications

Date: Sept 27, 2006 Version 3

1.1 Purpose

These Web Development Guidelines are intended to inform prospective bidders of the State's IT architecture, including various standards and guidelines that support our web-based computing environments – intranet, extranet, and Internet.

1.2 Background

The State has built, and is committed to maintaining a secure, cost effective computing environment capable of supporting various web pages and applications.

The State must protect its investment by ensuring that vendors develop according to the State's architecture requirements. Compliance with these standards will ensure the portability necessary to host agency applications and web pages and will also ensure the compatibility, reusability, and scalability of applications. The goal of these standards and architectures is to enhance an agency's ability to shorten development time, ensure security and reliability, and extend application longevity.

In addition to the guidelines within this document, the State has adopted a set of Conceptual Architecture Principles. These principles are intended to align technology solutions that meet the current business needs of the State. The complete list of these principles is in Appendix 1,

In sum, to make the highest and best use of the State's IT assets, these guidelines have been prepared. Compliance with the standards and guidelines shall be considered when evaluating proposals for state computer systems. The Department of Information Technology (DOIT) will not approve any procurement for products or services that would result in a contravention of these guidelines.

1.3 Request for Waiver

Deviation from these guidelines requires prior approval by DOIT. The existing Architecture Exception process should be used for this purpose.

1.4 Requirements

1. N-tiered application development. All Web applications shall be designed with the presentation, business logic and data layers both logically and physically separated to increase portability, scalability, re-usability and to support simplicity. This design is commonly referred to as n-tier application development architecture.

The State requires the use of at least 3 logical tiers implemented as at least 3 physical security zones. These tiers are presentation, business or application logic, and database (or data storage).

As an example using a Microsoft based solution architecture this would imply an IIS web server, a separate IIS based application server (for ASP.NET, or VB.NET or C#.NET object and application components, plus data access, and an SQL Server or other DBMS on a third server. These servers are physically located in security zones isolated from one another by firewalls. (Note: VMware partitions

can be used instead of physical servers, but the traffic between the partitions must be through either hardware or software firewalls.)

2. Technology Standards. The State maintains a dynamic listing of current technology standards for consideration in new application and web page development. These may be found in Appendix J of this RFP.

3. Accessibility. All applications and pages developed for the State must be compatible with the principles and goals contained in the electronic and information technology accessibility standards adopted by the Architectural and Transportation Barriers Compliance Board under Section 508 of the Federal Rehabilitation Act of 1973 (29 U.S.C. 749d), as amended, and with the State Accessibility guidelines developed pursuant to HEA 1926, Acts of 2001. These guidelines are listed via a link available at <http://www.access.state.ct.us/policies/accesspolicy40.html>.

4. Hosting. Both the logical and physical separation of the presentation, application and database layers is crucial to the State's hosting strategy. The Technical Review Board will conduct a technical evaluation of each application. This evaluation, among other reviews, will determine the appropriate location and security zone for hosting each of the presentation, application and database layers/servers. The technical evaluation will occur in the Business Requirements Analysis phase (or early in the System Design phase) of the State's System Development Methodology.

5. Support. Unless exempted in a RFP or an ITB, vendors are required to include a plan for ongoing application and page support. The plan shall include information regarding the appropriate technical skill sets and approximate quantity of support required. The plan shall also identify whether application support is to be conducted from within the State's network backbone or from an external source outside of the State's firewall systems which must be done using the State VPN.

6. Security – Protocols. Only HTTP and HTTPS traffic (port 80 and port 443) will be allowed from the client to the Presentation layer through the State's firewall systems for Internet based applications. Extranet applications must use the State VPN for communications between the client and Presentation layer.

Applications requiring additional ports opened on the State's firewall systems are strongly discouraged. In all cases, no direct client access to either the Business Logic layer or Database layer will be permitted. If a specific technical solution requires that additional firewall ports be opened, then the presentation of that technical solution must include and clearly identify the advantages to the state for taking on such an additional security risk.

Applications and solutions will be designed to allow for the configuration of ports utilized at implementation, however, applications and solutions will not utilize or implement dynamic allocation of ports.

7. Security - Presentation Layer Input Validation. Safeguards must be included in all applications to protect the State's data and technical resources. Presentation layer coding must include (at a minimum) specified user input validation checks to guard against unauthorized access. Appendix 2 provides detail of specific presentation layer input validation guidelines.

8. Security – Web Authentication. The State’s direction is to allow users to input the same username and password to access different services. This strengthens the State’s goal of providing a common look and feel environment in which users perceive they are interacting with State government as a whole, as opposed to many agencies and departments individually. The State has adopted a single sign-on solution utilizing Novell eDirectory and iChain products.

The use of a secondary or alternate sign-on process is not allowed. All agency-specific secondary sign on processes are in addition to, not in lieu of, the above-mentioned authentication products. Multiple factor authentication is also allowed as a complement to the single sign-on solution. The use of Active Directory for authentication is limited to Exchange, legacy support and file and print scenarios. A formal set of more complete guidelines has been developed and is available.

9. Security Review. The State reserves the right to test all applications from a security perspective and require that any vulnerability identified by such testing be subject to remediation. Testing will occur prior to implementation and may occur post implementation (possibly on a recurring basis).

10. Documentation. All system architectures, applications and application components will be documented at a level sufficient to allow for individuals other than the original developer(s) to maintain, support and enhance the application solution. Additional information and guidance on documentation will be provided in the near future as part of the State’s System Development Methodology. (See item 13 below for additional documentation requirements).

11. Source Code. The State retains the right to review application source code prior to implementation and while in production status.

12. Development, Test and Production Servers, Monitoring and Logging. All web-based applications must be tested in an appropriate n-tiered environment to ensure compatibility, reliability and reasonable performance under load while operating in the State’s production environment. It is anticipated that the sophistication and completeness of the testing environment, tools and procedures will be proportional to the size and complexity of the target system. The test environment configuration, tools and procedures will be presented to the agency and the production hosting organizations for review and approval. Applications in development or test status will not be permitted on production servers.

13. Disaster Backup and Recovery (DBAR). All critical applications will be designed with Disaster Recovery and Business Continuity in mind. The planning and documentation of such critical applications will include the necessary DBAR content.

Appendix 1 – Conceptual Architecture Principles

An on-line version can be viewed at:

<http://www.ct.gov/doit/LIB/doit/downloads/conarch.pdf>

Business Oriented

1. Information is valued as an enterprise asset, which must be shared to enhance and accelerate decision-making.
2. The planning and management of the State's enterprise-wide technical architecture must be unified and have a planned evolution that is governed across the enterprise.
3. Architecture support and review structures shall be used to ensure that the integrity of the architecture is maintained as systems and infrastructure are acquired, developed and enhanced.
4. We should leverage data warehouses to facilitate the sharing of existing information to accelerate and improve decision-making at all levels.
5. IT systems should be implemented in adherence with all security, confidentiality and privacy policies and applicable statutes.
6. The enterprise architecture must reduce integration complexity to the greatest extent possible.
7. Systems must be designed, acquired, developed, or enhanced such that data and processes can be shared and integrated across the enterprise and with our partners.
8. We will consider re-use of existing applications, systems, and infrastructure before investing in new solutions. We will build only those applications or systems that will provide clear business advantages and demonstrable cost savings
9. New information systems will be implemented after business processes have been analyzed, simplified or otherwise redesigned as appropriate.
10. Adopt a total cost of ownership model for applications and technologies which balances the costs of development, support, disaster recovery and retirement against the costs of flexibility, scalability, ease of use and reduction of integration complexity.
11. Create a small number of consistent configurations for deployment across the enterprise.
12. A standardized set of basic information services (e.g., e-mail, voicemail, e-forms) will be provided to all employees.

Technology Oriented

1. Applications, systems and infrastructure will employ reusable components across the enterprise, using an n-tier model.
2. The logical design of application systems and databases should be highly partitioned. These partitions must have logical boundaries established and the logical boundaries must not be violated.
3. The interfaces between separate application systems must be message-based; this applies to both internal and external systems.
4. We must deploy application systems that are driven by business events.
5. We should separate on-line transaction processing (OLTP) from data warehouse and other end-user computing.

6. The State shall adopt and employ consistent software engineering practices and methods based on accepted industry standards.

Business Continuity Oriented

1. IT solutions will use industry-proven, mainstream technologies.
2. Priority will be given to products adhering to industry standards and open architecture.
3. An assessment of business recovery requirements is mandatory when acquiring, developing, enhancing or outsourcing systems. Based on that assessment, appropriate disaster recovery and business continuity planning, design and testing will take place.
4. We must implement a statewide backbone network that provides a virtual, enterprise-wide local area network
5. The underlying technology infrastructure and applications must be scalable in size, capacity, and functionality to meet changing business and technical requirements.

Appendix 2

The State's obvious security objective is to protect citizen information. Code addressing web presentation layer vulnerabilities in development is required to provide this protection.

The State directs developers to the Open Web Application Security Project (OWASP) * Top Ten web site - http://www.owasp.org/index.php/OWASP_Top_Ten_Project#Top_Ten_Overview

Writing code addressing the Top Ten vulnerabilities is required to meet the state's minimum standards for web application security. The Top Ten follow in brief:

1. Unvalidated input - Information from web requests is not validated before being used by a web application. Attackers can use these flaws to attack backend components through a web application.
2. Broken access control - Restrictions on what authenticated users are allowed to do are not properly enforced. Attackers can exploit these flaws to access other users' accounts, view sensitive files, or use unauthorized functions.
3. Broken authentication and session management - Account credentials and session tokens are not properly protected. Attackers that can compromise passwords, keys, session cookies, or other tokens can defeat authentication restrictions and assume other users' identities.
4. Cross-site scripting (XSS) flaws - The web application can be used as a mechanism to transport an attack to an end user's browser. A successful attack can disclose the end user's session token, attack the local machine, or spoof content to fool the user.
5. Buffer overflows - Web application components in some languages that do not properly validate input can be crashed and, in some cases, used to take control of a process. These components can include CGI, libraries, drivers, and web application server components.
6. Injection flaws - Web applications pass parameters when they access external systems or the local operating system. If an attacker can embed malicious commands in these parameters, the external system may execute those commands on behalf of the web application.
7. Improper error handling - Error conditions that occur during normal operation are not handled properly. If an attacker can cause errors to occur that the web application does not handle, they can gain detailed system information, deny service, cause security mechanisms to fail, or crash the server.
8. Insecure storage - Web applications frequently use cryptographic functions to protect information and credentials. These functions and the code to integrate them have proven difficult to code properly, frequently resulting in weak protection.
9. Denial of service - Attackers can consume web application resources to a point where other legitimate users can no longer access or use the application. Attackers can also lock users out of their accounts or even cause the entire application to fail.

10. Insecure configuration management - Having a strong server configuration standard is critical to a secure web application. These servers have many configuration options that affect security and are not secure out of the box.

The State does not dictate how developers will address vulnerabilities, only that they be able to demonstrate that vulnerabilities are addressed.

Recognizing other vulnerabilities exist outside those listed above, the state expects web developers to apply best development practices in building secure applications. It is also required that developers address new vulnerabilities as they are identified.

* The State is not a member of OWASP. It respects their findings, but does not endorse any methodology, product, or company represented on their website.

Appendix I

Guidelines for the Implementation of Application Authentication And Single Sign-On

Guidelines for the Implementation of Application Authentication and Single Sign-On

Issued by the Architecture and Standards Division of DOIT, September 25, 2006

The State of Connecticut Enterprise Wide Technical Architecture defines two strategic products that may be used for application authentication (*Microsoft Active Directory*, *Novell eDirectory*) and one product that is to be used for single sign-on (*Novell iChain*).

These guidelines describe how these products are to be implemented in all new application or system development. These guidelines also apply to major re-engineering of existing applications.

Microsoft Active Directory

Active Directory can be used in the following circumstances:

1. For authentication to EXEC Domain File and Print Services
2. For access to Microsoft Exchange E-Mail.
3. For transitional support of legacy applications.

Active Directory will not be used in the following circumstances:

1. Authentication for internet based applications; *Novell eDirectory* will be used instead.
2. Solutions for single sign-on; *Novell iChain* will be used instead.

Novell E-Directory and IChain¹

Novell eDirectory or *Novell iChain* (with E-Directory) will be used for the following circumstances:

1. New or re-engineered applications or systems requiring Internet based access to the application or system
2. New or re-engineered applications or systems requiring Intranet based access to web based applications or systems.
3. Any application or system requiring single sign-on.
The use of an alternate single sign-on process or product will not be allowed.
4. Any application or system requiring initial role based authentication.

In addition:

5. Administration of user identification and roles will be through the facilities (*Novell iManager*) provided in the *Novell eDirectory* product.
Note: the State has implemented a two way linkage between *Active Directory* and *eDirectory* for administering users accounts; this is only in support of the allowed usages of *Active Directory* as indicated above.
6. Multi-factor authentication² is allowed as a complement for *Novell iChain* single sign-on.
7. The State's VPN solution will be used for secure access through the State's firewall to Intranet applications.

¹ The State's *eDirectory* and *iChain* infrastructure has been designed for high availability. The solution includes a robust auditing and logging facility.

