

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
DIV. OF PURCHASING & MATERIALS MGMT.
2800 Berlin Turnpike
PO Box 317546
Newington, CT 06131-7546

Mary Matuszak
Fiscal Administrative
Supervisor

(860) 594-2342
Telephone Number

CONTRACT NO.:
16DOT7001

DATE AWARDED:
30 January, 2018

RFP DUE DATE:
09 September, 2016

AUTHORIZATION:
CGS 13b-34

NOTICE OF CONTRACT AWARD

COMMODITY CLASS/SUBCLASS AND DESCRIPTION:

OVERHAUL OF P40 LOCOMOTIVES FOR THE CONNECTICUT DEPARTMENT OF TRANSPORTATION (CTDOT)

FOR: Department of Transportation 2800 Berlin Turnpike Newington, CT 06131-7546	TERM OF CONTRACT/DELIVERY DATE REQUIRED: Contract Term: Five (5) Years From Effective Date Delivery: Within One Thousand One Hundred (1100) Days From Notice to Proceed (NTP)
	TOTAL CONTRACT VALUE: \$39,041,139.00 (BASE AMOUNT – FINAL TOTAL WILL BE DETERMINED BY ACTUAL WORK REQUIRED FOR EACH LOCOMOTIVE)
NOTICE TO CONTRACTORS: This notice of award is not an order to ship or to produce services. Purchase Orders against this contract will be furnished by the Department of Transportation. INVOICES SHALL BE RENDERED DIRECTLY TO THE DEPARTMENT OF TRANSPORTATION.	
CASH DISCOUNTS: Cash discounts, if any, shall be given SPECIAL ATTENTION, but such cash discount shall not be taken unless payment is made within the discount period.	
PRICE BASIS: Unless otherwise noted, prices include delivery and transportation charges fully prepaid f.o.b. agency. No extra charge is to be made for packing or packages.	
<u>THE ATTACHED DOCUMENTS ARE HEREBY INCORPORATED INTO CONTRACT AWARD NO. 16DOT7001 AND MADE A PART HEREOF</u>	

NAME AND ADDRESS OF CONTRACTOR:

Company Name: National Railroad Passenger Corporation (AMTRAK)		CORE Award No.: 16DOT7001AA
Address: 1 Massachusetts Avenue, NW Washington, DC 20001		
Tel. No.: (302) 429-6485	E-Mail: Mark.Crum@amtrak.com	Est. Award Amount: \$39,041,139.00
Contact Person: Mark Crum	FEIN No.: 52-0910053	
Certification Type (SBE, MBE, WBE or None): none	Terms: Net 45 Days	
Company E-mail Address and/or Company Web Site: www.amtrak.com		

AGREEMENT

Between

THE STATE OF CONNECTICUT

Acting by its

DEPARTMENT OF TRANSPORTATION

AND

National Railroad Passenger Corporation (Amtrak)

OVERHAUL OF P40 LOCOMOTIVES

FOR

THE CONNECTICUT DEPARTMENT OF TRANSPORTATION (CTDOT)

_____, 2018
Agreement Award Date

Table of Contents

1. Definitions	35. Headings
2. Contracting Vehicle	36. Number and Gender
3. Term of Contract	37. Contractor Changes
4. Description of Items and Services	38. Further Assurances
5. Price Schedule, Payment Terms and Billing	39. Audit and Inspection of Plants, Places of Business and Records
6. Rejected Items; Abandonment	40. Background Checks
7. Order and Delivery	41. Continued Performance
8. Contract Amendments	42. Working and Labor Synergies
9. Assignment	43. Contractor Responsibility
10. Termination	44. Severability
11. Cost Modifications	45. Confidential Information
12. Breach	46. References to Statutes, Public Acts, Regulations, Codes and Executive Orders
13. Waiver	47. Disclosure of Records
14. Purchase Orders	48. Summary of State Ethics Laws
15. Indemnification	49. Sovereign Immunity
16. Forum and Choice of Law	50. Time of the Essence
17. Contractor Guaranties	51. Certification as Small Contractor or Minority Business Enterprise
18. Implied Warranties	52. Campaign Contribution Restriction
19. Items, Standards and Appurtenances	53. Antitrust Claims
20. Delivery	54. Limitation of Liability
21. Items Inspection	
22. Force Majeure	
23. Advertising	
24. Americans With Disabilities Act	
25. Representations and Warranties	EXHIBIT A - Description of Items & Services and Additional Terms and Conditions
26. Representations and Warranties Concerning Motor Vehicles	EXHIBIT A.1 - Technical Specifications
27. Disclosure of Contractor Parties Litigation	EXHIBIT A.2 - Root Cause Analysis for Potential Warranty Claims and Warranty Claim Ownership Procedure
28. Entirety of Contract	EXHIBIT A.3 - Abbreviations and Commonly Used Terms
29. Exhibits	EXHIBIT B - Price Schedule
30. Executive Orders	EXHIBIT C - SEEC Form 11
31. Non-Discrimination	
32. Whistleblowing	
33. Notice	
34. Insurance and Bonds	

This agreement (the "Agreement" or "Contract") is made as of the Effective Date by and between National Railroad Passenger Corporation (the "Contractor,"), with a principal place of business at 1 Massachusetts Avenue Washington, DC 20001, acting by Richard H. Anderson, its President and CEO and the State of Connecticut, Department of Transportation (the "Department", or CTDOT), with a principal place of business at 2800 Berlin Turnpike, Newington, Connecticut, acting by Richard Andreski, its Bureau Chief, Bureau of Public Transportation, in accordance with § 13b-34 of the Connecticut General Statutes.

RHA
5/14/2018

WHEREAS, the Department is the owner of twelve (12) P40 locomotives;

WHEREAS, such locomotives need to be overhauled; and

WHEREAS, the Contractor desires to perform the overhaul services and the Department wishes to engage the Contractor to overhaul such locomotives.

Now therefore, in consideration of these presents, and for other good and valuable consideration, the receipt and sufficiency of which the parties acknowledge, the Contractor and the Department agree as follows:

1. Definitions.

Unless otherwise indicated, the following terms shall have the following corresponding definitions:

- (a) **Acts:** collectively, acts of commission and acts of omission.
- (b) **Agents** is defined in section 6(a)(5) of this Agreement.
- (c) **Agreement** is defined in the opening paragraph.
- (d) **Claims:** All actions, suits, claims, demands, investigations and proceedings of any kind, open, pending or threatened, whether mature, unmatured, contingent, known or unknown, at law or in equity, in any forum.
- (e) **Contract** is defined in the opening paragraph.
- (f) **Contractor Parties:** A Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under the Contract in any capacity. Contractor Parties does not include vendors or suppliers of goods, materials or supplies.
- (g) **Contractor Property:** Defined in Section 6 of this Agreement.
- (h) **Day(s):** All calendar days other than Saturdays, Sundays and days designated as national or State of Connecticut holidays upon which banks in Connecticut are closed.
- (i) **Effective Date:** The date that this Agreement has been executed by the parties and approved by the Connecticut Office of the Attorney General.
- (j) **Force Majeure:** Events that materially affect the cost of the Items or Services or the time schedule within which to Perform and are outside the control of the party asserting that such an event has occurred, including, but not limited to, labor disputes or strikes, transportation shortages or delays, failure of or inadequate permanent power, fire, extraordinary weather conditions, disasters, riots, epidemics, acts of God, terrorism, Insurrection, or war (declared or undeclared).

This agreement (the "Agreement" or "Contract") is made as of the Effective Date by and between _____ (the "Contractor,") with a principal place of business at _____, acting by _____, its _____ and the State of Connecticut, Department of Transportation (the "Department", or CTDOT), with a principal place of business at 2800 Berlin Turnpike, Newington, Connecticut, acting by Richard Andreski, its Bureau Chief, Bureau of Public Transportation, in accordance with § 13b-34 of the Connecticut General Statutes.

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- (k) **Items or Services:** Items, Services or both, as specified in the Solicitation and set forth in Exhibit A.
 - (l) **Items:** Defined in Section 6(a).
 - (m) **Perform and Performance:** To perform as set forth in Exhibit A and Exhibit A.1.
 - (n) **Price Schedule:** The schedule set forth in Exhibit B.
 - (o) **Records:** All working papers and such other information and materials as may have been accumulated by the Contractor in regard to the Services performed by Contractor pursuant to the Agreement, including but not limited to, documents, data, plans, books, computations, drawings, specifications, notes, reports, records, estimates, summaries and correspondence, kept or stored in any form.
 - (p) **Rejected Items:** Defined in Section 6 of this Agreement.
 - (q) **Services:** The performance of labor or work, as set forth in Exhibit A and Exhibit A.1.
 - (r) **Solicitation:** The Request for Proposal (RFP) #16DOT7001 issued by the Department pursuant to § 13b-34 of the Connecticut General Statutes for the overhaul of locomotives.
 - (s) **State:** The State of Connecticut, including the Department and any office, department, board, council, commission, institution or other Department of the State.
 - (t) **Termination:** An end to the Agreement prior to the end of its term whether effected pursuant to a right which the Agreement creates or for a breach.
 - (u) **Title:** is defined in Section 6(a)(1) of this Agreement.
2. Contracting Vehicle. The Solicitation may involve an invitation to bid, request for proposals, request for information or request for quotes, each of which may be governed by different statutory, regulatory and administrative procedures. ALTHOUGH THIS CONTRACT USES THE TERMS "SOLICITATION" AND "BID" ITS USE OF THOSE TERMS IS INTENDED ONLY FOR PURPOSES OF CONVENIENCE AND SHALL NOT BE DEEMED TO BE A CONTROLLING STATEMENT AS TO THE TYPE OF SOLICITATION USED OR THE RESPECTIVE RIGHTS AND OBLIGATIONS OF THE PARTIES. THE IDENTIFICATION IN THE SOLICITATION OF THE PARTICULAR PROCUREMENT VEHICLE THE STATE IS USING TO SOLICIT GOODS OR SERVICES SHALL CONTROL. Therefore, if the Solicitation identifies the procurement vehicle as something other than an Invitation to Bid, the terms "Solicitation" and "Bid," as used in this Contract shall be read to mean "Request for Proposals," "Proposal" and "Proposer" or to mean such other terms as are consistent with the Solicitation in order to preserve the integrity of the statutory, regulatory and procedural distinctions among the various procurement vehicles and their corresponding principles.
 3. Term of Contract. The Agreement will be in effect from the Effective Date through five (5) years from the Effective Date. The Department, in its sole discretion, may extend this Agreement for additional terms beyond the original term, prior to Termination or expiration of this Agreement.
 4. Description of Items or Services and Additional Terms and Conditions. The Contractor shall perform as set forth in Exhibit A and Exhibit A.1 to this Agreement.
 5. Price Schedule, Payment Terms and Billing.
 - (a) Payment terms under this Agreement are set forth in Exhibit A. Payment shall be made only after the Department receives and accepts Contractor's Performance as required by this Agreement and after it receives a properly completed invoice. Unless otherwise specified in the Contract, payment for all accepted Items or Services shall be due within forty-five (45) days after acceptance

of the Items or Services, or thirty (30) days if the Contractor is a certified small contractor or minority business enterprise as defined in Conn. Gen. State. § 4a-60g. The Contractor shall submit an invoice to the Department for the Performance. The invoice shall include the information specified in Exhibit A, Section A.52. Any late payment charges shall be calculated in accordance with § 4a-17 of the Connecticut General Statutes.