² e.g., what you know (name/password), what you are (biometrics), what you have (a token or certificate)

Appendix J

DOIT Strategic Standards and Products

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APPLICATIONS	
Technical Standards	
<i>Client Interface Standards (Presentation tier)</i>	
	Web Browser User Interface
	PDA - Microsoft Mobil 5.0
<i>Standard Business Tier Languages</i>	
	COBOL LE
	JAVA (J2EE 1.4 SDK) for use with WebSphere 6.0 (for new projects) J2EE 1.3 SDK for use with WebSphere 5.1 (for "legacy" application support only)
	VB 2005 (for new projects) VB.NET 2003 (for "legacy" application support only)
	ASP.NET 2003
	.NET Framework 2.0 (for new projects); .NET 1.1 for "legacy" application support only)
<i>Inter/Intra Application Communication</i>	
	SOAP ver 1.2
	XML ver 1.0 / 1.1
	W3C XML Schema ver 1.1
	XSLT 1.1
	XPath 1.0
<i>Web Development Standards</i>	
	ASP.NET 2005
	HTML 4.0
	Java Server Pages / Servlets
	JavaScript (limited client side edits, dynamics)
Product Standards	
<i>Software Development Kits (SDKs)</i>	
	SUN J2EE 1.4 SDK (JAVA)
	Microsoft .NET 1.1 SDK
<i>Integrated Development Environments (IDEs)</i>	
	Borland JBuilder Enterprise 2006 (JAVA)
	Visual Studio 2005 (note: this does not include the Team version)
	Blue Sky RoboHelp (Help file creation)
<i>Configuration (Source Code) Management</i>	
Mainframe	
	HCM (IBM)
.NET	
	Microsoft Visual SourceSafe 6.0c
JAVA	
	left blank

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APPLICATIONS	
Code Analysis Tools	
	left blank
Object Modeling Tools	
JAVA	
	left blank
.NET	
	Visual Modeler (part of Visual Studio 2005)
Enterprise Reporting / Structured Information Delivery	
Mainframe	
	QMF (Mainframe only)
Server Based	
	Crystal Professional 11
	MS SQL Server Report Services 2005 (.NET only)
Ad Hoc Query/Analysis	
Mainframe	
	QMF
Server Based	
	left blank
Desktop	
	SAS
Online Analytical Processing (OLAP)	
	left blank
Geographic Information Systems (GIS)	
	ESRI ArcGIS Desktop 8.x (Includes ArcView 8.x and ArcInfo 8.x)
	Intergraph GeoMedia Professional 5.x (limited)
	ESRI ArcPad 6.x
	ESRI ArcIMS 4.x
Standard Project Management Tools	
	MS Project (individual)
Application Coding Standards	
JAVA	
	left blank
VB.net	
	Visual Basic .2005 (for new projects)
	VB.NET 2003 (for "legacy" application support only)
Video Media Content Creation	
Live Broadcast	
	Microsoft Media Encoder ver. 9
Mixed PowerPoint and Video	
	Microsoft Producer for PowerPoint 2003

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Collaboration	
Technical Standards	
	Protocols
	SMTP 3.0
	MIME
	LDAP
	XML 1.0 3rd Edition
	Novell DirXML
Product Standards	
E-Mail; Calendar Sharing/Scheduling	
Server Products	
	Exchange 2003
Client Products	
	Outlook 2003
	Outlook Web Access 2003
Extended Collaboration	
	Exchange 2003 (routing of documents)
	FileNet P8 Document Management
	FileNet P8 IDM & Desktop Capture
	Traction 3.x (Threaded discussions and blogs)
Process Management	
	FileNet P8 Workflow
Directory Services	
	Active Directory - Mail Account Mgmt for Exchange 2003
	Active Directory - Win2003 Server file and print services
	NDS e-directory ver 8.9 (for web authentication and for single sign-on)
Secure E-Mail and FTP	
	Tumbleweed MailGate (updated version of Tumbleweed)
Other Standards	
Web Related	
	DSF Portal Management 2.x
	Web Accessibility Standards - 508 compliant
Office Productivity	
	MS Office XP (2003)

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Data Management	
Data Base Products	
	Mainframe
	IBM DB2
	Server Based Products
	ORACLE VER 10
	SQL Server 2000 / 2005
	IBM DB2 (UDB)
	GIS Data Base (Specialty)
	ESRI ARCSDE
	ESRI GEO DB
	Desktop
	MS Access 2002/XP (Personal)
	SAS
Tools	
	Data Modeling Tools
	ERWIN
	Database Back-up and Recovery
	"Batch"
	DB2 UTILITIES
	ORACLE UTILITIES
	IMPORT/ EXPORT
	SQL SERVER UTILITIES
	"Live Backup"
	Tivoli Storage Manager 5.2
	EMC Agent
	ETL (Extract Transform Load)
	Mainframe
	INFORMATICA
	Server Based
	left blank
	Data Dictionary/Repository
	left blank
Data Base Middleware	
	Language/Product Specific
	ADO dot NET (2003)
	DB2 CONNECT-DRDA
	JDBC ver 2.1
	Generic
	ODBC 3.x
	OLE DB

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MIDDLEWARE	
Technical Standards	
Interface / Transport	
Protocols/APIs	
	ODBC 3.x
	JDBC ver 2.1
	AMI (IBM)
	OLE DB
	MSMQ API
	XPath 1.0
Messaging Format	
	SOAP 1.2
	XML 1.0 / 1.1
	EDI X12
	UDDI v 2.0 / 3.0
Object Oriented	
RPC/API	
	OMG/CORBA
	RMI over IIOP (Sun)
JAVA	
	JTS ver. 1.0
	EJB (J2EE 1.4)
	J2EE 1.4
.NET	
	DNA/DCOM+ (Microsoft)
	.NET (Microsoft)
Product Standards	
TP Monitors	
	IBM TX Series (CICS)
	Microsoft MTS
	JTS ver. 1.0
Terminal Emulation (3270)	
Server Based	
	IBM WebSphere Host Publisher
Personal Computer Based	
	Basic: MochaSoft TN3270 (FREE)
	Advanced: Seagull BlueZone

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MIDDLEWARE	
	<i>Messaging</i>
	WebSphere MQ V5.2 (IBM)
	<i>Application Integration</i>
	Integration Servers
	Oracle 9iAS Application Server (for Oracle only environments)
	IBM WebSphere 6.0 (for new projects)
	WebSphere 5.3 for "legacy" application support only
	Integration Software
	WebSphere Message Broker
	.NET (Microsoft)
	DBMS Middleware
	left blank
Other Standards	
	<i>Message Definitions</i>
	XSL 1.0 (XSL-FO)
	EDI X12
	EDI UN/EDIFACT
	XLT 1.0

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NETWORKING	
Technical Standards	
	<i>Cabling</i>
	Twisted Pair Category 5E UTP
	Twisted Pair Category 6 UTP
	Category 6E UTP
	Fiber - Multimode 62.5db
	<i>Protocols LAN</i>
	Link layer access protocol, Ethernet IEEE 802.3
	TCP/IP
	Wireless LAN IEEE 802.11g Wireless LAN
	100BaseT
	1000BaseT
	<i>Protocols WAN</i>
	TCP/IP
	Link layer access protocol, Ethernet IEEE 802.3
	Domain Name System (DNS)
	SSL ver 3
	VPN Nortel/Secure Dynamics
	ATM
	Frame Relay
	ISDN
	ADSL
	EIGRP
	BGP (Border Gateway Protocol)
	<i>Wireless cellular telephone communications.</i>
	TDMA
	CDMA
	CDPD
	GSM)
	<i>VIDEO</i>
	Network Protocols
	ITU H.320 (audio)
	ITU H.323 interoperability standards
	<i>CODECs</i>
	MPEG2
	WMV 9

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	Private Branch Exchange (PBX)
	Protocols
	ISDN PRI compatibility
	Analog services compatibility
	T-1 compatibility
	Telephony
	Session Initiation Protocol (SIP)
	Fibre
	Fibre Channel 2.0
	Protocols - Storage
	FICON
	SCON
	File Access
	SFIS
	NFS
	Product Standards
	Routers
	CISCO
	HBAs
	Emulex LP9802 (this is for consistency with installed base at DOJ data center)
	Fibre Switches (for SAN connectivity)
	Brocade 3850,4100 (edge switches)
	Braced 24000 (director switch)
	Other Standards
	Remote Monitoring
	Cricket 1.0.5

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PLATFORMS	
Technical Standards	
	Mainframe
	IBM Z-Series
	Mid-Range
	SUN V6800
	SUN V880
	SUN V280R
	IBM P-Series 5xx, 6xx
	Application Server
	DELL PowerEdge 2950 Series (Intel XEON dual core) PREFERRED
	HP Proliant DL Series (Intel XEON) FOR Current HP based environments only
	Workstation
	Intel XEON dual core
	Desktop
	Intel Pentium 4; 945G chip set. (through JAN 2007)
	Notebook
	Intel Core Duo; minimum 945 GM Chipset with integrated 950 graphics chipset (through MARCH 2007)
System Software	
Operating System	
	Mainframe
	IBM Z/OS
	Server
	Sun Solaris 2.8 – 2.9 (also called Solaris 8 and Solaris 9)
	IBM-AIX 5.3
	MS Windows 2003 SP1
	Desktop/Notebook
	MS Windows XP Professional, SP2
	Local Area Network Operating Systems
	MS Windows 2003 SP1
	Virtual Partitions Intel Platform
	WMware Workstation 5 (desktops only)
	WMware ESX Version 2.52 (servers)
	Dedicated Infrastructure Server
	RedHat Enterprise Linux ES ver. 3

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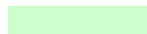
PLATFORMS	
Utility Software	
	<i>Distributed Patch Management</i>
	PatchLink Update 6.x
	<i>Software Distribution</i>
	left blank
	<i>TN 3270 Terminal Emulation</i>
	Basic: MochaSoft TN3270 (FREE)
	Advanced: Seagull BlueZone
SAN, Storage, Tape	
	<i>Managed Enterprise SAN</i>
	EMC Clariion CX500, CX700
	<i>Managed SAN / NAS</i>
	EMC Clariion CX300
	<i>Tape Backup System Software</i>
	Tivoli Storage Manager ver. 5.2
	Veritas Backup EXEX 10
Other Standards	
	<i>Thin Client</i>
	CITRIX Client ver 6
	CITRIX MetaFrame ver 2
	Microsoft Terminal Services 2003

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SECURITY	
Technical Standards	
Security Protocols	
	SSLv3
	802.1x
	IPSec
Secret Key Technology	
	Kerberos
	AES 256 bit encryption
Directory	
	LDAPv3
	X.509
	LDIF 1
Product Standards	
Access Control	
Firewalls	
	software & hardware products not provided due to security concerns
Proxy	
	WebTrack SMARTFILTER DA
	N2H2
Intrusion Detection and Prevention	
Network	
	ISS Preventia
Host Based	
	<i>left blank</i>
Protocol Analysis	
	NAI Sniffer Pro
	TCPDump
Scanning and Penetration Testing	
Software - DBMS	
	AppDetective
Software - Application	
	<i>left blank</i>
Hardware	
	NESSUS
	SARA
E-Mail Content Filtering and Virus Protection	
	McAfee 3300 (WebShield A/V and Anti Spam)
System Configuration/Management	
	E-Policy Orchestrator
System Logging Infrastructure	
	<i>left blank</i>

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SECURITY	
	Identification/Authentication
	Mainframe
	ACF-2
	User Authentication (Server based)
	Radius with ACE Software
	End Point Security (Device Authentication)
	Enterasys TES
	Cisco NAC
	Web-Based Application Authentication
	Novell iChain and eDirectory (ver. 8.9)
	Single Sign-On
	Novell iChain, Novell Identity Manager
	Strong Token
	RAS-Secure ID
	Directory
	Novell eDirectory ver. 8.9 (for web authentication and single sign-on)
	Active Directory 2003 for file and print services; for Exchange authentication
	Biometrics
	<i>left blank</i>
	Public Key/Private Key
	<i>left blank</i>
	Digital Certificates
	<i>left blank</i>
	Digital Signatures
	<i>left blank</i>
	Virtual Private Networks (VPN)
	Nortel Contivity VPN
	Secure Email and FTP
	Intranet
	Tumbleweed MailGate (updated version of Tumbleweed) - used for secure e-mail and secure FTP
	Internet
	<i>left blank</i>

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SYSTEMS MANAGEMENT	
Technical Standards	
Protocols	
	SNTP (Simple Network Time Protocol)
	RMON
	Web-Based Enterprise Management (WBEM)
	Java Management API (JMAPI)
	DMI ver 2.0s
	SNMP v2
Product Standards	
Help Desk problem ticketing, tracking etc.	
	IMPACT
Asset Management	
	left blank
Remote Monitoring Desktop/Server systems management	
	NetView 6000
	What's Up Gold
	Cricket 1.0.5
Remote Monitoring mainframe	
	Omagamon
	NetView for OS/390
	TMON
Network Management	
General Purpose	
	NetView 6000
Hardware Specific	
	Cisco Works
Other	
	Fluke Network Inspector
SAN Management	
	EMC Control Center
Web Site Analysis	
	Cricket 1.0.5
Software Distribution/Imaging	
Server	
	Ghost
Router	
	Cisco Works
Desktop	
	PatchLink 6.x
	Ghost
System Recovery	
	left blank

RFP # 06ITZ0114

Appendix K

**Connecticut Department of
Environmental Protection**
Site Information Management System

**Common Authentication &
Authorization System -
Application Design**

October 25, 2006

Version: Final 1.2

Version Control

Date	Author	Changes	Version
10/6/05	Keith Fraser	Broken out from the Final 1.0 version of the DDD. Please refer to the version control section of this preceding document (DDD Final 1.0) for information on changes made to the CAAS Application Design up to this date.	Final 1.1
10/7/05	Keith Fraser	Various typographical errors fixed	Final 1.1
10/7/05	Mark Chmarny	<ul style="list-style-type: none">• Data model changes based on DMS authorization requirement feedback from Bernie• System management process modifications to accommodate the data changes• Overall UI design modification to help the user clearly identify what would have been otherwise very similar screens.• CAAS API modification to reflect the necessary changes required by the DB model and logic changes.	Final 1.1
10/25/06	Tom Feliz	Final updates and refinement.	Final 1.2

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1. Purpose of this Document

The purpose of this document is to describe in the design, function and overall architecture of the Connecticut Department of Environmental Protection's Common Authentication and Authorization System (CAAS). This document is comprised of the following sections:

- The **Application Design** section describes the layout, data requirements and behavior of each of the pages that comprise the User Interface of CAAS. The underlying programming interfaces that support the administration and querying of CAAS data are also described in this section.
- The **Database Design** section describes the data model and provides a complete data dictionary for the CAAS database. The data model gives a visual representation of the data structure, and the data dictionary includes definitions of the tables, columns and constraints that constitute the CAAS data structure.

2. CAAS Application Design

The Common Authentication and Authorization System (CAAS) provides a unified mechanism to manage the security-related processes of authentication and authorization common across most of the DEP applications.

For the purposes of this document these two terms are defined as:

- **Authentication**
Authentication addresses the question - who is the user? It is the process of uniquely identifying the user within the realm of an application and/or service.
- **Authorization**
Authorization addresses the question - what can the user do? It is the process that governs the resources and operations that the authenticated user is permitted to access and the actions that user can perform.

Page specifications have been developed for each Web page or screen that comprise CAAS. These specifications describe the system appearance and detailed functionality at the level of each individual system dialog. Each specification has been described using the following structure:

<i>Name</i>	The name for the relevant page.
<i>Appearance</i>	An image of the relevant system user interface page(s).
<i>Actors</i>	The actors who may employ the page.
<i>Description</i>	Detailed description of the functionality provided by the page.
<i>Data Fields</i>	Describes each of the fields that are displayed on the relevant user interface page(s), together with their respective data sources and any business rules to be applied.
<i>Actions</i>	Describes the actions that may be conducted using the controls presented on the user interface page(s). This description includes any security requirements.

2.1. General Design Characteristics

2.1.1. Resource Authentication Definition

The underlying assumption in CAAS is that the applications utilizing CAAS implements the Windows Trusted Security Model. This common authentication scheme supports a unique user identity for access to all of the implemented applications. In most cases this is entirely transparent to the end-user.

The Trusted Security Model is implemented in the following way:

- The server requests the user to log on.
- The browser then automatically sends the user's credentials if the user is logged on. If the domain that the user is on is different than the server's domain, or if the user is not logged on, a dialog box appears requesting the credentials to send.
- Windows NT Challenge/Response uses an algorithm to generate a hash based on the user's credentials and the computer that the user is using. It then sends this hash to the server.
- The browser does not send the user's password across to the server.

All subsequent user activities within that application are associated with the Windows Identity established during the authentication process.

2.1.2. CAAS Interface Definitions

CAAS provides two types of interfaces: the CAAS Management Utility, and the CAAS API. These two interfaces can be further characterized as follows:

- **Management Utility Graphical User Interface** – a web application providing a common user interface to the management of the Systems and Resources along with their Role and Organizational associations.
- **Application Programming Interfaces (API)** – A programmatic interface responsible for exposing all authorization functionality to the client applications. In addition, the API exposes a small subset of the CAAS administration functionality to support external client application processes.

2.2. CAAS Administration Utility

2.2.1. CAAS Administration Utility Common Design Characteristics

The CAAS Administration Utility pages share certain common design characteristics utilized in other DEP applications (FIS, CAAS etc.). These include the use of a common header and footer for each page as well as a descriptive page title to clearly indicate the function of each page.

2.2.1.1. Header

All CAAS pages share a common header with a common function. The header includes a banner with title, and the navigation bar directly below the banner.

2.2.1.1.1. Appearance



2.2.1.1.2. Actions

Name	Invoked by	Expected Results
Connecticut DEP SIMS Banner logo/picture	Click on banner logo/picture	A new browser window opens containing the Connecticut Department of Environmental Protection Web site home page (http://dep.state.ct.us/).
Home	Click 'Home Page' tab in the CAAS bar	User is redirected to the home page of the CAAS Admin application.
System	Click 'System' tab in the CAAS bar	User is redirected to the beginning of the system administration process
Resource	Click 'Resource tab in the CAAS bar	User is redirected to the beginning of resource administration process

Name	Invoked by	Expected Results
Report	Click 'System' tab in the CAAS bar	User is redirected to the beginning of system report process

2.2.1.2. Footer

All CAAS pages share a common footer. T

2.2.1.2.1. Appearance



2.2.1.2.2. Actions

Name	Invoked by	Expected Results
SIMS Home	Click About SIMS link	User is directed to the SIMS Home page.
Help	Click Help link	User is directed to the CAAS Help page.
Feedback	Click on Feedback link	User will be directed to the SIMS feedback page.

2.2.2. CAAS Internal Security

While CAAS manages the authorization processes for external applications, it needs to also be able to provide a secure environment where these management activities can be performed. To do so, CAAS utilizes the same authentication and authorization scheme that protects the other external applications that are utilizing CAAS.

While this may seem like a “chicken-and-egg” situation, this approach allows CAAS to enforce the same authorization rules enforced on the external applications and provide a self-contained and consistent security model.

The CAAS Administration Utility has two basic user roles:

- **CAAS Resource Administrator** – Users associated to this role are able to edit the resource status (Resource Detail Screen) and modify their email address. The CAAS Resource Administrators are also able to manage the resource import process.
- **CAAS System Administrator** – Users associated to this group are able to perform system administration across all systems (not bound by their system association).

The initial configuration of CAAS defines both of these roles and the roles are automatically associated to the initial accounts.

2.2.3. CAAS Admin Home Page

2.2.3.1. Appearance

System Reporting

- Perform ad-hoc system queries
- Generate system log reports
- Profile application authorization
- Print and export system reports

System Administration

- Manage system details
- Regenerate system access code
- Manage system organizations
- Manage organization-resource associations
- Manage system roles
- Manage roles-resource association
- Manage default system object authorization

Resources Administration

- Manage resources in a context of a system
- Manage resource role assignments
- Manage resource organizational assignments

Current User Profile	
Session Started:	10/10/2005 1:55:07 PM
Username:	mchmarny
Authentication Type:	Negotiate
Is Authenticated:	True
Is CAAS Admin:	True
Full Name:	Mark Chmarny
Email Address:	mark@windsorsolutions.com
Client Host:	127.0.0.1

Welcome to the Connecticut Department of Environmental Protection (DEP) Common Authentication and Authorization System (CAAS).

CAAS represents a unified mechanism to manage the security-related processes of authentication and authorization that are common across most of the DEP applications.

Using this application, provided you have been granted the appropriate rights, you can manage your system as well as the resource role and organization association within the context of the selected system.

2.2.3.2. Actors

All authenticated resources.

2.2.3.3. Description

The CAAS Home Page is the main entry point for the ‘standalone’ CAAS application functionality. The CAAS Home Page outlines the main sections of CAAS, along with the specific elements of that section’s functionality. Although a majority of users managing the authorization specific to their particular system will never see this page, there is a need for a single entry point to the CAAS application with functionality that is not related to a specific system.

2.2.3.4. Data Fields

Area	Field Name	Enterable	Data Source	Rules
Current User Profile	Session Started	No	Application Session	Application session object is be populated during the initial CAAS Visit object creation.
Current User Profile	Username	No	Application Session (SEC_RESOURCE.NETWORK_ACCOUNT)	CAAS Visit object DB sourced fields is be populated during the creation of the CAAS user session.
Current User Profile	Authentication Type	No	Application Session	
Current User Profile	Is Authenticated	No	Application Session	

Current User Profile	Is CAAS Admin	No	Application Session (SEC_RESOURCE_ROLE)	Defined by the presence of resource CAAS administrative role association for the current user in the context of CAAS system
Current User Profile	Full Name	No	Application Session (SEC_RESOURCE_FULL_NAME)	
Current User Profile	Email Address	No	Application Session (SEC_RESOURCE_EMAIL_ADDRESS)	
Current User Profile	Client Host	No	Application Session	

2.2.3.5. Actions

Name	Invoked by	Expected Results
System Reporting	Click "System Reporting" hyperlink	User is redirected to the beginning of system report process
System Administration	Click "System Administration" hyperlink	User is redirected to the beginning of the system administration process
Resource Administration	Click "Resource Administration" hyperlink	User is redirected to the beginning of resource administration process

2.2.4. CAAS Admin Dispatcher

2.2.4.1. Appearance

Page has no UI.

2.2.4.2. Actors

All requests invoked from external applications.

2.2.4.3. Description

The CAAS Admin Dispatcher is the main entry point for all management activity based on data from external systems.

2.2.4.4. Data Fields

There are no data fields displayed on this page.

2.2.4.5. Actions

Name	Invoked by	Expected Results
Page Entry	Entering this page based on predefined URL from external application.	This page redirects the user to an appropriate process based on the values and types of parameters passed into this page.

2.2.4.6. Dispatch Codes

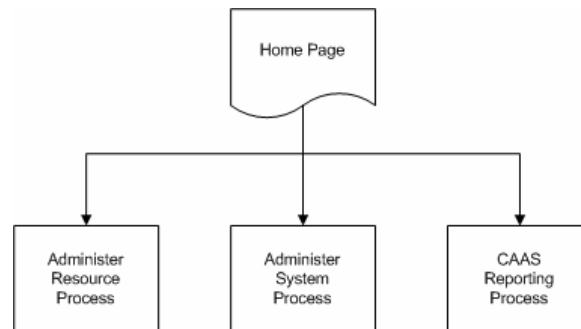
All externally initialized actions require the presence of the Process Command Code (PCC) and the System Access Code (SAC) parameters. The CAAS Helper Class, and a portion of the CAAS API, assists in creation of the necessary parameters for each one of the permitted tasks. All other parameters are optional.

Process Type	Process Command Code	System Access Code	Network Username	Return URL	Expected Results
Resource	PCC = Res	SAC = [?]	NUN = [?]	RURL = [?]	If NUN provided, the user is redirected to the resource management screen of the resource management process. If NUN is not provided the user is redirected to the resource selection screen. This is the case when a new resource needs to be associated to the invoking system. At the end of the Resource Management Process the user is redirected to the specified return URL.
System	PCC = Sys	SAC = [?]	N/A	RURL = [?]	The user is redirected to the system management screen. At the end of the Resource Management Process the user is redirected to the specified return URL.
Reports	PCC = Rep	SAC = [?]	N/A	RURL = [?]	The user is redirected to the system report criteria definition screen. At the end of the Resource Management Process the user is redirected to the specified return URL.

[?] = Runtime parameter

2.3. CAAS Administrative Processes

The CAAS Administration Utility is a Web application that provides a common user interface to management of three main sections of the CAAS.



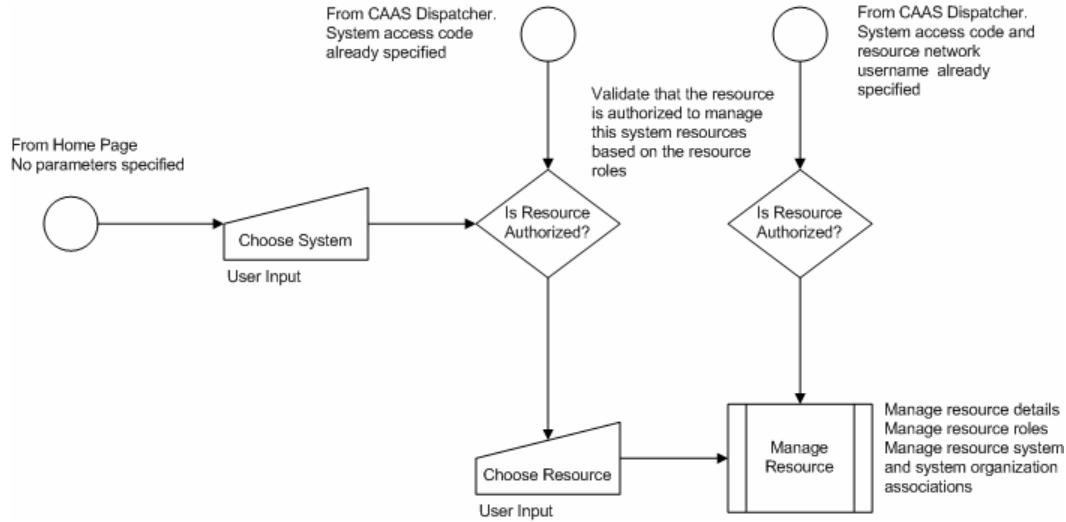
The following portion of this document describes the distinct processes that are associated with these three sections of the CAAS Administration Utility.

2.3.1. Administer Resource Process

2.3.1.1. Process Overview

The CAAS Resource Administration Process allows the administrator to manage global resources (resources that are defined agency-wide and not specific to any system). When managing system resources, the system administrator, defined by an appropriate role, manages only those resource associations and role definitions in the context of that system.

The following diagram provides an overview of the Resource Administration Process.

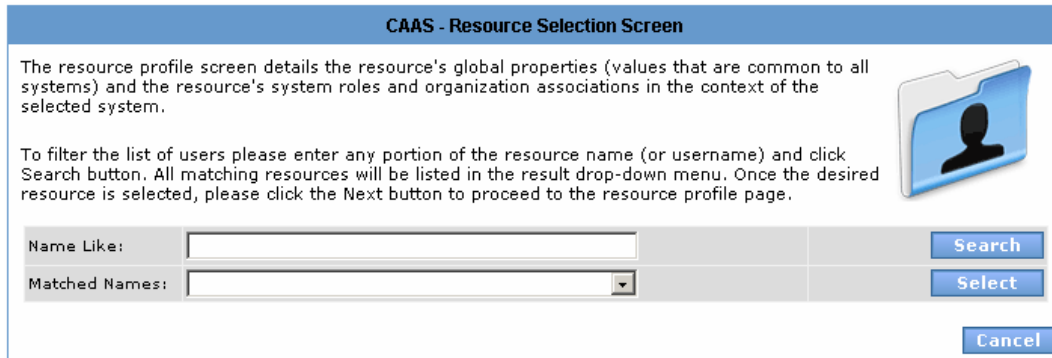


2.3.1.2. Process Actors

All authenticated resources authorized to perform the resource administration on the selected system. Access to this process is restricted based on specific user authorization roles.

2.3.1.3. Resource Selection Screen

2.3.1.3.1. Appearance



2.3.1.3.2. Description

This screen is intended to provide a mechanism to select/locate a resource that requires security administration. This screen is skipped if administration action has been invoked from an external system and redirected from the CAAS dispatcher with the SAC and NUN codes already specified.

To facilitate a large list of users, this screen allows filtering by entering a portion of the resource name (or username). The user is presented with the list of resources that match the criteria and is allowed to select from the list.