(b) Price Adjustment: In the event the Department elects to add additional locomotives to this Agreement, the parties shall develop, subject to final approval by the Department, a new price schedule and delivery schedule for such additional locomotives and will amend this Agreement (including Exhibits A and B) accordingly.

(c) Notwithstanding any language regarding Contractor price increases herein, the Price Schedule will be adjusted to reflect any increase in the minimum wage rate that may occur during the term of this Agreement as mandated by State law and in accordance with the terms of this section. Contractor shall provide documentation, in the form of certified payroll or other documentation acceptable to CTDOT, substantiating the amount of any increase in Contractor labor costs as a result of changes to the minimum wage rate within ninety (90) days of the statutorily identified effective date of any increase in the minimum wage. Upon receipt, and verification of Contractor documentation CTDOT shall adjust the Price Schedule accordingly through a supplement to this Agreement.

(d) If the Department objects to any invoice or portion thereof, it shall pay the undisputed amount and provide a written statement to the Contractor as to its objection no later than the date upon which payment is due. Within thirty (30) Days thereafter, the Contractor shall provide the Department with any additional documentation required to demonstrate the accuracy of the invoice or it will correct the invoice. The objection will be considered conclusively resolved unless the Department provides additional written objection to the Contractor within thirty (30) Days of receipt of the Contractor's additional documentation.

6. Rejected Items; Abandonment.

(a) The Contractor may deliver, cause to be delivered, or, in any other way, bring or cause to be brought, to any State premises or other destination, items, as samples or otherwise, and other supplies, materials, equipment or other tangible personal property (collectively, "Items"). The State may, by written notice and in accordance with the terms and conditions of the Agreement, direct the Contractor to remove any or all such Items ("the "Rejected Items") and any or all other supplies, materials, equipment or other tangible personal property (collectively, the "Contractor Property") from and out of State premises and any other location which the Department or State manages, leases or controls. The Contractor shall remove the Rejected Items and the Contractor Property in accordance with the terms and conditions of the written notice. Failure to remove the Rejected Items or the Contractor Property in accordance with the terms and conditions of the written notice shall mean, for itself and all Contractor Parties, that:

- (1) they have voluntarily, intentionally, unconditionally, unequivocally and absolutely abandoned and left unclaimed the Rejected Items and Contractor Property and relinquished all ownership, title, licenses, rights, possession and interest of, in and to (collectively, "Title") the Rejected Items and Contractor Property with the specific and express intent of (A) terminating all of their Title to the Rejected Items and Contractor Property, (B) vesting Title to the Rejected Items and Contractor Property in the State of Connecticut and (C) not ever reclaiming Title or any future rights of any type in and to the Rejected Items and Contractor Property;
- (2) there is no ignorance, inadvertence or unawareness to mitigate against the intent to abandon the Rejected Items or Contractor Property;
- (3) they vest authority, without any further act required on their part or the Department's part, in the Department and the State to use or dispose of the Rejected Items and Contractor Property, in the Department's sole discretion, as if the Rejected Items and Contractor Property were the

Department's or State's own property and in accordance with law, without incurring any liability or obligation to the Contractor or any other party;

- (4) if the Department or State incur any costs or expenses in connection with disposing of the Rejected Items and Contractor Property, including, but not limited to, advertising, moving or storing the Rejected Items and Contractor Property, auction and other activities, the Department shall invoice the Contractor for all such cost and expenses and the Contractor shall reimburse the State no later than thirty (30) days after the date of invoice; and
 - (5) they do remise, release and forever discharge the Department and all State employees, departments, commissions, boards, bureaus, agencies, instrumentalities or political subdivisions and their respective successors, heirs, executors and assigns (collectively, the "State and Its Agents") of and from all Claims which they and their respective successors or assigns, jointly or severally, ever had, now have or will have against the Department and the State and Its Agents arising from the use or disposition of the Rejected Items and Contractor Property.
- (b) The Contractor shall secure from each Contractor Party, as appropriate, such document or instrument as necessary or appropriate as will vest in the Contractor plenary authority to bind the Contractor Parties to the full extent necessary or appropriate to give full effect to all of the terms and conditions of this section. The Contractor shall provide, no later than fifteen (15) days after receiving a request from the Department, such information as the Department may require to evidence, in the Department's sole determination, compliance with this section.
7. Order and Delivery. The Agreement shall bind the Contractor to furnish and deliver the Items or Services in accordance with Exhibit A, and Exhibit A.1; and at the prices set forth in Exhibit B. Subject to the sections in this Agreement concerning Force Majeure and Termination, the Agreement shall bind the Department to order the Items or Services from the Contractor, and to pay for the accepted Items or Services in accordance with Exhibit B.
8. Contract Amendments. No amendment to or modification or other alteration of the Agreement shall be valid or binding upon the parties unless made in writing, signed by the parties and, if applicable, approved by the Connecticut Attorney General.
9. Assignment. The Contractor shall not assign any of its rights or obligations under the Agreement, voluntarily or otherwise, in any manner without the prior written consent of the Department, which consent shall not be unreasonably withheld, conditioned or delayed. The Department may void any purported assignment in violation of this section and declare the Contractor in breach of the Agreement. Any Termination by the Department for a breach is without prejudice to the Department's or the State's rights or possible Claims.
10. Termination.
- (a) Notwithstanding any provisions in this Agreement, the Department, through a duly authorized employee, may Terminate the Agreement whenever the Department makes a written determination that such Termination is in the best interests of the State. The Department shall notify the Contractor in writing of Termination pursuant to this section, which notice shall specify the effective date of Termination and the extent to which the Contractor must complete its Performance under the Agreement prior to such date.
 - (b) Notwithstanding any provisions in this Agreement, the Department, through a duly authorized employee, may, after making a written determination that the Contractor has breached the Agreement, Terminate the Agreement in accordance with the provisions in the Breach section of this Agreement.
 - (c) The Department shall send the notice of Termination via certified mail, return receipt requested, to the Contractor at the most current address which the Contractor has furnished to the Department for purposes of correspondence, or by hand delivery. Upon receiving the notice from the

Department, the Contractor shall immediately discontinue all services affected in accordance with the notice, undertake all commercially reasonable efforts to mitigate any losses or damages, and deliver to the Department all Records. The Records are deemed to be the property of the Department and the Contractor shall deliver them to the Department no later than thirty (30) days after the Termination of the Agreement or fifteen (15) days after the Contractor receives a written request from the Department for the Records. The Contractor shall deliver those Records that exist in electronic, magnetic or other intangible form in a non-proprietary format, such as, but not limited to, ASCII or .TXT.

- (d) Upon receipt of a written notice of Termination from the Department, the Contractor shall cease operations as the Department directs in the notice, and take all actions that are necessary or appropriate, or that the Department may reasonably direct, for the protection, and preservation of the Items and any other property. Except for any work which the Department directs the Contractor to Perform in the notice prior to the effective date of Termination, and except as otherwise provided in the notice, the Contractor shall terminate or conclude all existing subcontracts and purchase orders and shall not enter into any further subcontracts, purchase orders or commitments.
 - (e) The Department shall, within forty-five (45) days of the effective date of Termination, reimburse the Contractor for its Performance rendered and accepted by the Department in accordance with Exhibit A and Exhibit A.1, in addition to all actual and reasonable costs incurred after Termination in completing those portions of the Performance which the notice required the Contractor to complete. However, the Contractor is not entitled to receive and the Department is not obligated to tender to the Contractor any payments for anticipated or lost profits. Upon request by the Department, the Contractor shall assign to the Department, or any replacement contractor which the Department designates, all subcontracts, purchase orders and other commitments entered into by the Contractor exclusively for its Performance under this Contract, deliver to the Department all Records pertaining to its Performance under this Contract, and remove from State premises, whether leased or owned, all of Contractor's property, equipment, waste material and rubbish related to its Performance under this Contract, all as the Department may request.
 - (f) For breach or violation of any of the provisions in the section concerning Representations and Warranties, the Department may Terminate the Agreement in accordance with its terms and revoke any consents to assignments given as if the assignments had never been requested or consented to, without liability to the Contractor or Contractor Parties or any third party.
 - (g) Upon Termination of the Agreement, all rights and obligations shall be null and void, so that no party shall have any further rights or obligations to any other party, except with respect to the sections which survive Termination. All representations and warranties under the Agreement shall survive such Termination. Termination shall not render null or void any cause of action based upon acts or omissions that occurred prior to the effective date of Termination.
 - (h) Termination of the Agreement pursuant to this section shall not be deemed to be a breach of contract by the Department.
 - (i) Contractor may terminate the Contract upon written notice to State if the State fails to pay any undisputed amount within One Hundred Twenty (120) days from the payment due date.
11. Cost Modifications. The parties may agree to a reduction in the cost of the Agreement at any time during which the Agreement is in effect. Without intending to impose a limitation on the nature of the reduction, the reduction may be to hourly, staffing or unit costs, the total cost of the Agreement or the reduction may take such other form as the parties may agree
- (a) The Department reserves the right to reduce the number of locomotives to be overhauled in accordance with the Agreement. Should the Department make such determination, the Contractor will be entitled to actual costs incurred relative to its Performance, including costs incurred by Contractor in anticipation of future Performance.

- (b) The Department reserves the right to increase the number of locomotives to be overhauled in accordance with the Agreement. Should the Department make such determination, the cost modification will be calculated in accordance with section 5(b).

12. Breach.

- (a) If either party breaches the Agreement in any material respect, the non-breaching party shall provide written notice, including a description of such breach to the breaching party and afford the breaching party an opportunity to cure the breach within forty-five (45) Days from the date that the breaching party receives such notice, or such longer period as may be set forth in such notice. Such right to cure period shall be extended if the non-breaching party is satisfied that the breaching party is making a good faith effort to cure but the nature of the breach is such that it cannot be cured within the right to cure period.
- (b) The notice may include an effective Agreement Termination date if the breach is not cured by the stated date and, unless otherwise modified by the non-breaching party in writing prior to the Termination date, no further action shall be required of any party to effect the Termination as of the stated date. If the notice does not set forth an effective Agreement Termination date, then after the conclusion of the cure period, the non-breaching party may Terminate the Agreement by giving the breaching party no less than twenty four (24) hours' prior written notice.
- (c) The Department may withhold payment in whole or in part pending resolution of the Contractor breach, provided that the Department notifies the Contractor in writing prior to the date that the payment would have been due.

13. Waiver.

- (a) No waiver of any breach of the Agreement shall be interpreted or deemed to be a waiver of any other or subsequent breach. All remedies afforded in the Agreement shall be taken and construed as cumulative, that is, in addition to every other remedy provided in the Agreement or at law or in equity.
- (b) A party's failure to insist on strict performance of any provision of the Agreement shall only be deemed to be a waiver of rights and remedies concerning that specific instance of Performance and shall not be deemed to be a waiver of any subsequent rights, remedies or breach.

14. Purchase Orders.

- (a) The Agreement itself is not an authorization for the Contractor to ship Items or begin Performance in any way. The Contractor may begin Performance only after it has received a duly issued purchase order against the Agreement for Performance.
- (b) The Department shall issue a purchase order against the Agreement directly to the Contractor.
- (c) All purchase orders shall be in written or electronic form, bear the Agreement number (if any) and comply with all other State and Department requirements, particularly the Department's requirements concerning procurement. Purchase orders issued in compliance with such requirements shall be deemed to be duly issued.
- (d) A Contractor making delivery without a duly issued purchase order in accordance with this section does so at the Contractor's own risk.
- (e) The Department may, in its sole discretion, deliver to the Contractor any or all duly issued purchase orders via electronic means only, such that the Department shall not have any additional obligation to deliver to the Contractor a "hard copy" of the purchase order or a copy bearing any hand-written signature or other "original" marking.

15. Indemnification.

- (a) The Contractor shall indemnify, defend and hold harmless the State and its officers, representatives, agents, servants, employees, successors and assigns from and against any and all liabilities, damages, losses, costs and expenses, including but not limited to, reasonable outside attorneys' and other professionals' fees, caused solely by: the negligence or willful misconduct of the Contractor and its employees and subcontractors in the Performance of this Agreement or by the Contractor's breach of any terms and conditions of the Agreement; provided, however, that, if the State engages a third party to complete overhaul Services on locomotives that were not completed by the Contractor as a direct result of the Contractor's negligence or willful misconduct or Contractor's breach of any terms or conditions of the Agreement, Contractor's liability, if any, for the costs incurred by the State to do so is limited to the amount the State agreed to pay Contractor for such Services pursuant to the Price Schedule. Notwithstanding the foregoing, the Contractor shall not have any obligations or liability under this section or any other provision of this Contract for any intellectual property or other infringement or similar claim to the extent that: (1) the infringing item of Goods (or part thereof), was designed in accordance with State's detailed technical specifications; or (2) the claim arises from the State's use of any Goods (or part thereof) or Services furnished under this Contract in combination with any other non-Contractor materials or processes, where the use of the Contractor-furnished Goods (or part thereof) or Services alone, without such combination, would not have caused the infringement; or (3) the claim arises from a modification to any Goods (or part thereof) or Services furnished under this Contract, where such modification was made by the State (or any person or entity acting on the State's behalf or at the State's direction other than the Contractor, its employees or subcontractors); or 4) the State failed to implement any update or modification provided by the Contractor that would have precluded the claim. The Contractor shall use counsel reasonably acceptable to the State in carrying out its obligations under this section. The Contractor's obligations under this section to indemnify, defend and hold harmless against Claims includes, but is not limited to Claims concerning confidentiality of any part of or all of the Contractor's proposal or any Records, any intellectual property rights, other proprietary rights of any person or entity, copyrighted or uncopyrighted compositions, secret processes, patented or unpatented inventions, articles or appliances furnished or used in the Performance.
- (b) Notwithstanding subsection (a) of this section, or any other provision of this Agreement to the contrary, the Contractor shall not be responsible for indemnifying, defending or holding the State harmless from any liability to the extent that such liability is caused by the negligence or willful misconduct of the State or any other person or entity acting under the direct control or supervision of the State.
- (c) The Contractor shall reimburse the State for any and all damages to the real or personal property of the State to the extent caused by the negligent or willful Acts of the Contractor or its employees, agents, or subcontractors. The State shall give the Contractor reasonable notice of any such damages and a detailed basis for the State's assertion that such damage was caused by the negligent or willful acts of the Contractor.
- (d) The Contractor's duties under this section shall remain fully in effect and binding in accordance with the terms and conditions of the Agreement, without being lessened or compromised in any way, even where the Contractor is alleged or is found to have merely contributed in part to the Acts giving rise to the Claims and/or where the State is alleged or is found to have contributed to the Acts giving rise to the Claims.
- (e) The Contractor shall carry and maintain at all times during the term of the Agreement, and during the time that any provisions survive the termination of the Agreement, sufficient general liability insurance to satisfy its obligations under this Agreement. The Contractor shall cause the State to be named as an additional insured on the policy and shall provide (1) a certificate of insurance, (2) the declaration page and (3) the additional insured endorsement to the policy to the Department. The Contractor shall not begin Performance until the delivery of these three (3) documents to the Department. Contractor shall provide an annual update of the three (3) documents to the Department on or before each anniversary of the Effective Date during the term of the Agreement.

The Department acknowledges that the Contractor will self-insure to meet its obligation to provide sufficient general liability insurance under this Agreement and will provide evidence of such self-insurance in lieu of the documents required to be provided to the Department under this section.

- (f) This section shall survive the Termination of the Agreement and shall not be limited by reason of any insurance coverage.
 - (g) The Contractor's obligations under this section shall terminate after the Department has finally accepted all locomotives and all warranty issues have been resolved to the satisfaction of the Department.
 - (h) The Contractor shall not settle or otherwise resolve any Claim that places an obligation on the State without the prior written consent of the Department, which consent shall not be unreasonably withheld, conditioned or delayed.
 - (i) As a condition precedent to the Contractor's obligation to indemnify the State pursuant to this Agreement, State shall provide Contractor with timely written notice of any claim for indemnification, together with copies of related court documents, notices of arbitration or mediation or other written (including electronic) communication, if any, that are in its possession.
16. Forum and Choice of Law. The parties deem the Agreement to have been made in the City of Hartford, State of Connecticut.
17. Contractor Guaranties. Contractor shall, in the Performance of its obligations hereunder,:
- (a) Perform fully under the Agreement;
 - (b) Guarantee each of the overhauled locomotives against defective material or workmanship;
 - (c) Furnish adequate protection from damage for all work and to repair damage of any kind, for which its workers are responsible, to the premises, Items, the Contractor's work or that of Contractor Parties;
 - (d) With respect to the provision of Services, pay for all permits, licenses and fees applicable to Contractor and give all required or appropriate notices;
 - (e) Adhere to all provisions in this Agreement ensuring the confidentiality of Records that the Contractor has access to and are exempt from disclosure under the State's Freedom of Information Act or other applicable law; and
 - (f) Neither disclaim, exclude nor modify the implied warranties of fitness for a particular purpose or of merchantability with respect to parts installed by Contractor on any of the locomotives.
18. Implied Warranties. The Department does not disclaim, exclude or modify the implied warranty of fitness for a particular purpose or the warranty of merchantability.
19. Items, Standards and Appurtenances. Any Items delivered must be standard new Items, latest model, except as otherwise specifically stated in the Agreement. Remanufactured, refurbished or reconditioned equipment may be accepted if agreed to in writing by the Department. Where the Agreement does not specifically list or describe any parts or nominal appurtenances of equipment for the Items, it shall be understood that the Contractor shall deliver such equipment and appurtenances as are usually provided with the manufacturer's stock model.
20. Delivery.
- (a) Delivery of the locomotives shall be made in accordance with Exhibit A.

(b) While the locomotive is in the care, custody and control of the Contractor, the Contractor is responsible for any property damage to the locomotive. All risk of loss and damage to the overhauled locomotives transfers to the Department upon conditional acceptance unless such loss or damage was caused by a failure of the Contractor.

21. Items Inspection and Shipping.

(a) The Contractor understands and agrees that no overhauled locomotive shall be shipped to the Department prior to the Department or its representative inspecting the locomotive and determining that each such locomotive is ready to be shipped. Such determination by the Department shall not be deemed as acceptance of the locomotive or approval of the quality or sufficiency of the Contractor's Performance. Nor shall such determination make the Department responsible in any way for the quality or sufficiency thereof or constitute a waiver of any warranties or guaranties or release the Contractor from any liability.

(b) Following a determination by the Department that a locomotive is ready to ship, the Contractor shall notify the Department of the date that each overhauled locomotive will be shipped to the Department. Such notification shall be provided in writing at least five (5) Days prior to each such shipping.

22. Force Majeure. The Department and the Contractor shall not be excused from their obligation to Perform in accordance with the Agreement except in the case of Force Majeure events and as otherwise provided for in the Agreement. In the case of any such exception, the nonperforming party shall give immediate written notice to the other, explaining the cause and probable duration of any such nonperformance.

23. Advertising. The Contractor shall not refer to the Contractor's work under this Agreement for advertising or promotional purposes, including, but not limited to, posting any material or data on the Internet, without the Department's prior written approval.

24. Americans With Disabilities Act. In the Performance of the Agreement, Contractor shall be and remain in compliance with Title I (Employment) of the Americans with Disabilities Act of 1990 ("Act"), to the extent applicable, during the term of this Agreement. The Agreement may be subject to Termination by the Department in accordance with Section 12 of the Agreement if the Contractor fails to comply with the Act.