2.3.1.3.3. Data Fields

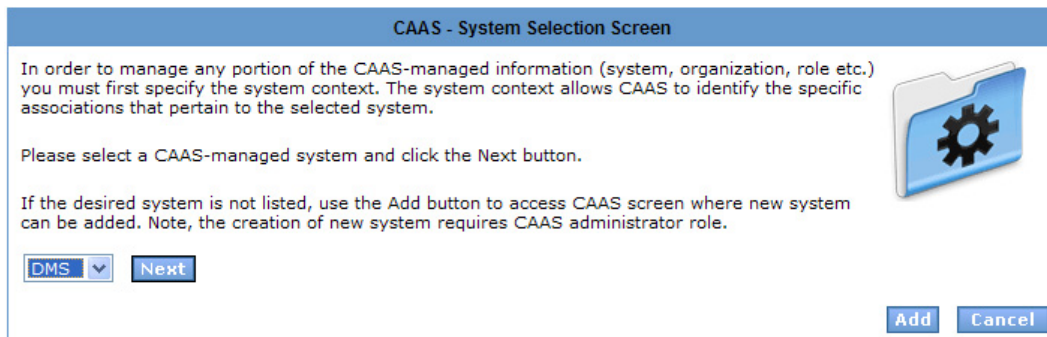
Area	Field Name	Enterable	Data Source	Rules
Resource Selection Screen	Name Like	Yes	User input	Must contain at least two characters
Resource Selection Screen	Resource Selection	Yes - Dropdown	Text: SEC_RESOURCE.FULL_NAME Value: SEC_RESOURCE.NETWORK_ACCOUNT	Ordered in ascending alphabetical order.

2.3.1.3.4. Actions

Name	Invoked by	Expected Results
Open Page	Clicking the 'Next' button on the 'System Selection' screen of the Resource Management Process.	This page is opened, with the Systems drop-down populated, and the blank value as the default (no selection).
Select	Clicking on the 'Select' button	Redirect user to the System Selection Screen.
Cancel	Clicking on the 'Cancel' button	Redirects user back to the home page or back to the URL specified in the RURL parameter if this screen is accessed as a result of the dispatcher query.

2.3.1.4. System Selection Screen

2.3.1.4.1. Appearance



2.3.1.4.2. Description

This screen is intended to provide a system context if one has not already been defined. This screen is skipped if administration action has been invoked from an external system and redirected from the CAAS dispatcher with the SAC code already specified.

2.3.1.4.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
System Selection Screen	System Selection	Yes - Dropdown	Text: SEC_SYSTEM.SYSTEM_NAME Value: SEC_SYSTEM.SYSTEM_ID	Ordered in ascending alphabetical order. The dropdown defaults to no selection (blank row).

2.3.1.4.4. Actions


Name	Invoked by	Expected Results
Open Page	Clicking the 'System Management' or the 'System Management' or the 'Reporting' hyperlink on the CAAS home page. This page can also be accessed from the navigational bar by using the System Reporting, System Management, Resource Management tabs.	This page is opened, with the Systems drop-down populated

Name	Invoked by	Expected Results
Next	Clicking on the 'Next' button	Redirects user to the Resource Detail Screen in the Edit mode for the selected resource in context of the selected system.
Cancel	Clicking on the 'Cancel' button	Redirects user back to the home page.

2.3.1.5. Resource Detail Management Screen

2.3.1.5.1. Appearance

CAAS - Resource Profile Screen



The resource profile screen details the resource's global properties (values that are common to all systems) and the resource's system roles and organization associations in the context of the selected system.

To edit the resource global information please update the resource information and click the Save button. Note that this functionality is available to the CAAS Administrators only. Systems administrators are presented with the read-only version of this section of the screen.

To update the resource roles and organization association in the context of the selected system (based on the currently selected system) please modify the selected resource's associations below. Note, these association changes impact only the selected system.

Resource global information:

Full Name:	Mark Chmarny
Network Account:	mchmarny
Email Address:	<input type="text" value="mark@windsorsolutions.com"/>
Is Active:	<input checked="" type="checkbox"/> Inactivating this user will have effect across all CAAS systems
Created On:	10/5/2005 12:08:55 PM

Resource role assignments in context of DMS system:

Default	Admin	Roles	Actions
✓		DMS-Admin	<input type="button" value="Detail"/> <input type="button" value="Remove"/>
□		<input type="text" value="DMS-Admin"/>	<input type="button" value="Add"/>

Organization role assignments in context of DMS system:

Default	Group Name	Organization Name	Actions
□	DMS Organizations	Air	<input type="button" value="Detail"/> <input type="button" value="Remove"/>
□	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>

2.3.1.5.2. Description

This screen is intended to provide a resource profile in the context of a specific system. Based on the SAC and NUN codes defined in the user session either from the previous screen selection or passed from the CAAS dispatcher, the resource manager can see the full context of the selected resource in the context of that system.

2.3.1.5.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
------	------------	-----------	-------------	-------

Resource Global Information	Full Name	No	SEC_RESOURCE.FULL_NAME	Full name of the resource created during the resource import from the network security store (LDAP, AD)
Resource Global Information	Network Account	No	SEC_RESOURCE.NETWORK_ACCOUNT	Network username, account with which the user authenticates to their local workstation. Created during the resource import from the network security store (LDAP, AD)
Resource Global Information	Account Created	No	SEC_RESOURCE.IMPORTED_ON	Timestamp created during the resource import from the network security store (LDAP, AD)
Resource Global Information	Email Address	Yes – Only if current user is in CAAS Resource Administrator Role	SEC_RESOURCE.EMAIL_ADDRESS	Derived during the resource import from the network security store (LDAP, AD). CAAS resource administrators can edit that values as in some scenarios that parameter may not be available from the security store.
Resource Global Information	Is Active	Yes – Only if current user is in CAAS Resource Administrator Role.	SEC_RESOURCE.IS_ACTIVE	Since resources can't be deleted, this option allows the CAAS resource administrator to prevent the selected resource from authorizing against CAAS (employee leaves) while maintaining their authorization history.
Resource Associated Roles	Assigned Roles	No	SEC_ROLE.ROLE_CODE SEC_ROLE.IS_CAAS_ADMIN	Roles the user has been assigned in the context of the selected system.
Resource Associated Roles	Available Roles	Yes – Drop-down menu	SEC_ROLE.ROLE_CODE	Sorted Alpha Ascending order. Contains all available system roles.
Resource Associated Organizations	Assigned Organizations	No	SEC_ORGANIZATION_GROUP.GROUP_NAME SEC_ORGANIZATION.ORGANIZATION_NAME SEC_ORGANIZATION.IS_DEFAULT	Organization the user has been associated to in the context of the selected system as defined in the match table.
Resource Associated Organizations	Available Organizations	Yes – Drop-down menu	SEC_ORGANIZATION_GROUP.GROUP_NAME SEC_ORGANIZATION.ORGANIZATION_NAME	The organization group drop-down menu on add contains the groups associated to the system. On selection of each group the Organization menu displays the organizations that are associated for that group.

2.3.1.5.4. Actions

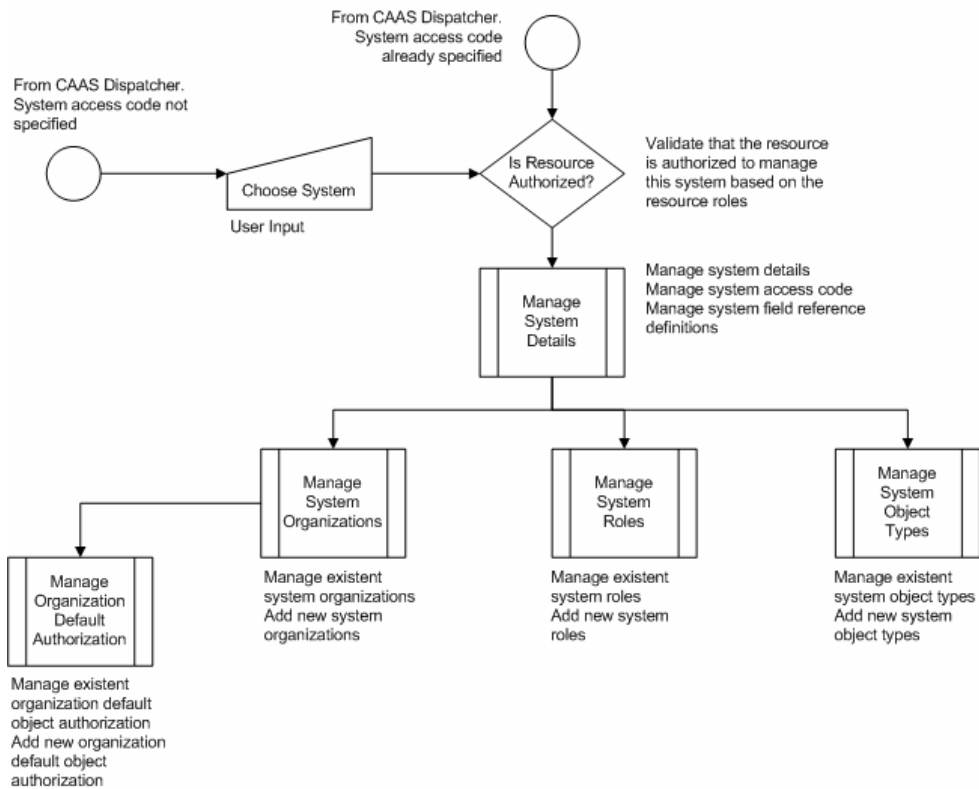
Name	Invoked by	Expected Results
Open Page	Either clicking on the 'Next' button on the resource selection screen	Screen displays the resource detail information. If the current user is a member of CAAS Resource Admin role, she or he can edit the user Active flag and Email address, for all others these parameters are read only.

Name	Invoked by	Expected Results
	or Admin Dispatcher as a result of the resource parameter being passed in	(Editing users active flag would impact that user across multiple systems, not just the currently edited one)
Role – Default	Checking one of the role radio buttons	Resource default role for this system is updated. Each user can have only one default role per system.
Role – Remove	Clicking on the role 'Remove' button	Confirmation Screen: "Are you sure you want to remove this resource role association?" If confirmed, that role is disassociated from this resource.
Role – Add	Clicking on the role 'Add' button	Clicking on the add button results in the selected role from the list of all roles for this system being associated to the resource.
Organization - Default	Checking one of the associated radio buttons	Resource default association for this system is updated. Each user can have only one default association per system.
Organization - Remove	Clicking on the associated 'Remove' button	Confirmation Screen: "Are you sure you want to remove this resource organization association?" If confirmed, that association is disassociated from this resource.
Organization – Group and Org Menu	Selecting the organizational group	Populates the organization drop-down menu with the organizations associated to the organizational group only.
Organization - Add	Clicking on the associated 'Add' button	Clicking on the add button results in the selected organization from the list of all organizations that are associated to the selected organizational group being associated to the resource.
Done	Clicking on the 'Done' button	Redirects user back to the CAAS home page or back to the URL specified in the RURL parameter if this screen is accessed as a result of the CAAS dispatcher query.

2.3.2. Administer System Process

2.3.2.1. Overview

The CAAS System Administration process allows for management of CAAS-defined systems (systems which utilize CAAS). The following diagram provides an overview of the System Administration Process.



2.3.2.2. Process Actors

All authenticated staff authorized to perform the administration of CAAS system management on the selected system. Access to this process is restricted based on specific authorization roles.

2.3.2.3. System Selection Screen


For details of the System Selection Screen please see section titled “System Selection Screen” in the Administer Resource Process. Note: Clicking next on the System selection screen will redirect the user to the System Detail screen.

2.3.2.4. System Detail Screen

2.3.2.4.1. Appearance

CAAS - System Profile Screen

The system profile screen details the system's properties including its roles and organizations as well as their associations in the context of the selected system.



System access code is a token which is required to access the CAAS services using the CAAS API. To regenerate a new system access code please click the Regenerate Access Code button. Note, regenerating this code will instantaneously invalidate all currently used codes. Every subsequent authorization request associated with the current code will be rejected.

To update the system roles and organization groups and their resource associations in the context of the selected system please click on the Details screen for that particular identity.

System Detail Information:

System Name:	DMS
Created By:	mchmarny
Created On:	10/5/2005 4:49:25 PM
Access Code:	Cg3ao85KnlQtt4WkiQzM5xv8hyPvIUyVZIHa4fPO2OZovLwztUw2ErYzX+OHWCqwxJqI6HnymzUxMDpqUIc6STOiGwAR5UBN2a4TflPryXRM9CkWd9azEcG0EPGTUnGBGCnt32EkTe+Zkv3ul59MQqtF+Uz1rOZNqJ/PbqKfb0+TiNUQx5Cg3qjrJu2pA6Kdiebob1ZxohfueeP5onWY5tkwf2u1qQjh+EuFjicE0=

DMS role associations:

Default	Admin	Roles	Actions
		DMS - Eveyone	<input type="button" value="Detail"/>
	✓	DMS-Admin	<input type="button" value="Detail"/>
✓		DMS-Reader	<input type="button" value="Detail"/>
<input type="button" value="None"/> <input type="checkbox"/>		<input style="width: 90%;" type="text"/>	<input type="button" value="Add"/>

DMS organization group associations:

Group Name	Actions
DMS Organizations	<input type="button" value="Detail"/>
Root	<input type="button" value="Add"/>
<input style="width: 95%;" type="text"/>	

2.3.2.4.2. Description

This screen is intended to provide a system profile within the CAAS application. Based on the SAC codes defined in user session either by previous screen selection or passed from the CAAS dispatcher, the system manager can see the full context of the selected system.

On initial creation of the system within CAAS, the user is asked to enter only the names of the required values while all other values are auto generated or set to null.

2.3.2.4.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
System Details	System Name	No	SEC_SYSTEM.SYSTEM_NAME	
System Details	Created By	No	SEC_SYSTEM.CREATED_BY	
System Details	Created On	No	SEC_SYSTEM.CREATED_ON	

System Details	Access Code	No, but can be regenerated	SEC_SYSTEM.ACCESS_CODE	
System Roles	Role Name	Yes	SEC_ROLE.ROLE_CODE	
System Roles	Default	No	SEC_SYSTEM.DEFAULT_ROLE_ID	Identifies which role is default for all newly added resources
System Roles	Admin	Yes	SEC_ROLE.IS_CAAS_ADMIN	
Organization Groups	Group Name	No	SEC_ORGANIZATION_GROUP.GROUP_NAME	Allows for nested groups. When adding a new group user can select group parent other than the Root.

2.3.2.4.4. Actions

Name	Invoked by	Expected Results
Open Page	Either clicking on the 'Next' button on the system selection screen or CAAS Admin Dispatcher as a result of the system access code parameter being passed in	Screen displays the system detail information.
Regenerate Access Code	Clicking on the 'Regenerate Access Code' button	Prompts user for confirmation and if confirmed, regenerates system access code.
Define Object Types	Clicking on the 'Define Object Types' button	Take user to the Object Type Definition screen.
System Role - Edit	Clicking on the 'Edit' buttons	Redirects the user to the Role Administration screen. If user has modified any fields the system confirms whether to save these changes before redirecting or now.
Role - Detail	Clicking on the 'Detail' button	Take the user to the Role detail screen
Role - Add	Clicking on the 'Add' button	Validates the role name against the list of existing roles for that system. If unique and not empty than adds that role to the list, else results in warning that the role is either not valid (empty) or not unique.
Organization Group - Detail	Clicking on the 'Detail' button	Take the user to the Organization Group detail screen
Organization Group - Add	Clicking on the 'Add' button	Validates the parent group selection and the new organization group name against the list of existing organization groups for that system. If unique and not empty than adds that group to the list, else results in warning that the group is either not valid (empty) or not unique.
Done	Clicking on the 'Done' button	Redirects the user back to the home page or back to the URL specified in the RURL parameter if this screen is accessed as a result of the CAAS dispatcher query.

2.3.2.5. System Role Management Screen


2.3.2.5.1. Appearance

CAAS - Role Profile Screen

The system role profile screen defines in detail the selected role in the context of the selected system. In addition, this screen can be used to define role resource associations.

Please modify the role details and click the save button or use the resource resource association section of this screen to manage the resources that are directly associated to the selected role.

Please modify the role details and click the Done button.



Role Detail Information:

Role Name:	<input type="text" value="DMS-Admin"/>
System Name:	DMS
Is System Default:	<input type="checkbox"/> Check to make this role system default
Is CAAS Administrator:	<input checked="" type="checkbox"/> Check to allow this role to administer CAAS
Created By:	mchmarny
Created On:	10/5/2005 4:49:25 PM

Role assignments in context of DMS system:

Resource	Actions
Mark Chmarny - mchmarny	<input type="button" value="Detail"/> <input type="button" value="Remove"/>

Name Like:	<input type="text"/>	<input type="button" value="Search"/>
Matched Names:	<input type="text"/>	<input type="button" value="Add"/>

2.3.2.5.2. Description

This screen is intended to give system administrative staff the ability to edit an existing system role selected on the system profile screen.

2.3.2.5.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
Role Detail	Role Name	Yes	SEC_ROLE.ROLE_CODE	
Role Detail	System Name	No	SEC_SYSTEM.SYSTEM_NAME	System roles can't be edited once created as it could have potentially security implication on the external system.
Role Detail	Is System Default	Yes	SEC_SYSTEM.DEFAULT_ROLE_ID	
Role Detail	Is CAAS Administrator	Yes	SEC_ROLE.IS_CAAS_ADMIN	
Role Detail	Created By	No	SEC_ROLE.CREATED_BY	
Role Detail	Created On	No	SEC_ROLE.CREATED_ON	
Role Assignments	User Description	No	SEC_RESOURCE.FULL_NAME – SEC_RESOURCE.NETWORK_ACCOUNT	Using the match table association to the role in that system
Role Assignments	Name Like	Yes	User input	Must contain at least two characters
Role Assignments	Resource Selection	Yes - Dropdown	Text: SEC_RESOURCE.FULL_NAME Value: SEC_RESOURCE.NETWORK_ACCOUNT	Ordered in ascending alphabetical order.


2.3.2.5.4. Actions

Name	Invoked by	Expected Results
Open Page	Either clicking on the 'Edit' button on the system detail screen.	Screen displays the system role detail information.
Assigned Users – Role Remove	Clicking on the 'Remove' button in the assigned users section	Results in a confirmation screen: "Are you sure you want to remove this user from the role associated?" If confirmed, the system disassociates the selected role from this user.
Assigned Users – Role Add	Clicking on the 'Add' button in the assigned users section	Validates the selected resource against the list of already assigned users to this role. If unique than adds that resource to the list, else results in warning that the resource is not unique.
Role Detail	Clicking on the "Delete" button in the assigned users section	Results in a confirmation screen: "Are you sure you want to delete this role?" If confirmed, the role is deleted and the user is redirected to the system profile screen. The delete button is disabled when the role has resource role associations.
Done	Clicking on the 'Done' button	Redirects the user back to the system detail screen.

2.3.2.6. System Organization Group Management Screen

2.3.2.6.1. Appearance

CAAS - Organizational Group Profile Screen



The organization group profile screen defines in detail the selected organization group in the context of the selected system. Each system can have multiple organization groups. These groups can also be further nested up to three levels to allow for organization group hierarchy.

Please modify the organization group details and click the save button or use the organization association section of this screen to manage the organization that are directly associated to the selected organization group.

Organizational Group Detail Information:

Organization Group Name:	<input type="text" value="DMS Organizations"/>
Parent Group Name:	Root
System Name:	DMS
Created By:	mchmarny
Created On:	10/10/2005 7:01:57 AM

Organizations associated to this organization group in context of DMS system:

Organization Code	Organization Name	Actions
Air	Air Permit Transfer	<input type="button" value="Detail"/>
HR	Human Resource	<input type="button" value="Detail"/>
<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>

2.3.2.6.2. Description

This screen is intended to give CAAS system administrative staff the ability to edit existing system organizations within the system organizational group selected on the system profile screen.

2.3.2.6.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
Group Details	Org. group Name	Yes	SEC_ORGANIZATION_GROUP.GROUP_NAME	

Group Details	Parent Group Name	No	SEC_ORGANIZATION_GROUP.PARENT_GROUP_ID	
Group Details	System Name	No	SEC_SYSTEM.SYSTEM_NAME	
Group Details	Created By	No	SEC_ORGANIZATION_GROUP.CREATED_BY	
Group Details	Created On	No	SEC_ORGANIZATION_GROUP.CREATED_ON	
Organizations	Organizations Name	No	SEC_ORGANIZATION.ORGANIZATION_NAME	
Organizations	Organization Code	No	SEC_ORGANIZATION.ORGANIZATION_CODE	

2.3.2.6.4. Actions

Name	Invoked by	Expected Results
Open Page	Either clicking on the 'Edit' button on the system detail screen.	Screen displays the system role organization information.
Detail	Clicking on the 'Detail' button	Redirect the user to the Organizational Profile Screen.
Add	Clicking on the 'Add' button	Validates the organization name and code against the list of existing organizations for that organizational group. If unique and not empty then that organization is added to the list, else results in warning that the organization is either not valid (code or name are empty) or not unique.
Done	Clicking on the 'Done' button	Redirects the user back to the system detail screen.

2.3.2.7. System Organization (Profile) Management Screen


2.3.2.7.1. Appearance

CAAS - Organizational Profile Screen

The organization profile screen defines in detail the selected organization in the context of the selected organization group. In addition, this screen can be used to define organization resource associations.

Please modify the organization details and click the save button or use the organization resource association section of this screen to manage the resources that are directly associated to the selected organization.

Please modify the organization details and click the Done button.



Organizational Detail Information:

Organization Name:	<input type="text" value="Air"/>
Organization Code:	<input type="text" value="Air Permit Transfer"/>
Organization Group Name:	DMS Organizations
System Name:	DMS
Created By:	mchmarny
Created On:	10/10/2005 7:04:11 AM

Resource associated to this organization in context of DMS system:

Resource	Actions
Mark Chmarny - mchmarny	<input type="button" value="Detail"/> <input type="button" value="Remove"/>

Name Like:	<input type="text"/>	<input type="button" value="Search"/>
Matched Names:	<input type="text"/>	<input type="button" value="Add"/>

2.3.2.7.2. Description

This screen is intended to give CAAS system administrative staff the ability to edit existing system organizations selected on the system profile screen.

2.3.2.7.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
Organization Details	Org. Name	Yes	SEC_ORGANIZATION.ORGANIZATION_NAME	
Organization Details	Org. Code	Yes	SEC_ORGANIZATION.ORGANIZATION_CODE	
Organization Details	Org. group Name	No	SEC_ORGANIZATION_GROUP.GROUP_NAME	
Organization Details	System Name	No	SEC_SYSTEM.SYSTEM_NAME	
Organization Details	Created By	No	SEC_ORGANIZATION.CREATED_BY	
Organization Details	Created On	No	SEC_ORGANIZATION.CREATED_ON	
User Association	User Description	No	SEC_RESOURCE.FULL_NAME – SEC_RESOURCE.NETWORK_ACCOUNT	

User Association	Name like	Yes	User input	
User Association	Matched Names	Yes Drop-down	SEC_RESOURCE.FULL_NAME	


2.3.2.7.4. Actions

Name	Invoked by	Expected Results
Open Page	Clicking on the 'Edit' button on the Organization detail screen	Screen displays the organization resource association information.
Delete	Clicking on the 'Delete' button	Results in a confirmation screen: "Are you sure you want to delete this organization?" If confirmed, the system removes that association. This button is disabled if the organization has any resource associations.
Search	Clicking on the 'Search' button	Searches for similar names that have been entered in the 'Name Like' field. The results can be seen in the Matched Names drop down. If no name is entered in the 'Name Like' field, the Matched Names drop down displays all names with security rights associated to them in CAAS.
Add	Clicking on the 'Add' button	Clicking on the add button results in the selected role from the list of all roles for this system being associated to the resource.
Detail	Clicking on the 'Detail' button	Redirects user to the resource detail screen in the context of the current system and selected resource
Remove	Clicking on the 'Remove' button	Confirmation Screen: "Are you sure you want to remove this resource organization association?" If confirmed, that association is disassociated from this resource.
Define Default Security	Clicking on the 'Define Default Security' button	Redirect the user to the organization default security screen.
Done	Clicking on the 'Done' button	Redirects the user back to the organization group detail screen.

2.3.2.8. Organization Default Security

2.3.2.8.1. Appearance

CAAS - Organization Default Object Security Definition



The organization default object security definition portion of system profile allows for definition of default authorization roles for objects added to CAAS by the selected organization. When objects are added to the CAAS system using the API, the default organization association of the adding resource in the context of the selected system uses this list to define the default access authorization.

Please define the default roles for each organization and click the Done button.

Note, this default role associations are only used during the initial addition of an object and can be overwritten in the latter time using the CAAS API.

Detail Organization Information:

Organization Name:	Air
Organization Code:	Air Permit Transfer
Organization Group Name:	DMS Organizations
System Name:	DMS
Created By:	mchmarny
Created On:	10/10/2005 7:04:11 AM

Default organization role definition for objects added by members of Air organization:

Organization Code	Default Role	Actions
DMS-Admin	Air Permit Transfer	Remove
DMS-Reader	Human Resource	Remove
Air	DMS - Eveyone	Add

Add New Organization
Add New Role
Done

2.3.2.8.2. Description

This screen is intended to give CAAS system administrative staff the ability to manage organization default object authorization.

2.3.2.8.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
Organization Details	Org. Name	No	SEC_ORGANIZATION.ORGANIZATION_NAME	
Organization Details	Org. Code	No	SEC_ORGANIZATION.ORGANIZATION_CODE	
Organization Details	Org. group Name	No	SEC_ORGANIZATION_GROUP.GROUP_NAME	
Organization Details	System Name	No	SEC_SYSTEM.SYSTEM_NAME	
Organization Details	Created By	No	SEC_ORGANIZATION.CREATED_BY	
Organization Details	Created On	No	SEC_ORGANIZATION.CREATED_ON	
Default Organization Roles	Organization Code	Yes	SEC_ORGANIZATION.ORGANIZATION_NAME	
Default Organization Roles	Default Role	Yes	SEC_ROLE.ROLE_CODE	

2.3.2.8.4. Actions

Name	Invoked by	Expected Results
Open Page	Clicking on the 'Define Default Security' button on the Organization detail screen	Screen displays the organization detail information and the defined default organization role definitions.
Remove	Clicking on the 'Remove' button	Confirmation Screen: "Are you sure you want to remove this organization default role?" If confirmed, that association is disassociated from this organization.
Add	Clicking on the 'Add' button	Clicking on the add button results in the selected organization role being defined as the default object role authorization for the objects added by the selected organization.
Add New Organization	Clicking on the 'Add New Organization' button	Redirects user to the system organization group screen
Add New Role	Clicking on the 'Add New Role' button	Redirects user to the system detail screen
Done	Clicking on the 'Done' button	Redirects the user back to the organization detail screen.


2.3.2.9. System Object Type Management Screen

2.3.2.9.1. Appearance

CAAS - System Object Type

The object type portion of system profile allows for definition of multiple object types to be associated to the selected system. The definition of multiple object types for each system allows CAAS to manage authorization for multiple objects with the same identity within the context of the same system.

Please modify the list of existing object types and click the Done button.



Selected System Information:

System Name:	DMS
Created By:	mchmarny
Created On:	10/5/2005 4:49:25 PM

Object type definitions in context of DMS system:

Object Type Code	Actions
Anotation	Delete
Document	Delete
<input style="width: 90%;" type="text"/>	Add

2.3.2.9.2. Description

The object type portion of system profile allows for definition of multiple object types to be associated to the selected system. The definition of multiple object types for each system allows CAAS to manage authorization for multiple objects with the same identity within the context of the same system. Examples of object types provided in the mock-up are DMS-related (Document, Anotation). However, object types can be any type of data object in any system that uses CAAS for security.