25. Representations and Warranties. The Contractor represents and warrants to the Department that, to the best of the Contractor's knowledge and belief:

(a) it is duly and validly existing under the laws of its state of organization and authorized to conduct business in the State of Connecticut in the manner contemplated by the Agreement. Further, as appropriate, it has taken all necessary action to authorize the execution, delivery and Performance of the Agreement and has the power and authority to execute, deliver and Perform its obligations under the Agreement;

(b) it will comply with all applicable State and Federal laws and municipal ordinances in satisfying their obligations to the Department under and pursuant to the Agreement, including, but not limited to (1) Connecticut General Statutes Title 1, Chapter 10, concerning the State's Codes of Ethics and (2) Title 4a concerning State purchasing, including, but not limited to Section 22a-194a concerning the use of polystyrene foam; provided, however, that nothing in this Agreement shall be deemed a waiver of exemptions and preemptions applicable to Contractor pursuant to Federal law;

(c) the execution, delivery and Performance of the Agreement will not violate, be in conflict with, result in a breach of or constitute (with or without due notice and/or lapse of time) a default under any of the following, as applicable: (1) any provision of law; (2) any order of any court or the State; or

(3) any indenture, agreement, document or other instrument to which it is a party or by which it may be bound;

(d) it is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any governmental entity;

(e) the Contractor's directors and officers, and key personnel who will be Performing under this Agreement, and the entity itself have not, within the three (3) years preceding the Agreement, in any of their current or former jobs, been convicted of, or had a civil judgment rendered against them, for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a transaction or contract with any governmental entity. This includes, but is not limited to, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(f) the Contractor's directors and officers, and key personnel who will be Performing under this Agreement, and the entity itself are not presently indicted for or otherwise criminally or civilly charged by any governmental entity with commission of any of the offenses listed above;

(g) it has not within the three (3) years preceding the Agreement Effective Date had one (1) or more contracts with any governmental entity Terminated prior to the expiration date of the contract;

(h) it has not employed or retained any entity or person, other than a bona fide employee working solely for it, to solicit or secure the Agreement and that it has not paid or agreed to pay any entity or person, other than a bona fide employee working solely for it, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of the Agreement or any assignments made in accordance with the terms of the Agreement;

(i) to the best of its knowledge, there are no Claims involving the Contractor or Contractor Parties that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties, financial stability, business prospects or ability to Perform fully under the Agreement;

(j) it shall disclose, to the best of its knowledge, to the Department in writing any Claims involving the Contractor or Contractors Parties that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties, financial stability, business prospects or ability to Perform fully under the Agreement, no later than ten (10) Days after becoming aware or after it should have become aware of any such Claims. For purposes of the Contractor's obligation to disclose any Claims to the Department, the ten (10) Days in the section of this Agreement concerning Disclosure of Contractor Parties Litigation shall run consecutively with the ten (10) Days provided for in this representation and warranty;

(k) its participation in the Solicitation process is not a conflict of interest or a breach of ethics under the provisions of Title 1, Chapter 10 of the Connecticut General Statutes concerning the State's Code of Ethics;

(l) the Contractor's response to the Solicitation was not made in connection or concert with any other person or entity, including any affiliate (as defined in the Tangible Personal Property section of this Agreement) of the Contractor, submitting a Proposal for the same Items or Services, and is in all respects fair and without collusion or fraud;

(m) it is able to Perform under the Agreement using its own resources or the resources of a party who is not a Contractor;

(n) the Contractor shall obtain in a written contract all of the representations and warranties in this section from any Contractor Parties.

(o) it has paid all applicable workers' compensation second injury fund assessments concerning all previous work done in Connecticut;

(p) it has a record of compliance with Occupational Health and Safety Administration regulations without any unabated, willful or serious violations;

(q) it owes no past due unemployment compensation contributions;

(r) it is not delinquent in the payment of any taxes owed, or, that it has filed a sales tax security bond, and it has, if and as applicable, filed for motor carrier road tax stickers and have paid all outstanding road taxes;

(s) all of its vehicles used in the Performance of the Agreement have current registrations and, unless such vehicles are no longer in service, it shall not allow any such registrations to lapse;

(t) each Contractor Party has vested in the Contractor plenary authority to bind the Contractor Parties to the full extent necessary or appropriate to ensure full compliance with and Performance in accordance with all of the terms and conditions of the Agreement and that all appropriate parties shall also provide, no later than fifteen (15) Days after receiving a request from the Department, such information as the Department may require to evidence, in the Department's sole determination, compliance with this section;

(u) except to the extent modified or abrogated in the Agreement, all Title to Items installed in the overhauled locomotives shall pass to the Department upon complete installation, testing and acceptance of the locomotives and payment by the Department;

(v) if either party Terminates the Agreement, for any reason, it shall relinquish to the Department all Title to the Items delivered, accepted and paid for by the Department;

(w) with regard to third party products provided with the Items, it shall transfer all licenses which it is permitted to transfer in accordance with the applicable third party license;

(x) it shall not copyright, register, distribute or claim any rights in or to the Items installed in the overhauled locomotives after the Effective Date of the Agreement without the Department's prior written consent;

(y) it either owns or has the authority to use all Title of and to the Items, and that such Title is not the subject of any encumbrances, liens or claims of ownership by any third party;

(z) to the best of its knowledge, after conducting due diligence, the Items do not infringe or misappropriate any patent, trade secret or other intellectual property right of a third party;

(aa) if it procures any Items, to the extent permitted by the licensor, it shall sub-license such Items and that the Department shall be afforded the full benefits of any manufacturer or subcontractor licenses for the use of the Items; and

(bb) it shall assign or otherwise transfer to the Department, or afford the Department the full benefits of any manufacturer's warranty for the Items, to the extent that such warranties are assignable or otherwise transferable to the Department.

26. Representations and Warranties Concerning Motor Vehicles. If in the course of Performance or in any other way related to the Agreement the Contractor at any time uses or operates "motor vehicles," as that term is defined by Conn. Gen. Stat. § 14-1 the Contractor, represents and warrants for itself and the Contractor Parties, that:

(a) It is the owner of record or lessee of record of each such motor vehicle used in the Performance of the Agreement, and each such motor vehicle is duly registered with the Connecticut Department of Motor Vehicles ("ConnDMV") in accordance with the provisions of Chapter 246 of the

Connecticut General Statutes. Each such registration shall be in valid status, and shall not be expired, suspended or revoked by ConnDMV, for any reason or cause. If such motor vehicle is not registered with ConnDMV, then it shall be duly registered with another state or commonwealth or federal entity in accordance with such other state's, commonwealth's or federal entity's applicable laws. Each such registration shall be in valid status, and shall not be expired, suspended or revoked for any reason or cause.

(b) Each such motor vehicle shall be fully insured in accordance with the provisions of Sections 14-12b, 14-112 and 38a-371 of the Connecticut General Statutes, as amended, in the amounts required by the said sections or in such higher amounts as have been specified by ConnDMV as a condition for the award of the Agreement, or in accordance with all substantially similar provisions imposed by the law of the jurisdiction where the motor vehicle is registered.

(c) Each Contractor Party who uses or operates a motor vehicle at any time in the Performance of the Agreement shall have and maintain a motor vehicle operator's license or commercial driver's license of the appropriate class for the motor vehicle being used or operated. Each such license shall bear the endorsement or endorsements required by the provisions of Section 14-36a of the Connecticut General Statutes, as amended, to operate such motor vehicle, or required by substantially similar provisions imposed by the law of another jurisdiction in which the operator is licensed to operate such motor vehicle. The license shall be in valid status, and shall not be expired, suspended or revoked by ConnDMV or such other jurisdiction for any reason or cause.

(d) Each motor vehicle shall be in full compliance with all of the terms and conditions of all provisions of the Connecticut General Statutes and regulations, or those of the jurisdiction where the motor vehicle is registered, pertaining to the mechanical condition, equipment, marking and operation of motor vehicles of such type, class and weight, including, but not limited to, requirements for intrastate carriers with motor vehicles having a gross vehicle weight rating or gross combination weight rating or gross vehicle weight or gross combination weight of 18,001 pounds or more or interstate carriers with motor vehicles having a gross vehicle weight rating or gross combination weight rating or gross vehicle weight or gross combination weight of 10,001 pounds or more otherwise described by the provisions of Conn. Gen. Stat. § 14-163c(a) and all applicable provisions of the Federal Motor Carrier Safety Regulations, as set forth in Title 49, Parts 382 to 399, inclusive, of the Code of Federal Regulations. If the Contractor is a "motor carrier," as that term is defined in section 49 CFR Part 390, and the Contractor is subject to an order issued by the Federal Motor Carrier Safety Administration that prohibits such Contractor from operating or allowing the operation of a motor vehicle, then the Contractor shall comply fully with such order. In addition, if a motor vehicle or its operator is declared out of service pursuant to Conn. Gen. Stat. § 14-163c(d)(4), then the Contractor shall not operate or allow the operation of that motor vehicle and shall not allow the operator to operate a motor vehicle while the respective subject out-of-service order is in effect.

27. Disclosure of Contractor Parties Litigation. The Contractor shall require in its contracts with Contractor Parties that all Contractor Parties, as appropriate, disclose to the Contractor, to the best of their knowledge, any Claims involving the Contractor Parties that might reasonably be expected to materially adversely affect their businesses, operations, assets, properties, financial stability, business prospects or ability to Perform fully under the Agreement, no later than ten (10) Working Days after becoming aware or after they should have become aware of any such Claims. Disclosure shall be in writing.

28. Entirety of Contract. The Agreement is the entire agreement between the parties with respect to its subject matter, and supersedes all prior agreements, proposals, offers, counteroffers and understandings of the parties, whether written or oral. The Agreement has been entered into after

full investigation, neither party relying upon any statement or representation by the other unless such statement or representation is specifically embodied in the Agreement.

29. Exhibits. All exhibits referred to in and attached to this Agreement are incorporated in this Agreement by such reference and shall be deemed to be a part of it as if they had been fully set forth in it.
30. Executive Orders. Performance undertaken in Connecticut pursuant to the Agreement 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 Agreement as if they had been fully set forth in it. The Agreement may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services and to Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office. If Executive Order 14 and/or Executive Order 49 are applicable, they are deemed to be incorporated into and are made a part of the Agreement as if they had been fully set forth in it. At the Contractor's request, the Department shall provide a copy of these orders to the Contractor.
31. Non-discrimination.
- (a) For purposes of this Section, the following terms are defined as follows:
- (1) "Commission" means the Commission on Human Rights and Opportunities;
 - (2) "Contract" and "contract" include any extension or modification of the Contract or contract;
 - (3) "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;
 - (4) "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose.
 - (5) "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;
 - (6) "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;
 - (7) "marital status" means being single, married as recognized by the State, widowed, separated or divorced;

(8) "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;

(9) "minority business enterprise" means any small contractor or supplier of materials fifty-one percent (51%) or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the 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 § 32-9n of the Connecticut General Statutes; and

(10) "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.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, (2) a quasi-public agency, as defined in § 1-120 of the Connecticut General Statutes, (3) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in § 1-267 of the Connecticut General Statutes, (4) the federal government, (5) a foreign government, or (6) an agency of a subdivision, agency, state or government described in the immediately preceding enumerated items (1), (2), (3), (4) or (5).