2.3.2.9.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
System Details	System Name	No	SEC_SYSTEM.SYSTEM_NAME	
System Details	Created By	No	SEC_SYSTEM.CREATED_BY	

System Details	Created On	No	SEC_SYSTEM.CREATED_ON	
Object Types	Object Type Code	Yes	SEC_OBJECT_TYPE.TYPE_CODE	

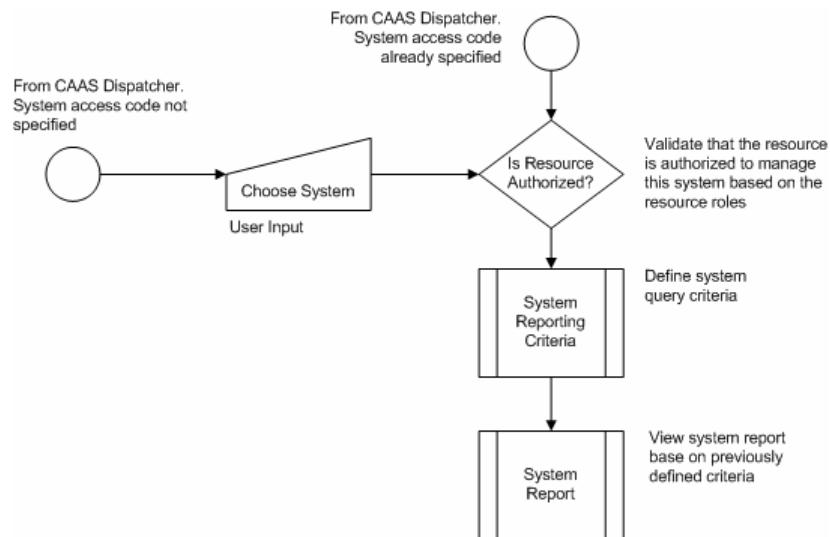
2.3.2.9.4. Actions

Name	Invoked by	Expected Results
Open Page	Clicking on the 'Define Object Types' button on the System detail screen	Screen displays the system object type information.
Delete	Clicking on the 'Delete' button	Results in a confirmation screen: "Are you sure you want to delete this object type?" If confirmed, the system removes object type from the selected system. Note, deletion of object type results in deletion of all authorizations for that object type.
Add	Clicking on the 'Add' button	Clicking on the add button results in the addition of a new object type.
Done	Clicking on the 'Done' button	Redirects the user back to the system detail screen.

2.3.3. System Reporting Process

2.3.3.1. Process Overview

The Query CAAS Log process allows for query and reporting on any CAAS-defined system. The following diagram provides an overview of the Query CAAS Log Process.



2.3.3.2. Process Actors

All CT DEP staff authorized to perform the administration of CAAS resource management on the selected system. Access to this process is restricted based on specific user authorization roles.

2.3.3.3. System Report Criteria Screen

2.3.3.3.1. Appearance

2.3.3.3.2. Description

This page is intended to give CT DEP administrative staff the ability to report on the CAAS activities for a particular system based either on the SAC codes defined in the user session from the previous screen selection or passed from the CAAS dispatcher.

2.3.3.3.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
Report Criteria	Entry Type	Yes - Dropdown	SEC_LOG_ENTRY_TYPE. ENTRY_TYPE_NAME	Optional
Report Criteria	Resources	Yes – using the search utility provided below the entry box	User input or	Optional
Report Criteria	Name like	Yes	User input	
Report Criteria	Matched Names	Yes – Drop-down	SEC_RESOURCE.FULL_NAME	
Report Criteria	Outcome Filter	Yes – Mutually exclusive options, only one selected at all times		Required. Only one selected at the time. One always selected. Default to Both.
Report Criteria	Created Between	Yes – freehand or by the calendar button		Optional. Uses a calendar pop-up.
Report Criteria	Entry Contains	Yes		Optional. If used, performs contains search on the Log entry detail field.

Report Criteria	Sort By	Yes - Dropdown		Required. Contains: Entry Date, Entry Type, Resource Name and Outcome
Report Criteria	Order	Yes – Mutually exclusive options, only one selected at all times		Required, Defaults to ascending.
Report Criteria	Max Rows	Yes – Drop-down	Application Logic	Required, Defaults to 500. (50, 100, 250, 500, 750, 1000)

2.3.3.3.4. Actions

Name	Invoked by	Expected Results
Open Page	'System Log Reports' hyperlink on the CAAS home page	Populates the screen with the lookup values and sets the defaults.
Resource - Search	Clicking on the 'Search' button	Searches for similar names that have been entered in the 'Name Like' field. The results can be seen in the Matched Names drop down. If no name is entered in the 'Name Like' field, the Matched Names drop down displays all names with security rights associated to them in CAAS.
Add	Clicking on the 'Add' button	Adds the resource to the Resources field. Validates the resource is not already added.
Remove Selected	Select the resource from the Resources field and click the Remove Selected button	Removes the resource from the Resources field upon screen refresh.
Search	Clicking on the 'Search' button	Displays the System Report Screen, which lists the available reports based on the search criteria entered.

2.3.3.4. System Report Screen

2.3.3.4.1. Appearance

CAAS - System Report Screen					
Search Criteria:		Resources: Scott Remick - sremick,Jaime DEP - jmcfarla,Tom Feliz - tfeliz,Jeff Horn - jhorn			
Edit		Outcome: All			
		From: 10/2/2006			
		Sort By: Entry Date			
		Order: Desc			
		Max Rows: 500			
Date	Type	By	From	Success	Detail
2006-11-02T07:52:24	Organization	sremick	192.168.1.100	Y	Deletion of default organization role assignment [Organization: Classroom]
2006-11-02T07:52:16	Organization	sremick	192.168.1.100	Y	Assignment of default organization role [Organization: Classroom Role: DMS-Reader]
2006-11-02T07:52:08	Organization	sremick	192.168.1.100	Y	Assignment of default organization role [Organization: Administrators Role: DMS-Admin]
2006-10-04T14:46:34	Organization	jhorn	90.0.0.181	Y	Assignment of default organization role [Organization: GeneralDEP Role: DMS-Reader]
2006-10-04T14:46:28	Organization	jhorn	90.0.0.181	Y	Assignment of default organization role [Organization: Water Owners Role: DMS-Owner]
2006-10-04T14:46:22	Organization	jhorn	90.0.0.181	Y	Assignment of default organization role [Organization: Water Authors Role: DMS-Author]
2006-10-04T14:43:59	Organization	jhorn	90.0.0.181	Y	Assignment of default organization role [Organization: GeneralDEP Role: DMS-Reader]
2006-10-04T14:43:53	Organization	jhorn	90.0.0.181	Y	Assignment of default organization role [Organization: Water Authors Role: DMS-Author]
2006-10-04T14:43:48	Organization	jhorn	90.0.0.181	Y	Assignment of default organization role [Organization: Water Owners Role: DMS-Owner]
2006-10-04T10:38:00	Resource	jhorn	90.0.0.181	Y	Addition of resource organization association [Resource = jhorn Organization = OLISP Authors Default = N]

2.3.3.4.2. Description

Based on the criteria defined on the criteria definition screen, this page provides the system administrative staff with a detailed report on the system authorization activity.

2.3.3.4.3. Data Fields

Area	Field Name	Enterable	Data Source	Rules
Report Header	Search Criteria	No	Defined by user selection on the criteria definition screen.	
Report Details	Date	No	SEC_LOG.CREATED_ON	
Report Details	Type	No	SEC_ENTRY_TYPE.ENTRY_TYPE_NAME	
Report Details	By	No	SEC_RESOURCE.FULL_NAME	
Report Details	From	No	SEC_LOG.CLIENT_HOST	
Report Details	Outcome	No	SEC_LOG.IS_SUCCESS	
Report Details	Details	No	SEC_LOG.LOG_ENTRY	

2.3.3.4.4. Actions

Name	Invoked by	Expected Results
Open Page	Clicking on the Search button on the Log Query	Executes the query based on the values in the search criteria object and populates the result screen.

Name	Invoked by	Expected Results
	Criteria screen	
Edit	Clicking on the Edit button	Redirects the user back the query criteria definition screen with the current criteria populated.
Review Resoucre	Click on the resource name	Redirects to the Resource Profile page.

2.4. CAAS Programming Interfaces

The CAAS API is implemented as a .NET assembly that can be integrated into any .NET project by reference. The CAAS API is meant to provide a static interface to the CAAS logic. Therefore all usage of the CAAS API in external applications should be implemented by the CAAS programmatic interfaces (for clarity, these have a prefix with the character “I” and have the same name as their true implementations. Such an approach protects the implementing applications from being impacted by the modifications made to CAAS and its application logic.

The following is a description of the CAAS API object model defined by the programmatic interfaces. While each class implementing these interfaces may choose to provide additional functionality, the methods and objects listed below are static.

2.4.1. ICAASAdmin Members

Interface definition for the CAAS Admin API

2.4.1.1. Public Instance Methods

AddObject	Adds initial object authorization. Utilizes the information from the default organization role definition table as is data source.
AuthorizeOrganization	Authorizes organization for the specified object using the provided system role.
AuthorizeResource	Authorizes resource for the specified object using the provided system role.
DeleteObject	Removes the provided object and all its authorization definitions from the CAAS system.
UnauthorizeOrganization	Removes all organization authorization for specified object.
UnauthorizeResource	Removes all resource authorization for specified object.

2.4.1.1.1. ICAASAdmin.AddObject Method

Adds initial object authorization. Utilizes the information from the default organization role definition table as is data source.

```
void AddObject(
    string systemAccessCode,
    string objectTypeCode,
    string objectID,
    string resourceNetworkAccount
);
```

2.4.1.1.1.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

objectTypeCode

Object type code defined in CAAS. Value Type: **String** (System.String)

objectID

Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)

resourceNetworkAccount

Network account of the user performing this function. Value Type: **String** (System.String)

2.4.1.1.2. ICAASAdmin.AuthorizeOrganization Method

Authorizes organization for the specified object using the provided system role.

```
void AuthorizeOrganization(
```



```

string systemAccessCode,
string objectTypeCode,
string objectID,
string roleTypeCode,
string organizationCode
);

```

2.4.1.1.2.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

objectTypeCode

Object type code defined in CAAS. Value Type: **String** (System.String)

objectID

Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)

roleTypeCode

System role code defined in CAAS Value Type: **String** (System.String)

organizationCode

Organization code defined in CAAS Value Type: **String** (System.String)

2.4.1.1.3. ICAASAdmin.AuthorizeResource Method

Authorizes resource for the specified object using the provided system role.

```

void AuthorizeResource(
string systemAccessCode,
string objectTypeCode,
string objectID,
string roleTypeCode,
string resourceNetworkAccount
);

```

2.4.1.1.3.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

objectTypeCode

Object type code defined in CAAS. Value Type: **String** (System.String)

objectID

Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)

roleTypeCode

System role code defined in CAAS Value Type: **String** (System.String)

resourceNetworkAccount

Network account of the user performing this function. Value Type: **String** (System.String)

2.4.1.1.4. ICAASAdmin.DeleteObject Method

Removes the provided object and all its authorization definitions from the CAAS system.

```

void DeleteObject(
string systemAccessCode,
string objectTypeCode,
string objectID,
string resourceNetworkAccount
);

```

);

2.4.1.1.4.1. Parameters*systemAccessCode*CAAS-defined system access code token. Value Type: **String** (System.String)*objectTypeCode*Object type code defined in CAAS. Value Type: **String** (System.String)*objectID*Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)*resourceNetworkAccount*Network account of the user performing this function. Value Type: **String** (System.String)**2.4.1.1.5. ICAASAdmin.UnauthorizeOrganization Method**

Removes all organization authorization for specified object.

```
void UnauthorizeOrganization(
    string systemAccessCode,
    string objectTypeCode,
    string objectID,
    string organizationCode,
    string resourceNetworkAccount
);
```

2.4.1.1.5.1. Parameters*systemAccessCode*CAAS-defined system access code token. Value Type: **String** (System.String)*objectTypeCode*Object type code defined in CAAS. Value Type: **String** (System.String)*objectID*Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)*organizationCode*Organization code defined in CAAS Value Type: **String** (System.String)*resourceNetworkAccount*Network account of the user performing this function. Value Type: **String** (System.String)**2.4.1.1.6. ICAASAdmin.UnauthorizeResource Method**

Removes all resource authorization for specified object.

```
void UnauthorizeResource(
    string systemAccessCode,
    string objectTypeCode,
    string objectID,
    string resourceNetworkAccount
);
```

2.4.1.1.6.1. Parameters*systemAccessCode*CAAS-defined system access code token. Value Type: **String** (System.String)

objectTypeCode

Object type code defined in CAAS. Value Type: **String** (System.String)

objectID

Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)

resourceNetworkAccount

Network account of the user performing this function. Value Type: **String** (System.String)

2.4.1.1.7. ICAASAdmin.UnauthorizeResource Method

Removes all resource authorization for specified object.

```
void UnauthorizeResource(  
    string systemAccessCode,  
    string objectTypeCode,  
    string objectID,  
    string resourceNetworkAccount  
);
```

2.4.1.1.7.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

objectTypeCode

Object type code defined in CAAS. Value Type: **String** (System.String)

objectID

Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)

resourceNetworkAccount

Network account of the user performing this function. Value Type: **String** (System.String)

2.4.1.1.8. ICAASAdmin.UnauthorizeResource Method

Removes all resource authorization for specified object.

```
void UnauthorizeResource(  
    string systemAccessCode,  
    string objectTypeCode,  
    string objectID,  
    string resourceNetworkAccount  
);
```

2.4.1.1.8.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

objectTypeCode

Object type code defined in CAAS. Value Type: **String** (System.String)

objectID

Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)

resourceNetworkAccount

Network account of the user performing this function. Value Type: **String** (System.String)