(b)

(1) The Contractor agrees and warrants that in the performance of the Agreement such 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, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such 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; and 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, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, 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) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which the 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) the Contractor agrees to comply with each provision of this Section and §§ 46a-68e and 46a-68f of the Connecticut General Statutes and with each regulation or relevant order issued by said Commission pursuant to §§ 46a-56, 46a-68e and 46a-68f of the Connecticut General Statutes; and (5) the Contractor agrees 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 related

to the provisions of this Section and § 46a-56 of the Connecticut General Statutes. 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 projects.

- (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, vendor 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 § 46a-56 of the Connecticut General Statutes; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor 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 Agreement and as they may be adopted or amended from time to time during the term of this Agreement and any amendments thereto.
- (g)
 - (1) The Contractor agrees and warrants that in the performance of the Agreement such 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 the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such 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) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said Commission pursuant to § 46a-56 of the Connecticut General Statutes; and (4) the Contractor agrees 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 § 46a-56 of the Connecticut General Statutes.
- (h) The Contractor shall include the provisions of the foregoing paragraph 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, vendor 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 § 46a-56 of the Connecticut General Statutes; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor 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.

32. Whistleblowing. This Agreement may be subject to the provisions of § 4-61dd of the Connecticut General Statutes. In accordance with this statute, 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 any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, 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 this Agreement. 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 State may request that the Attorney General 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) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

33. Notice. All notices, demands, requests, consents, approvals or other communications required or permitted to be given or which are given with respect to this Agreement (for the purpose of this section collectively called "Notices") shall be deemed to have been effected at such time as the notice is placed in the U.S. mail, first class and postage pre-paid, return receipt requested or placed with a recognized, overnight express delivery service that provides for a return receipt. All such Notices shall be in writing and shall be addressed as follows:

If to the Department:

State of Connecticut Department of Transportation

**ADDRESS 2800 Berlin Turnpike
Newington, CT 06131-7546**

Attention: Richard Andreski, Bureau Chief, Bureau of Public Transportation

If to the Contractor:

NAME National Railroad Passenger Corporation (Amtrak)

**ADDRESS 4001 Vandever Avenue Building 12, Rm. 107
Wilmington, DE 19802**

Attention: Director Mechanical Contracts

With a copy to:

**ADDRESS National Railroad Passenger Corporation
1 Massachusetts Avenue
NW Washington, DC 20001**

Attention: Chief Legal Officer, General Counsel

34. **Insurance.** Before commencing Performance, the Contractor shall obtain and maintain at its own cost and expense for the duration of the Agreement, the following insurance as described in (a) through (g) below. Contractor shall assume any and all deductibles in the described insurance policies. The Contractor's insurers shall have no right of recovery or subrogation against the State and the described Contractor's insurance shall be primary coverage. Any failure to comply with the claim reporting provisions of the policy shall not affect coverage provided to the State. State acknowledges that Contractor will meet the insurance requirements of this Section 34 through its Corporate Self-Insurance program.

(a) **Commercial General Liability:** The Contractor shall provide Commercial General Liability Insurance for and in the name of the State of Connecticut/CTDOT with a total limit of \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. Coverage shall include, Premises and Operations, Independent Contractors, Products and Completed Operations, Contractual Liability and Broad Form Property Damage coverage. If a general aggregate is used, the general aggregate limit shall apply separately to the project or the general aggregate limit shall be twice the occurrence limit.

(b) **Automobile Liability:** The Contractor shall provide Automobile Liability Insurance for and in the name of the State of Connecticut/CTDOT with a total limit of \$1,000,000 combined single limit per accident for bodily injury. Coverage extends to owned, hired and non-owned automobiles. If the vendor/contractor does not own an automobile, but one is used in the execution of the contract, then only hired and non-owned coverage is required. If a vehicle is not used in the execution of the contract then automobile coverage is not required.

(c) **Workers' Compensation and Employers Liability:** Statutory coverage in compliance with the Compensation laws of the State of Connecticut. Coverage shall include Employer's Liability with minimum limits of \$100,000 each accident, \$500,000 Disease – Policy limit, \$100,000 each employee. In lieu of Workers' Compensation and Employers Liability insurance, Contractor shall comply with the requirements of the Federal Employers Liability Act (FELA) with regard to employee workplace injuries or illnesses.

(d) **Railroad Protective Liability:** At least \$2,000,000 for each accident or occurrence resulting in damages from: (1) bodily injury to or death of all persons; and/or (2) injury to or destruction of property, and subject to that limit per accident or occurrence, an aggregate coverage of at least \$6,000,000 for all damages during the policy period, and with all entities falling within any of the following listed categories named as insured parties: (i) the owner of the railroad right-of-way; (ii) the owner of any railcar licensed or permitted to travel within that affected portion of railroad right-of-way; and (iii) the operator of any railcar licensed or permitted to travel within that affected portion of the railroad right-of-way; and (iv) any other party with an insurable interest; and (v) the State, if not falling within any of the above-listed categories.

e) **Umbrella Liability:** The Contractor shall provide Umbrella Liability Insurance for and in the name of the State of Connecticut/CTDOT with a total limit of five million dollars (\$5,000,000.00).

(f) **Claims Made:** Not acceptable with the exception of Professional Liability when specified.

Bonds

A. Performance Bond

The Contractor shall provide a Performance Bond in the full amount of the Agreement. Such bond must be received within twenty (20) days of request. Other offers of surety will be reviewed on a case by case basis. It is the responsibility of the Contractor to ensure that its bond is updated as required. The Contractor may provide a separate Performance Bond for each locomotive.

B. Payment Bond

The Contractor shall provide a Payment Bond in the full amount of the Agreement. Such bond must be received within twenty (20) days of request. Other offers of surety will be reviewed on a case by case basis. It is the responsibility of the Contractor to ensure that its bond is updated as required. The Contractor may provide a separate Payment Bond for each locomotive.

C. Warranty Bond:

The Contractor shall, prior to the issuance by the Department of written Final Acceptance, furnish a separate Warranty Bond in a form acceptable to the State in an amount equal to the total negotiated contract amount for the initial minimum 2 year warranty period. The Contractor may provide a separate Warranty Bond for each locomotive.

The bond shall secure the Contractor's obligation to provide required technical support and warranty services and replace or repair defective materials and faulty workmanship for a minimum period of two (2) years after issuance of Final Acceptance.

D. All such bonds shall be:

1. Corporation: The Bond must be signed by an official of the Corporation above his official title and the corporate seal must be affixed over his signature.
2. Firm or Partnership: The Bond must be signed by all the partners and indicate they are "Doing Business As (name of firm)".
3. Individual: The Bond must be signed by the individual owning the business and indicated "Owner".
4. The Surety Company executing the Bond must be licensed to do business in the State of Connecticut, or Bond must be countersigned by a company so licensed.
5. The Bond must be signed by an official of the Surety Company and the corporate seal must be affixed over his signature.

1. Signature of two witnesses for both principal and the Surety must appear on the Bond.

35. Headings. The headings given to the sections in the Agreement are inserted only for convenience and are in no way to be construed as part of the Agreement or as a limitation of the scope of the particular section to which the heading refers.

36. Number and Gender. Whenever the context so requires, the plural or singular shall include each other and the use of any gender shall include all genders.

37. Contractor Changes. The Contractor shall notify the Department in writing no later than ten (10) Days from the effective date of any change in:

- a. its certificate of incorporation or other organizational document;
- b. more than a controlling interest in the ownership of the Contractor; or
- c. the individual(s) in charge of the Performance.

Any such change shall not relieve the Contractor of any responsibility for the accuracy and completeness of the Performance.

38. Further Assurances. The parties shall provide such information, execute and deliver any instruments and documents and take such other actions as may be necessary or reasonably requested by the other party which are not inconsistent with the provisions of this Agreement and which do not involve the vesting of rights or assumption of obligations other than those provided for in the Agreement, in order to give full effect to the Agreement and to carry out the intent of the Agreement.

39. Audit and Inspection of Plants, Places of Business and Records.

(a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, after having completed all Contractor safety, security and access requirements and at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the Performance of this Agreement.

(b) The Contractor shall maintain, and shall require each of the Contractor Parties to maintain accurate and complete Records. The Contractor shall make all of its Records available, and will require the Contractor Parties to make their Records available, at all reasonable hours for audit and inspection by the State and its agents. The parties agree that the fixed amounts included on Exhibit B – Price Schedule, are not subject to audit and that the objective of an audit of the fixed amounts is for the purpose of verifying that the fixed amounts were properly invoiced to the state.

(c) Solely with respect to on-site audits and inspections by CTDOT employees and consultants, CTDOT agrees to defend, indemnify and hold harmless Amtrak and its officers, directors, and employees (collectively, the "Amtrak Indemnified Parties") and, with respect to the employees and agents of CTDOT's consultants and contractors, to require CTDOT's consultants and contractors to defend, indemnify and hold harmless the Amtrak Indemnified Parties from and against any and all damage or liability for personal injury, death, or property damage, (including, without limitation, cost of defense and attorneys' fees), regardless of the cause thereof, which would not have occurred but for the on-site inspection by CTDOT employees and consultants, and excluding any claim for such damage or liability which is determined by a federal court of competent jurisdiction based on clear and convincing evidence to have been caused by the Malice, Oppression or Fraud of Amtrak Indemnified Parties. For the purposes of this Agreement, the following definitions apply:

- (1) "Oppression" means conduct that subjects a person to cruel and unjust hardship in conscious disregard of that person's rights.
- (2) "Fraud" means an intentional misrepresentation, deceit, or concealment of a material fact with intention of thereby depriving a person of property or legal right or otherwise causing injury.
- (3) "Malice" means voluntary conduct which is intended to cause injury to others or despicable conduct which is carried on with a conscious and willful, and reckless or wanton disregard to the rights or safety of others.

The limitation on the scope of CTDOT's indemnity based on Amtrak's alleged Oppression, Fraud or Malice shall in no way change CTDOT's duty to defend Amtrak for against the damage and/or liability described in the first sentence of this Section.

(d) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least five (5) Days' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.

(e) All audits and inspections shall be at the State's expense.

- (f) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Agreement, or (ii) the expiration or earlier termination of this Agreement, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, subject to the requirements of Subsections 39 (a), (b), (c) and (d) hereof, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.
- (g) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct and the Contractor shall cooperate with an exit conference.
- (h) The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.

40. Background Checks. The State may require that the Contractor and Contractor Parties undergo criminal background checks as provided for in the State of Connecticut Department of Emergency Services and Public Protection Administration and Operations Manual or such other State document as governs procedures for background checks. The Contractor and Contractor Parties shall cooperate fully as necessary or reasonably requested with the State and its agents in connection with such background checks.