2.4.1.1.9. ICAASAdmin.UnauthorizeResource Method

Removes all resource authorization for specified object.

```
void UnauthorizeResource(
    string systemAccessCode,
    string objectTypeCode,
    string objectID,
    string resourceNetworkAccount
);
```

2.4.1.1.9.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

objectTypeCode

Object type code defined in CAAS. Value Type: **String** (System.String)

objectID

Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)








resourceNetworkAccount



Network account of the user performing this function. Value Type: **String** (System.String)

2.4.2. ICAASClient Members

Interface definition for the CAAS Client API

2.4.2.1. Public Instance Methods

 GetOrganizations	Lists organizations for the specified organization group
 GetResource	Gets resource profile object defined by the IResource Interface
 GetResourceAuthorization	Gets the system role for the specified resource object combination
 GetResourceDefaultRole	Gets resource default role for the selected system
 GetResourceOrganizations	Gets a list of organization to which the selected resource is associated
 GetResourceRoles	Gets a list of roles to which the selected resource is associated
 GetResources	Overloaded. Gets an array of resource for the system or the provided organization

 GetRoles	Gets a list of roles associated for the specified resource
 IsResourceInRoles	Validates that the specified resource in the array of provided roles

2.4.2.1.1. ICAASClient.GetOrganizations Method

Lists organizations for the specified organization group

```
IDictionary GetOrganizations(
    string systemAccessCode,
    string organizationGroup
);
```

2.4.2.1.1.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

organizationGroup

CAAS-defined organization group associated to this system. Value Type: **String** (System.String)

2.4.2.1.1.2. Return Value

IDictionary (System.Collections.IDictionary)

2.4.2.1.2. ICAASClient.GetResource Method

Gets resource profile object defined by the IResource Interface

```
IResource GetResource(
    string systemAccessCode,
    string resourceNetworkAccount
);
```

2.4.2.1.2.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

resourceNetworkAccount

Resource network account. Value Type: **String** (System.String)

2.4.2.1.2.2. Return Value

IResource (Windsor.CTDEP.CAAS.CAASServerInterface.IResource)

2.4.2.1.3. ICAASClient.GetResourceAuthorization Method

Gets the system role for the specified resource object combination

```
string GetResourceAuthorization(
    string systemAccessCode,
    string objectTypeCode,
    string objectID,
    string resourceNetworkAccount
);
```

2.4.2.1.3.1. Parameters*systemAccessCode*CAAS-defined system access code token. Value Type: **String** (System.String)*objectTypeCode*Object type code defined in CAAS. Value Type: **String** (System.String)*objectID*Calling system specific ID. Qualified in CAAS by the objectTypeCode parameter to assure uniqueness. Value Type: **String** (System.String)*resourceNetworkAccount*Resource network account. Value Type: **String** (System.String)**2.4.2.1.3.2. Return Value****String** (System.String)**2.4.2.1.4. ICAASClient.GetResourceDefaultRole Method**

Gets resource default role for the selected system

```
string GetResourceDefaultRole(
    string systemAccessCode,
    string resourceNetworkAccount
);
```

2.4.2.1.4.1. Parameters*systemAccessCode*CAAS-defined system access code token. Value Type: **String** (System.String)*resourceNetworkAccount*Resource network account. Value Type: **String** (System.String)**2.4.2.1.4.2. Return Value****String** (System.String)**2.4.2.1.5. ICAASClient.GetResourceOrganizations Method**

Gets a list of organization to which the selected resource is associated

```
IDictionary GetResourceOrganizations(
    string systemAccessCode,
    string organizationGroup,
    string resourceNetworkAccount
);
```

2.4.2.1.5.1. Parameters*systemAccessCode*CAAS-defined system access code token. Value Type: **String** (System.String)*organizationGroup*CAAS-defined organization group associated to this system. Value Type: **String** (System.String)*resourceNetworkAccount*Resource network account. Value Type: **String** (System.String)**2.4.2.1.5.2. Return Value**

IDictionary (System.Collections.IDictionary)

2.4.2.1.6. ICAASClient.GetResourceRoles Method

Gets a list of roles to which the selected resource is associated

```
IDictionary GetResourceRoles(
    string systemAccessCode,
    string resourceNetworkAccount
);
```

2.4.2.1.6.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

resourceNetworkAccount

Resource network account. Value Type: **String** (System.String)

2.4.2.1.6.2. Return Value

IDictionary (System.Collections.IDictionary)

2.4.2.1.7. ICAASClient.GetRoles Method

Gets a list of roles associated for the specified resource

```
IDictionary GetRoles(
    string systemAccessCode
);
```

2.4.2.1.7.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

2.4.2.1.7.2. Return Value

IDictionary (System.Collections.IDictionary)

2.4.2.1.8. ICAASClient.IsResourceInRoles Method

Validates that the specified resource in the array of provided roles

```
bool IsResourceInRoles(
    string systemAccessCode,
    string[] roleCodes,
    string resourceNetworkAccount
);
```

2.4.2.1.8.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

roleCodes

System role code defined in CAAS Value Type: **String** (System.String)

resourceNetworkAccount

Resource network account. Value Type: **String** (System.String)

2.4.2.1.8.2. Return Value

Boolean (System.Boolean)

2.4.2.1.9. ICAASClient.GetResources Method (String)

Overloaded. Gets an array of resource for the system or the provided organization

```
IResource[] GetResources(
    string systemAccessCode
);
```

2.4.2.1.9.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

2.4.2.1.9.2. Return Value

IResource (Windsor.CTDEP.CAAS.CAASServerInterface.IResource)

2.4.2.1.10. ICAASClient.GetResources Method (String, String)

Overloaded. Gets an array of resource for the system or the provided organization

```
IResource[] GetResources(
    string systemAccessCode,
    string organizationGroupCode
);
```

2.4.2.1.10.1. Parameters

systemAccessCode

CAAS-defined system access code token. Value Type: **String** (System.String)

organizationGroupCode

CAAS-defined organization group associated to this system. Value Type: **String** (System.String)





2.4.2.1.10.2. Return Value


IResource (Windsor.CTDEP.CAAS.CAASServerInterface.IResource)

2.4.3. IResource Members

Resource profile object interface for the CAAS API

2.4.3.1. Public Instance Properties





 ImportedOn	Date and time when the resource was created in the CAAS
 IsActive	Indicates whether the resource is currently active in CAAS
 Network	Implementation of the IResourceNetwork interface
 Organizations	Array of organizations which the current user is associated to in the context of the selected system

 Roles	Array of roles which the current user is associated to in the context of the selected system
---	--

2.4.4. *IResourceNetwork Members*

Component of the resource profile object interface for the CAAS API

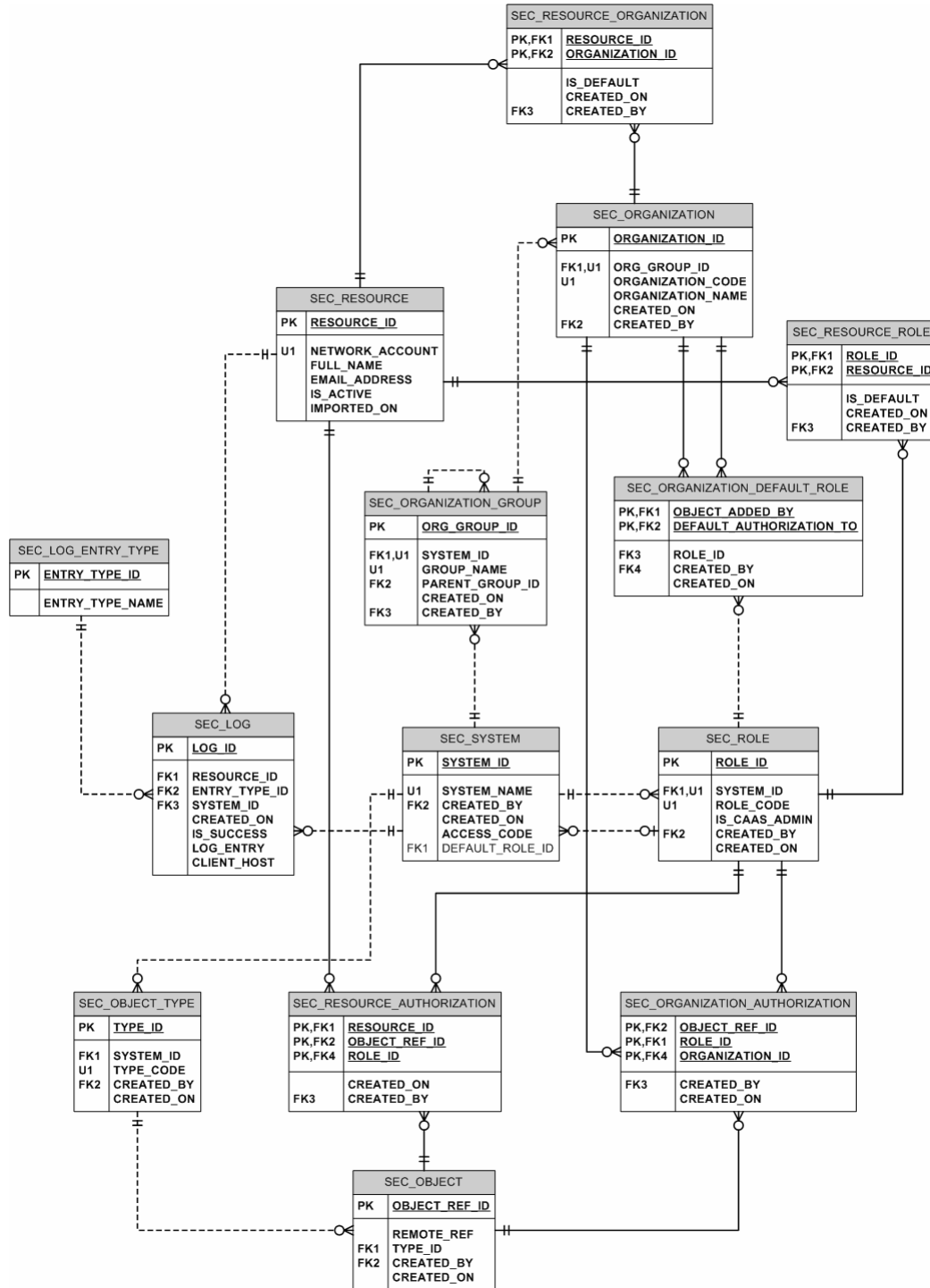
2.4.4.1. Public Instance Properties

 EmailAddress	Validated email address
 FullName	Resource full name in the First Name Middle Initial Last Name format
 IsValid	Method indicating if the resource object instance is valid. Does it have all the required component
 Username	Network username

3. CAAS Database Design

3.1. Data Model

For purposes of clarity, the relationships between the SEC_RESOURCE and all CREATED_BY fields have been removed.



3.2. Data Dictionary

3.2.1. SEC_LOG

Physical name: SEC_LOG
Notes: Log of authorization attempts performed against the CAAS.
Primary key: LOG_ID

Column details

1. LOG_ID

Physical name: LOG_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: Table PK

2. RESOURCE_ID (FK)

Physical name: RESOURCE_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the resource table

3. ENTRY_TYPE_ID (FK)

Physical name: ENTRY_TYPE_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Log Entry Type table

4. SYSTEM_ID (FK)

Physical name: SYSTEM_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the System table

5. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed
Notes: Date Time when this record was created

6. IS_SUCCESS

Physical name: IS_SUCCESS
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Flag indicating the outcome of the query (Y/N)

7. LOG_ENTRY

Physical name: LOG_ENTRY

Physical data type: varchar(500)
 Allow NULLs: Not allowed
 Notes: Detail of that query

8. CLIENT_HOST

Physical name: CLIENT_HOST
 Physical data type: varchar(50)
 Allow NULLs: Not allowed
 Notes: Client IP Address

Foreign key details (child)

RESOURCE_LOG

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: RESOURCE_LOG

LOGENTRYTYPE_SECLOG

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: LOGENTRYTYPE_SECLOG

SYSTEM_SECLOG

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: SYSTEM_SECLOG

3.2.2. SEC LOG ENTRY TYPE

Physical name: SEC_LOG_ENTRY_TYPE
 Notes: List of valid log entry types
 Primary key: ENTRY_TYPE_ID

Column details

1. ENTRY_TYPE_ID

Physical name: ENTRY_TYPE_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: Table PK

2. ENTRY_TYPE_NAME

Physical name: ENTRY_TYPE_NAME
 Physical data type: varchar(50)
 Allow NULLs: Not allowed

Notes: Indicates the type of entry.