(a) Upon demonstration by the Contractor, to the State's satisfaction, that applicable collective bargaining agreements are inconsistent with subsection (a) of this section, the Contractor shall be excused from the requirement set forth in subsection (a).

(b) If it becomes known to the Contractor that any employee, subcontractor or subcontractor employee has been convicted of or charged with, or had a civil judgment rendered against him or her for the commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a transaction or contract with any governmental entity, including, but not limited to, violation of the federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, or receiving stolen property, the Contractor will not allow such employee or subcontractor, or subcontractor employee to perform Services under the Agreement.

41. Continued Performance. The Contractor and Contractor Parties shall continue to Perform their obligations under the Agreement while any dispute concerning the Agreement is being resolved.

42. Working and Labor Synergies at Work Sites. The Contractor shall be responsible for maintaining a tranquil working relationship between the Contractor work force, the Contractor Parties and their work force, State employees, and any other contractors present at the work site. The Contractor shall quickly resolve all labor disputes which result from the Contractor's or Contractor Parties' presence at the work site, or other action under their control. Labor disputes at any work site shall not be deemed to be sufficient cause to allow the Contractor to make any claim for additional compensation for cost, expenses or any other loss or damage, nor shall those disputes be deemed to be sufficient reason to relieve the Contractor from any of its obligations under the Agreement. Neither this Agreement nor any provision thereof shall require, or be construed to require, the Contractor to contravene the provisions of any of its labor agreements.

43. Contractor Responsibility.

(a) The Contractor shall be responsible for the entire Performance under the Agreement regardless of whether the Contractor itself performs. The Contractor shall be the sole point of contact concerning the management of the Agreement, including Performance and payment issues. The Contractor is solely and completely responsible for requiring the Contractor Parties to adhere to all applicable provisions of the Agreement.

(b) The Contractor shall exercise all reasonable care to avoid damage to the State's property or to property being made ready for the State's use, and to all property adjacent to any work site. The Contractor shall promptly report any damage, regardless of cause, to the State.

44. Severability. If any term or provision of the Agreement or its application to any person, entity or circumstance shall, to any extent, be held to be invalid or unenforceable, the remainder of the Agreement or the application of such term or provision shall not be affected as to persons, entities or circumstances other than those as to whom or to which it is held to be invalid or unenforceable. Each remaining term and provision of the Agreement shall be valid and enforced to the fullest extent possible by law.

45. Confidential Information. The Department will afford due regard to the Contractor's request for the protection of proprietary or confidential information which the Department receives. However, all materials associated with the Solicitation and the Agreement are subject to the terms of the Connecticut Freedom of Information Act ("FOIA") and all corresponding rules, regulations and interpretations. In making such a request, the Contractor may not merely state generally that the materials are proprietary or confidential in nature and not, therefore, subject to release to third parties. Those particular sentences, paragraphs, pages or sections that the Contractor believes are exempt from disclosure under the FOIA must be specifically identified as such. Convincing explanation and rationale sufficient to justify each exemption consistent with the FOIA must accompany the request. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the Contractor 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 FOIA. To the extent that any other provision or part of the Agreement, especially including the Solicitation, the Records and the specifications, conflicts or is in any way inconsistent with this section, this section controls and shall apply and the conflicting provision or part shall not be given effect. If the Contractor indicates that certain documentation is submitted in confidence, by specifically and clearly marking said documentation as "CONFIDENTIAL," the Department will endeavor to keep said information confidential to the extent permitted by law. The Department, however, has no obligation to initiate, prosecute or defend any legal proceeding or to seek a protective order or other similar relief to prevent disclosure of any information that is sought pursuant to a FOIA request. The Contractor shall have the burden of establishing the availability of any FOIA exemption in any proceeding where it is an issue. In no event shall the Department or the State have any liability for the disclosure of any documents or information in its possession which the Department believes are required to be disclosed pursuant to the FOIA or other requirements of law.

(a) The Department shall notify the Contractor of any such FOIA request and the Contractor shall timely advise the Department as to whether it will seek a protective order or take such other actions as the Contractor may deem advisable to protect from disclosure the information it has designated, per subsection (a) of this section, as confidential or proprietary, and, if the Contractor is to seek a protective order or take such other action, the Contractor shall promptly do so.

(b) The Department shall be under no obligation to notify the Contractor of any FOIA request unless the request covers the particular sentences, paragraphs, pages or sections that the Contractor has designated as confidential or proprietary in accordance with subsection (a) of this section and for which explanation and rationale required pursuant to subsection (a) of this section has been provided.

(c) To the extent that the Contractor is subject to the federal Freedom of Information Act, 5 U.S.C. § 552 and related implementing regulations, 49 CFR Part 701 (collectively, "U.S. FOIA"), nothing herein shall require or be construed to require the Contractor to contravene U.S. FOIA's provisions and the Contractor's obligations pursuant thereto.

46. References to Statutes, Public Acts, Regulations, Codes and Executive Orders.

All references in this Agreement to any statute, public act, regulation, code or executive order shall mean such statute, public act, regulation, code or executive order, respectively, as it has been

amended, replaced or superseded at any time. Notwithstanding any language in this Agreement that relates to such statute, public act, regulation, code or executive order, and notwithstanding a lack of a formal amendment to this Agreement, this Agreement shall always be read and interpreted as if it contained the most current and applicable wording and requirements of such statute, public act, regulation, code or executive order as if their most current language had been used in and requirements incorporated into this Agreement at the time of its execution.

47. Disclosure of Records. This Agreement may be subject to the provisions of § 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars (\$2,500,000.00) between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. 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 FOIA. 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 §§ 1-205 and 1-206 of the Connecticut General Statutes.
48. Code of Ethics. Contractor agrees not to interfere with the State's implementation of the policies enumerated in "Connecticut Department of Transportation Policy Statement No. F&A-10, Subject: Code of Ethics Policy." June 1, 2007.
49. Sovereign Immunity. The parties acknowledge and agree that nothing in the Solicitation or the Agreement shall be construed as a modification, compromise or waiver by the State of any rights or defenses of any immunities provided by Federal law or the laws of the State of Connecticut to the State or any of its officers and employees, which they may have had, now have or will have with respect to all matters arising out of the Agreement. To the extent that this section conflicts with any other section, this section shall govern.
50. Time of the Essence. Time is of the essence with respect to all provisions of this Agreement that specify a time for performance; provided, however, that this provision shall not be construed to limit or deprive a party of the benefits of any grace or use period allowed in this Agreement. Nothing contained in this Section is intended to eliminate, replace, modify, or shorten the applicable right to cure period set forth in Section 12 of the Contract.
51. Certification as Small Contractor or Minority Business Enterprise. The Contractor shall be in breach of this Agreement if the Contractor is certified as a "small contractor" or a "minority business enterprise" under § 4a-60g of the Connecticut General Statutes and that certification lapses during the term of this Agreement.
52. Campaign Contribution Restriction. For all State contracts as defined in § 9-612(g)(1) of the Connecticut General Statutes having a value in a calendar year of fifty thousand dollars (\$50,000.00) or more or a combination or series of such agreements or contracts having a value of one hundred thousand dollars (\$100,000.00) or more, the authorized signatory to this Agreement expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice, as set forth in "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations," attached as Exhibit C.
53. Antitrust Claims. Contractor hereby irrevocably assigns to the State of Connecticut all rights, title and interest in and to all Claims associated with this Agreement that Contractor now has or may or will have and that arise under the antitrust laws of the United States, 15 USC Section 1, *et seq.* and the antitrust laws of the State of Connecticut, Connecticut General Statute § 35-24, *et seq.*, including but not limited to any and all Claims for overcharges. This assignment shall become valid and

effective immediately upon the accrual of a Claim without any further action or acknowledgment by the parties.

54. Limitation of Liability. Neither party shall be liable for lost revenues or lost profits, as a result of this Agreement or any breach of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their duly authorized representatives with full knowledge of and agreement with its terms and conditions.

National Railroad Passenger
Corporation (Amtrak)

STATE OF CONNECTICUT
Department Of Transportation

By: RH Anderson

By: [Signature]

RH Anderson
Print or Type Name

Richard W. Andreski
Print or Type Name

Title: CEO + Pres

Title: Bureau Chief, Public Transportation

Date: 14 MAY 2018

Date: April 25, 2018

Approved as to form:

[Signature]
Attorney General
State of Connecticut
ASSOC. ATTY. GENERAL
Joseph Rubin
Date: 5/22/18

EXHIBIT A

DESCRIPTION OF GOODS AND SERVICES

Table of Contents

Description of Goods & Services Specifications and Additional Terms and Conditions – Exhibit A

A.1	See Exhibit A.1, "Technical Specifications"	4
A.2	Responsibilities of the Contractor	4
A3.	CTDOT Responsibilities	5
A4.	Communication Requirements	6
A5.	Submittal Form	6
A6.	Conformity with Plans and Specifications	6
A7.	Service Engineer	6
A8.	Engineer's Facilities	7
A9.	Security	7
A10.	Property Damage	7
A11.	Planning and Scheduling	7
A12.	Management Systems	8
A13.	Serial Numbers	9
A14.	New Materials	9
A15.	Quantities and/or Usages	9
A16.	Contractor's Material Qualification	9
A17.	Patent Indemnity	9
A18.	Permits	10
A19.	Subcontractors	10
A20.	Contract Time and Liquidated Damages	11
A21.	Determination and Extension of Contract Time for Completion	12
A22.	Stop and Suspension of Work	12
A23.	Claim for Delay or Suspension of the Work	13
A24.	Abandonment or Default by Contractor	14
A25.	Changes to Contract	15
A26.	Dispute Accounting	17

A27. Claims and Disputes _____	17
A28. Storage of Materials and Preparation for Delivery _____	17
A29. Receipt of Contractor Furnished Equipment and Materials _____	18
A30. Contractor's Title to Materials _____	18
A31. Schedule of Joint Inspection and Release for Work _____	18
A32. Inspection _____	19
A33. Responsibility for Inspection _____	20
A34. Correction of Deficiencies _____	20
A35. Delivery of Completed Locomotives _____	22
A36. Conditional Acceptance of Locomotives _____	22
A37. Final Acceptance of Locomotives _____	23
A38. Technical Assistance _____	23
A39. Compensation/Milestone Payment Schedule Terms of Payment _____	23
A40. Schedule of Partial Payments _____	25
A41. Cost-Plus Work _____	26
A42. Payment for Spare Parts _____	27
A43. Basis for Payment _____	27
A44. Retainage _____	27
A45. Project Meetings _____	27
A46. Project Photographs _____	28
A47. Contractor's Drawings, Analysis and Specification _____	28
A48. Drawing Review _____	28
A49. Rights in Technical Data _____	29
A50. Warranty _____	30
A51. Fleet Failure (Components) _____	32
A52. Purchase Orders and Payments _____	33
A53. Business Operational Changes _____	33
A54. Revisions in Organization of Corporation _____	34
A55. Revisions in Organization of Partnership _____	34
A56. Errors or Omissions _____	34

A57. Standards	34
A58. General Overhaul Requirements	35
A59. Rail Safety Improvement Act of 1988	35
A60. Roadway Worker Protection	35
A61. AMTRAK Railroad Operations	35
A62. Americans with Disabilities Act of 1990	36
A63. Code of Federal Regulations	36

Description of Goods & Services Specifications and Additional Terms and Conditions – Exhibit A

The Specifications attached with this Contract, including the technical specifications set forth in Exhibit A.1, define the conditions and requirements applicable to the overhaul, delivery, testing and warranty of CTDOT's P40 road locomotive units, including the transportation to and from the Contractor's facilities. The requirements also include but are not limited to:

- Furnishing integrated schematics, drawings, inserts of catalogs and manuals.
- Deliverables referred to throughout the Specifications.

All capitalized, undefined terms used in this Exhibit A shall have the meanings ascribed to them either in the Contract or in the Abbreviations and Commonly Used Terms attached as Exhibit A.2 to this Exhibit A.

There are twelve (12) P40 locomotives, of the twelve (12), eight (8) are CTDOT locomotives identified by road numbers 833, 834, 836, 838, 840, 841, 842, and 843, and four (4) are ex-NJT locomotives, identified by road numbers 4800, 4801, 4802, and 4803, all of which were originally manufactured by the General Electric Company.

A.1 See Exhibit A.1, "Technical Specifications"

A.2 Responsibilities of the Contractor

- A. The Contractor shall submit a complete Master Program Schedule for CTDOT review and approval no later than thirty (30) days after Notice to Proceed and provide monthly updates thereafter. **[CDRL 1-001]**. The program schedule shall identify all milestones, the earliest and latest possible dates for accomplishing each milestone, the shortest and longest permissible time span between each dependent milestone, and major and minor paths which are critical for accomplishment of program objectives. The initial baseline schedule shall be maintained for the duration of the contract.
- B. The Master Program Schedule shall be monitored and controlled by the Contractor's management team responsible for all management functions and shall be updated and submitted to the Engineer for review and approval at least monthly during the design, production, and acceptance phases of the Contract **[CDRL 1-002]**
- C. Contractor shall submit to CTDOT for review and approval a listing and submittal schedule of all required documents described in this Specification within thirty (30) calendar days from the Notice to Proceed. **[CDRL 1-003]**
- D. The Contractor shall perform all necessary design work required for the overhaul of the locomotives, and shall prepare all necessary detail drawings, design calculations, other specified technical documentation, and Contract-required submittals. The Contractor shall submit such additional or revised drawings, diagrams, calculations, test results, and demonstrative evidence as CTDOT deems necessary to confirm the completeness and accuracy of Contractor's submittal.
- E. The Contractor shall ensure that each manufacturer/supplier of major items of equipment has a copy of the complete Specification. Copies of Purchase Orders (which may have prices deleted) and revisions to purchase orders for all major items of equipment, as determined by Exhibit A.1, Technical Specifications, shall be submitted to CTDOT on an ongoing basis, no less frequently than every thirty (30) days **[CDRL 1-004]**.
- F. As a minimum, the Contractor shall obtain from its subcontractors the same agreement with regard to warranty that the Contractor is required to extend to CTDOT. The Contractor shall obtain from each of those subcontractors written certification of the application and method to be used for warranty of its equipment. A copy of the Contractor's request and the subcontractor's certification shall be submitted to CTDOT for review and approval within thirty (30) days after NTP **[CDRL 1-005]**.
- G. The Contractor shall be responsible for all engineering efforts required to complete the overhaul work, including all required upgrading and modification.

- H. The Contractor shall be responsible for the procurement of all material required to complete the overhaul of the engine and any additional optional equipment overhaul of the locomotives defined in this specification.
- I. The Contractor shall furnish all management, labor, materials, tools, equipment, data, design, service and incidentals necessary to overhaul the locomotives and deliver the locomotive in strict conformance with the Contract requirements, in a proper, thorough, skillful, and workmanlike manner, complete and ready for service.
- J. The Contractor shall utilize the OEM standards in the performance of this contract unless otherwise stated.
- K. The Contractor is responsible for making any modifications that may be required by FRA during completion of locomotive construction, testing and delivery.
- L. The Contractor is responsible for developing procedures for all repairs to be made and component and system testing performed on CTDOT locomotives. Each procedure shall be approved by CTDOT prior to commencement of the test detailed in the procedure. Where specification provisions require inspection of parts to determine suitability for continuing in service, it is assumed that the Contractor will determine what repairs, if any, are required and carry them out with the concurrence of CTDOT's representatives.
- M. Where components or assemblies are specified to be overhauled or remanufactured, the Contractor may, with CTDOT's approval, supply new material.
- N. Where replacement of consumables is specified, they shall be replaced with new.
- O. All small hardware and body parts which are missing from components specified to be overhauled shall be replaced with new material by the Contractor at its expense.
- P. The locomotives after the overhaul shall be complete with auxiliary equipment, subsystems and accessories, and shall be in full working order.
- Q. The Contractor is responsible for developing procedures for all static functional and dynamic operational testing of the locomotives. Each procedure shall be approved by CTDOT prior to commencement of the work detailed in the procedure.

A3. CTDOT Responsibilities

CTDOT will be responsible for the following activities:

- A. The following work will include, but not be limited to, duties performed under the general direction of CTDOT. CTDOT will delegate its Representative to take the following actions:
 - 1. Inspection of the work for compliance with the Contract.
 - 2. Issuance of written orders to stop and/or resume work under the "Stop Work Order" clause of these specifications.
 - 3. Preparation of CTDOT estimate for Change Orders.
 - 4. Modification of Contract pursuant to the "Changes to the Contract" section of these specifications (Section A25), in each instance not to exceed the dollar amount authorized by CTDOT in the notice of delegation.
 - 5. Preparation and approval of payments, including releasing retainage and assessing liquidated damages.
 - 6. An approval in writing of the Contractor's shop drawings, working drawings, materials, equipment, manufacturing plans, quality assurance programs, and storage areas.
 - 7. An approval in writing of the Contractor's progress schedule when required.
 - 8. Designation of time and location of pickup and delivery within the schedule set forth in the Contract.
 - 9. Issue "Cure Notices", pursuant to the "Abandonment or Default by Contractor" Clause of these specifications (Section A24), "if the Contractor fails to perform any of the other provisions of this Contract, or so fails to make progress as to endanger performance of this Contract in accordance with its terms."

- B. The Representative is not authorized to render final decisions under the "Disputes" provision of these specifications.
- C. The Representative is not authorized to issue Termination Notices pursuant to the terms of this Contract.
- D. The presence or absence of the Representative or its inspectors shall not relieve the Contractor from any requirements of the Contract.

A4. Communication Requirements

- A. The Contractor shall be responsible for supervising and directing the work under this Contract and all Subcontractors that it may utilize.
- B. All correspondence, drawings, data, or other written communications pertaining to this Contract shall be in English using the English system of weights and measures. All monies expressed shall be in United States dollars. All conversations between the Contractor and CTDOT shall be in English. All correspondence shall be on single sided 8.5" x 11" white sheets.
- C. Communications in connection with this Contract shall be in writing, and shall be delivered in accordance with Section 33 of the Contract. Telephone calls may be used to expedite communications, but shall not be official communication unless confirmed in writing.
- D. In order to preclude misunderstandings and delays in the overhaul process arising from language difficulties, CTDOT requires that those representatives of the Contractor who serve as an official liaison to CTDOT or its representatives shall be sufficiently fluent and versed in their speech, writing, and understanding of the English language so as to enable a facile and comprehensive language intercourse between the Contractor and CTDOT, and its representatives, to the extent that it concerns their ability to communicate.
 - 1. CTDOT reserves the right of rejection of any representative of the Contractor who is found by CTDOT to be so deficient in ability to communicate in English as to be prejudicial to CTDOT's best interest.

A5. Submittal Form

- A. All submissions shall be properly referenced to clearly indicate the location, service, and function of each particular subject, and shall include the proper references to the appropriate Specification section including drawing numbers and details. Where the manufacturer's publications in the form of catalogs, pamphlets, or other data sheets are submitted in lieu of prepared shop drawings, such submissions shall specifically indicate the item for which approval is requested. Identification of items shall be made in ink. Submissions showing only general information will not be acceptable.
- B. The submittal of electronic files of all drawings, letters, attachments, CDRLs, and other documents shall be via email to Marci Petterson, Supervising Rail Officer, at marci.petterson@ct.gov or as instructed otherwise by CTDOT.

A6. Conformity with Plans and Specifications

- A. No willful deviation from the Plans and Specifications shall be made unless authorized in writing by CTDOT.
- B. Any change which can affect the amount of, or time for completion of, the Contract shall be handled by Change Order to the Contract in accordance with Section A21 and Section A25.

A7. Service Engineer

- A. The Contractor shall furnish the services of one or more, as mutually agreed upon, qualified, factory trained, English-speaking, Field Service Engineer(s) promptly when requested by CTDOT for assistance during inspection, operation, testing and adjustment of the Contractor furnished equipment, to insure satisfactory performance, and to instruct a reasonable number of CTDOT Service Operator's employees in the proper use and care of the equipment.

- B. The Contractor shall have a Service Engineer available, within twenty-four (24) hours of receipt of request for service, during a time period from delivery of the first locomotive to Final Acceptance of the final locomotive, and within seventy-two (72) hours of receipt of request for service during the warranty period.
- C. The cost of the Service Engineer(s) is included in the Contract Price.

A8. Engineer's Facilities

- A. The Contractor shall furnish and maintain at its own expense an office and facilities for the use of CTDOT, the Engineers and Inspectors at each plant where production or fabrication and assembly is performed. The office shall be in close proximity to the final assembly area.
 - 1. The office shall have:
 - a. Tumbler lock on the door;
 - b. Private and interplant telephone service;
 - c. One (1) standard office desk with swivel chair; and
 - d. Two (2) five (5) drawer filing cabinets (letter or legal size).
 - 2. Access to office restroom facilities or self-contained restroom facilities shall be provided.
 - 3. There shall be direct access to the office via automobile during normal business hours and/or while production is in operation.
 - 4. Facsimile transmission service shall be provided.
 - 5. The Contractor shall provide a desktop computer, Intel Core2 or better, with an internet connection. Software shall include, at a minimum:
 - a. Windows 7 operating system
 - b. Microsoft Office 2010 Internet Explorer

A9. Security

Contractor must adhere to established security and/or property entrance policies and procedures established for each State location. It is the responsibility of the Contractor and its agents and employees to understand and adhere to those policies and procedures prior to any attempt to enter the premises.