3.2.3. SEC_OBJECT

Physical name: SEC_OBJECT
Notes: List of specific identities that need to be protected.
Primary key: OBJECT_REF_ID

Column details

1. OBJECT_REF_ID

Physical name: OBJECT_REF_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: Table PK

2. REMOTE_REF

Physical name: REMOTE_REF
Physical data type: varchar(255)
Allow NULLs: Not allowed
Notes: Business Key of the external system

3. TYPE_ID (FK)

Physical name: TYPE_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Object Type table

4. CREATED_BY (FK)

Physical name: CREATED_BY
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Resource table

5. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed
Notes: Date Time when this record was created

Foreign key details (child)

OBJECT_OBJECTTYPE

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: OBJECT_OBJECTTYPE

RESOURCE OBJECT CB

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: RESOURCE_OBJECT_CB

3.2.4. SEC OBJECT TYPE

Physical name: SEC_OBJECT_TYPE
 Notes: Definition table that defines the allowed types of objects. This table is allowing a calling application to have identical ids for two seperate types of records (Document and Notification could both have the ID of 1001) the type allows the calling application to identify the scope of the authorization query.
 Primary key: TYPE_ID

Column details

1. TYPE ID

Physical name: TYPE_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: Table PK

2. SYSTEM ID (FK)

Physical name: SYSTEM_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: FK to the System table

3. TYPE CODE (U1)

Physical name: TYPE_CODE
 Physical data type: varchar(50)
 Allow NULLs: Not allowed
 Notes: Code of the System defined data type

4. CREATED BY (FK)

Physical name: CREATED_BY
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: FK to the Resource table

5. CREATED ON

Physical name: CREATED_ON
 Physical data type: char(19)
 Allow NULLs: Not allowed
 Notes: Date Time when this record was created

Index details

INX_OBJECT_TYPE

Column(s): TYPE_CODE (Asc)
 Unique: Yes

Foreign key details (child)

SYSTEM_OBJECTTYPE

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: SYSTEM_OBJECTTYPE

RESOURCE_SECOBJECT_CB

Relationship type: Non-Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: RESOURCE_SECOBJECT_CB

3.2.5. SEC_ORGANIZATION

Physical name: SEC_ORGANIZATION
 Notes: List of organizations associated to a particular organization group.
 Primary key: ORGANIZATION_ID

Column details

1. ORGANIZATION_ID

Physical name: ORGANIZATION_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: Table PK

2. ORG_GROUP_ID (FK,U1)

Physical name: ORG_GROUP_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: FK to the Organization Group table

3. ORGANIZATION_CODE (U1)

Physical name: ORGANIZATION_CODE
 Physical data type: varchar(50)
 Allow NULLs: Not allowed
 Notes: Organization Code, Must be unique accross organization group

4. ORGANIZATION_NAME

Physical name: ORGANIZATION_NAME
 Physical data type: varchar(50)
 Allow NULLs: Not allowed

Notes: Organization Name, Must be unique across organization group

5. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed
Notes: Date Time when this record was created

6. CREATED_BY (FK)

Physical name: CREATED_BY
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Resource table

Index details

INX_ORG

Column(s): ORG_GROUP_ID (Asc)
 ORGANIZATION_CODE (Asc)
Unique: Yes

Foreign key details (child)

ORGANIZATION_ORGANIZATIONGROUP

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: ORGANIZATION_ORGANIZATIONGROUP

RESOURCE_ORGANIZATION_CB

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_ORGANIZATION_CB

3.2.6. SEC_ORGANIZATION_AUTHORIZATION

Physical name: SEC_ORGANIZATION_AUTHORIZATION
Notes: Association of specific role to one or more object times.
Primary key:
 1. OBJECT_REF_ID
 2. ROLE_ID
 3. ORGANIZATION_ID

Column details

1. OBJECT_REF_ID (FK)

Physical name: OBJECT_REF_ID
Physical data type: char(36)

Allow NULLs: Not allowed
Notes: FK to Object table

2. ROLE_ID (FK)

Physical name: ROLE_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to Role Table

3. ORGANIZATION_ID (FK)

Physical name: ORGANIZATION_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Organization Table

4. CREATED_BY (FK)

Physical name: CREATED_BY
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to Resource Table

5. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed
Notes: Date Time when this record was created

Foreign key details (child)

ROLE_ROLEAUTHORIZATION

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: ROLE_ROLEAUTHORIZATION

OBJECT_ROLEAUTHORIZATION

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: OBJECT_ROLEAUTHORIZATION

RESOURCE_ROLEAUTHORIZATION_CB

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_ROLEAUTHORIZATION_CB

SEC_ORGANIZATION_SEC_ORGANIZATION_AUTHORIZATION_FK1

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: SEC_ORGANIZATION_SEC_ORGANIZATION_AUTHORIZATION_FK1

3.2.7. SEC_ORGANIZATION_DEFAULT_ROLE

Physical name: SEC_ORGANIZATION_DEFAULT_ROLE
Primary key: 1. OBJECT_ADDED_BY
 2. DEFAULT_AUTHORIZATION_TO

Column details

1. OBJECT_ADDED_BY (FK)

Physical name: OBJECT_ADDED_BY
Physical data type: char(36)
Allow NULLs: Not allowed

2. DEFAULT_AUTHORIZATION_TO (FK)

Physical name: DEFAULT_AUTHORIZATION_TO
Physical data type: char(36)
Allow NULLs: Not allowed

3. ROLE_ID (FK)

Physical name: ROLE_ID
Physical data type: char(36)
Allow NULLs: Not allowed

4. CREATED_BY (FK)

Physical name: CREATED_BY
Physical data type: char(36)
Allow NULLs: Not allowed

5. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed

Foreign key details (child)

ORGANIZATION_ORGANIZATIONDEFAULTROLE

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: ORGANIZATION_ORGANIZATIONDEFAULTROLE

ORGANIZATION_ORGANIZATIONDEFAULTROLE2

Relationship type: Identifying

Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: ORGANIZATION_ORGANIZATIONDEFAULTROLE2

SEC_ROLE_SEC_ORGANIZATION_DEFAULT_ROLE_FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: SEC_ROLE_SEC_ORGANIZATION_DEFAULT_ROLE_FK1

SEC_RESOURCE_SEC_ORGANIZATION_DEFAULT_ROLE_FK1

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: SEC_RESOURCE_SEC_ORGANIZATION_DEFAULT_ROLE_FK1

3.2.8. SEC_ORGANIZATION_GROUP

Physical name: SEC_ORGANIZATION_GROUP
Notes: Association table of system to one or more organization groups.
Primary key: ORG_GROUP_ID

Column details

1. ORG_GROUP_ID

Physical name: ORG_GROUP_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: Table PK

2. SYSTEM_ID (FK,U1)

Physical name: SYSTEM_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the System table

3. GROUP_NAME (U1)

Physical name: GROUP_NAME
Physical data type: varchar(50)
Allow NULLs: Not allowed
Notes: Business name of the Organization

4. PARENT_GROUP_ID (FK)

Physical name: PARENT_GROUP_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: Recursive relationship to the parent organization. The root element has itself as the parent.

5. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed
Notes: Date Time when this record was created

6. CREATED_BY (FK)

Physical name: CREATED_BY
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Resource table

Index details

INX_GROUPNAME

Column(s): SYSTEM_ID (Asc)
 GROUP_NAME (Asc)
Unique: Yes

Foreign key details (child)

SYSTEM_ORGANIZATIONGROUP

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: SYSTEM_ORGANIZATIONGROUP

ORGANIZATIONGROUP_PARENTORGANIZATIONGROUP

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: ORGANIZATIONGROUP_PARENTORGANIZATIONGROUP

RESOURCE_ORGANIZATIONGROUP_CB

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_ORGANIZATIONGROUP_CB

3.2.9. SEC_RESOURCE

Physical name: SEC_RESOURCE
Notes: List of all network user resources (bulk imported)
Primary key: RESOURCE_ID

Column details

1. RESOURCE_ID

Physical name: RESOURCE_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: Table PK

2. NETWORK_ACCOUNT (U1)

Physical name: NETWORK_ACCOUNT
 Physical data type: varchar(255)
 Allow NULLs: Not allowed
 Notes: Resource network username

3. FULL_NAME

Physical name: FULL_NAME
 Physical data type: varchar(255)
 Allow NULLs: Not allowed
 Notes: Resource full name

4. EMAIL_ADDRESS

Physical name: EMAIL_ADDRESS
 Physical data type: varchar(255)
 Allow NULLs: Not allowed
 Notes: Resource email address

5. IS_ACTIVE

Physical name: IS_ACTIVE
 Physical data type: char(1)
 Allow NULLs: Not allowed
 Notes: Indicator whether the resource is active (Y/N)

6. IMPORTED_ON

Physical name: IMPORTED_ON
 Physical data type: char(19)
 Allow NULLs: Not allowed
 Notes: Date when the records was imported into the table

Index details

INX_RESOURCE

Column(s): NETWORK_ACCOUNT (Asc)
 Unique: Yes

3.2.10. SEC_RESOURCE_AUTHORIZATION

Physical name: SEC_RESOURCE_AUTHORIZATION
 Notes: Association of resources to one or more objects. (Authorization by Object)
 Primary key:
 1. RESOURCE_ID
 2. OBJECT_REF_ID
 3. ROLE_ID

Column details

1. RESOURCE_ID (FK)

Physical name: RESOURCE_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: FK to the Resource table

2. OBJECT_REF_ID (FK)

Physical name: OBJECT_REF_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: FK to the Object table

3. CREATED_ON

Physical name: CREATED_ON
 Physical data type: char(19)
 Allow NULLs: Not allowed
 Notes: Date Time when this record was created

4. CREATED_BY (FK)

Physical name: CREATED_BY
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: FK to the Resource table

5. ROLE_ID (FK)

Physical name: ROLE_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: FK to the Role table

Foreign key details (child)

RESOURCE_RESOURCEAUTHORIZATION

Relationship type: Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: RESOURCE_RESOURCEAUTHORIZATION

OBJECT_RESOURCEAUTHORIZATION

Relationship type: Identifying
 Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: OBJECT_RESOURCEAUTHORIZATION

RESOURCE_RESOURCEAUTHORIZATION_CB

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_RESOURCEAUTHORIZATION_CB

SEC_ROLE_SEC_RESOURCE_AUTHORIZATION_FK1

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: SEC_ROLE_SEC_RESOURCE_AUTHORIZATION_FK1

3.2.11. SEC_RESOURCE_ORGANIZATION

Physical name: SEC_RESOURCE_ORGANIZATION
Notes: Association of individual users to one or more organization unit.
Primary key:

1. RESOURCE_ID
2. ORGANIZATION_ID

Column details

1. RESOURCE_ID (FK)

Physical name: RESOURCE_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Resource table

2. ORGANIZATION_ID (FK)

Physical name: ORGANIZATION_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Organization table

3. IS_DEFAULT

Physical name: IS_DEFAULT
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Indicates the default organization association for that resource

4. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed
Notes: Date Time when this record was created

5. CREATED_BY (FK)

Physical name: CREATED_BY
Physical data type: char(36)

Allow NULLs: Not allowed
Notes: FK to the Resource table

Foreign key details (child)

RESOURCE RESOURCEORGANIZATION

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_RESOURCEORGANIZATION

ORGANIZATION RESOURCEORGANIZATION

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: ORGANIZATION_RESOURCEORGANIZATION

RESOURCE RESOURCEORGANIZATION_CB

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_RESOURCEORGANIZATION_CB

3.2.12. SEC RESOURCE ROLE

Physical name: SEC_RESOURCE_ROLE
Notes: Association of resource to role.
Primary key: 1. ROLE_ID
 2. RESOURCE_ID

Column details

1. ROLE_ID (FK)

Physical name: ROLE_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Role table

2. RESOURCE_ID (FK)

Physical name: RESOURCE_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Resource table

3. IS_DEFAULT

Physical name: IS_DEFAULT
Physical data type: char(1)
Allow NULLs: Not allowed

Notes: Indication whether or not this is the resource's default role for that system

4. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed
Notes: Date Time when this record was created

5. CREATED_BY (FK)

Physical name: CREATED_BY
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Resource table

Foreign key details (child)

ROLE_RESOURCE_ROLE

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: ROLE_RESOURCE_ROLE

RESOURCE_RESOURCE_ROLE

Relationship type: Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_RESOURCE_ROLE

RESOURCE_RESOURCE_ROLE_CB

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_RESOURCE_ROLE_CB

3.2.13. SEC_ROLE

Physical name: SEC_ROLE
Notes: List of system-defined roles valid in the context of a particular system.
Primary key: ROLE_ID

Column details

1. ROLE_ID

Physical name: ROLE_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: Table PK

2. SYSTEM_ID (FK,U1)

Physical name: SYSTEM_ID
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the System table

3. ROLE_CODE (U1)

Physical name: ROLE_CODE
Physical data type: varchar(50)
Allow NULLs: Not allowed
Notes: Business code of that role within the external system

4. IS_CAAS_ADMIN

Physical name: IS_CAAS_ADMIN
Physical data type: char(1)
Allow NULLs: Not allowed
Notes: Identifies whether that resource can access the CAAS Admin Utility

5. CREATED_BY (FK)

Physical name: CREATED_BY
Physical data type: char(36)
Allow NULLs: Not allowed
Notes: FK to the Resource table

6. CREATED_ON

Physical name: CREATED_ON
Physical data type: char(19)
Allow NULLs: Not allowed
Notes: Date Time when this record was created

Index details

INX_ROLE

Column(s): SYSTEM_ID (Asc)
 ROLE_CODE (Asc)
Unique: Yes

Foreign key details (child)

SYSTEM_ROLE

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: SYSTEM_ROLE

RESOURCE_ROLE_CB

Relationship type: Non-Identifying

Cardinality: One -to- Zero-or-More
 Allow NULLs: Not allowed
 Physical name: RESOURCE_ROLE_CB

3.2.14. SEC SYSTEM

Physical name: SEC_SYSTEM
 Notes: List of systems (applications) that are managed by CAAS.
 Primary key: SYSTEM_ID

Column details

1. SYSTEM ID

Physical name: SYSTEM_ID
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: Table PK

2. SYSTEM NAME (U1)

Physical name: SYSTEM_NAME
 Physical data type: varchar(50)
 Allow NULLs: Not allowed
 Notes: Business name of the System

3. CREATED BY (FK)

Physical name: CREATED_BY
 Physical data type: char(36)
 Allow NULLs: Not allowed
 Notes: FK to the Resource table

4. CREATED ON

Physical name: CREATED_ON
 Physical data type: char(19)
 Allow NULLs: Not allowed
 Notes: Date Time when this record was created

5. ACCESS CODE

Physical name: ACCESS_CODE
 Physical data type: varchar(500)
 Allow NULLs: Not allowed
 Notes: String representing access code which uniquely identifies the invoking system.

6. DEFAULT ROLE ID (FK)

Physical name: DEFAULT_ROLE_ID
 Physical data type: char(36)
 Allow NULLs: Allowed
 Notes: FK to the Role table.

Index details

INX_SYSTEM

Column(s): SYSTEM_NAME (Asc)
Unique: Yes

Foreign key details (child)

ROLE_SYSTEM

Relationship type: Non-Identifying
Cardinality: Zero-or-One -to- Zero-or-More
Allow NULLs: Allowed
Physical name: ROLE_SYSTEM

RESOURCE_SECSYSTEM_CB

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Physical name: RESOURCE_SECSYSTEM_CB