A10. Property Damage

Contractor shall make prompt restitution to CTDOT by certified check or replacement, or repairs, as directed by CTDOT, in settlement of any and all damages caused by the Contractor's employees.

A11. Planning and Scheduling

- A. The Contractor, within four (4) weeks from Notice to Proceed, shall submit to CTDOT for review and acceptance the schedule for the following items:
 - 1. Master Program Schedule
 - 2. Contract Deliverables Requirement List
 - 3. Copies of Purchase Orders
 - 4. Subcontractor's certification of warranty
 - 5. Project Management Plan
 - 6. Drawing list and scheduled completion dates of drawings
 - 7. Work schedule analysis list and scheduled completion dates of analyses

8. Quality Assurance/ Quality Control Program
 9. Detailed bar chart and drawing for the repair, overhaul, testing, and delivery of the locomotives
 10. Procedures list for in-plant inspections and tests and schedule for submission of procedures
 11. Special instruction books
 12. All other items requiring CTDOT review and acceptance pursuant to this Contract.
- B. Sufficient time shall be provided in the schedule to permit CTDOT review and acceptance a minimum of four (4) weeks prior to repair, overhaul, replacement/installation, or other need for each item.

A12. Management Systems

This Section delineates the requirements for the management systems which shall be sufficiently comprehensive to enable that the Contractor will meet the requirements of these Specifications and to enable CTDOT to monitor the Contractor's performance.

A. Management Program

The Contractor shall establish an organization to properly manage this locomotive overhaul program. The organization shall be highly responsive to the needs of CTDOT set forth in these Specifications. The Contractor shall develop a Management Plan [CDRL 1-006] and submit to CTDOT for review and approval. The Management Plan shall be submitted within thirty (30) days after NTP and shall be updated at two (2) month intervals. The Management Plan shall describe all design and configuration reviews and audits required by the Specification and shall include, but shall not necessarily be limited to:

1. An Organization Chart defining the responsibilities and qualifications of all personnel, including addresses and telephone numbers for Contractor, subcontractors, and major equipment suppliers.
2. The internal methods and communications to be used to control the program schedule, technical performance, program changes, subcontracts, purchase orders, material procurement, and field service support.
3. A Master Program Schedule showing key milestones and events.
4. A flowchart of all project tasks indicating task integration, including subsystems integration, industrial design, weight control, and conceptual design of the vehicles.
5. Design reviews conducted on a periodic basis to assess the degree of completion of technical effort related to major milestones.
6. First Article Inspections (FAIs): FAIs are required for all Locomotive Systems and Subsystem of a new design. First Article Inspections, where applicable, must be part of the Systems/Subsystems Overhaul Plans to be submitted by the Contractor as required in each of the Sections of the Technical Specifications attached to the Contract as Exhibit A.1.
7. A schedule identifying all elements of design and manufacture requiring approval or otherwise deliverable under the terms of the Contract, indicating when and for which items CTDOT approval is required, to the level of the individual item submittal.

B. Contract Deliverable Requirements List (CDRL)

TABLE -1

CDRL	Description	Due
CDRL 1-001	Master Program Schedule	Thirty (30) Days after NTP
CDRL 1-002	Master Program Schedule Updates	Every Thirty (30) Days
CDRL 1-003	Contract Deliverables Requirement List	Thirty (30) Days after NTP

CDRL	Description	Due
CDRL 1-004	Copies of Purchase Orders	Every Thirty (30) Days
CDRL 1-005	Contractor's Requests for and Subcontractor's Submittal of certification of warranty	Thirty (30) Days after NTP
CDRL 1-006	Management Plan	Thirty (30) Days after NTP

A13. Serial Numbers

- A. Serial numbers for each component overhauled shall be recorded on a digital spreadsheet by locomotive road number.
- B. Multiple components per vehicle shall each be given an approved designation by position or otherwise.
- C. Serial numbers shall be recorded on one spreadsheet for all applicable components as removed from vehicles during dismantling, or received separately from CTDOT.
- D. Serial numbers shall be recorded on a second spreadsheet for all components installed in vehicles during reassembly, or shipped separately to CTDOT.
- E. Spreadsheet formats shall be submitted for review and acceptance of CTDOT.
- F. Spreadsheets shall be prepared in Microsoft Excel 2010 format.
- G. Information on spreadsheets shall be updated on a monthly basis and transmitted electronically to CTDOT. The final spreadsheet shall be transmitted to CTDOT formally on CD-ROM.

A14. New Materials

- A. The Contractor shall furnish all materials required to repair and/or overhaul the locomotive(s) in accordance with the Contract, and said materials shall meet the requirements of the Specifications for their intended use.
- B. Only quality materials which are generally accepted in the industry and conform to the requirements of these Specifications shall be used in the work.

A15. Quantities and/or Usages

The quantities set forth in this Contract are estimated quantities and/or usages only and in no way represent a commitment and/or intent to purchase. Actual quantities may vary and will be identified on individual purchase orders issued by CTDOT.

A16. Contractor's Material Qualification

- A. It is the responsibility of the Contractor to furnish complete end products, materials and specialties of the type, design, and performance which will result in integrated, operating end product units and/or systems in accordance with the Technical Provisions.
- B. Contractor shall be responsible for the satisfactory delivery and operation of all equipment and materials covered by the Contract Documents whether manufactured by it, or manufactured by a Subcontractor.
- C. Contractor shall furnish evidence, if required by the Engineer, that equipment of comparable rating (or higher) to that which it proposes to furnish, has been in satisfactory operation in similar applications.

A17. Patent Indemnity

- A. In the performance of this Contract CTDOT has required the Contractor to furnish certain equipment, components, materials and supplies which may be:
 - 1. Items designated by brand name,
 - 2. Other items.
- B. Items in category Section A17., A. 1. are furnished by the Contractor at the direction CTDOT, and

accordingly have not been investigated for possible risks arising under patents. The Contractor therefore assumes no obligation to CTDOT with respect to such risks.

- C. As to items in Section A17., A. 2., the Contractor warrants that the products furnished hereunder, and any part hereof, shall be delivered free of any rightful claim of third party for infringement of any United States patent.
- D. If notified in writing and given authority, the Contractor shall defend, or may settle, at its expense any suit or proceeding against CTDOT so far as based on a claimed infringement which would result in a breach of this warranty and the Contractor shall pay all damages and costs awarded therein against CTDOT due to such breach.
- E. In case any product, or part thereof, is in such suit held to constitute an infringement and the use for the purpose intended of such product or part is enjoined, the Contractor shall, at its expense and option, either procure for CTDOT the right to continue using said product or part, or replace with some non-infringing product or part or modify same so it becomes non-infringing, or remove the product and refund the purchase price less reasonable depreciation for any period of use and any transportation costs separately paid CTDOT.
- F. The preceding states the entire liability of the Contractor for patent infringement by said products or any part thereof. The Contractor shall indemnify CTDOT for any costs, expenses and damages which it may be obliged to pay, by reason of any infringement, at any time during the prosecution or after the completion of the work.
- G. After termination of the guarantee applying to the last locomotive delivered, CTDOT will assume the right to manufacture, or to cause to be manufactured, any assembly or component for its sole use in maintaining in relation to letters of patent or copyrights. Except for patented devices, the Contractor shall not have exclusive proprietary rights pertaining to the design of the locomotive(s).
- H. CTDOT reserves the right to request and review any and all documents which may assign the rights of a patented item(s) from the patent holder or patentee to the awarded Contractor.
- I. While CTDOT recognizes that certain materials or component parts may be produced under the terms of licensing or cross licensing agreements, the use of such materials and component parts requiring the application of recurring royalty charges, costs or payments is specifically prohibited.

A18. Permits

The Contractor shall procure all permits and licenses necessary in order to produce the end product, pay all charges, fees, and taxes and give all notices necessary and incidental to the due and lawful prosecution of this Contract.

A19. Subcontractors

CTDOT must approve any and all subcontractors utilized by the Contractor prior to any such Subcontractor commencing any work. Contractor acknowledges that any work provided under the Contract is work conducted on behalf of CTDOT and that the Commissioner of CTDOT or the Commissioner's designee may communicate directly with any Subcontractor as CTDOT deems to be necessary or appropriate. The Contractor shall be responsible for all payment of fees charged by the Subcontractor(s). A performance evaluation of any Subcontractor shall be provided promptly by the Contractor to CTDOT upon request.

The Contractor must provide the majority (50% or more) of services described in the specifications

- A. Before entering into any Subcontracts, the Contractor shall submit a written statement to the Engineer giving the name and address of the proposed Subcontractor, the portion of the work and material which it is to perform and finish, and any other information necessary to prove that the proposed Subcontractor has the necessary facilities, skill, integrity, past experience and financial resources to perform the work in accordance with the terms and conditions of this Contract.

- B. If the Engineer determines that the proposed Subcontractor is qualified, he will notify the Contractor within seven (7) working days.
 - 1. If the determination is to the contrary, however, the Engineer will, within ten (10) days, notify the Contractor who may thereupon submit the name of another proposed Subcontractor unless it decides to do the work itself.
- C. The Engineer's approval of a Subcontractor shall not relieve the Contractor of any of its responsibilities, duties, and liabilities hereunder.
- D. The Contractor shall be solely responsible to CTDOT for the acts or defaults of its Subcontractor and of such Subcontractor's officers, agents and employees, each of whom shall, for this purpose, be deemed to be the agent and employees of the Contractor to the extent of its Subcontract.
 - 1. The Contractor shall also be responsible for the coordination of the work of the trades, Subcontractors and material men.
- E. No Subcontractor shall be permitted to perform work until it, or the Contractor, has furnished satisfactory evidence of insurance as required by the Contract.
- F. The Contractor shall promptly, upon request, file with the Engineer a confirmed copy of the Subcontract, with the price and terms of payment deleted.
- G. CTDOT or its representatives will not undertake to settle any difference between the Contractor and its Subcontractors, or between Subcontractors.
- H. The Contractor shall ensure that the Subcontractors shall look only to the Contractor for the payment of the claims of any nature whatsoever arising out of said Subcontract, and Subcontractor agrees, as a condition of granting by CTDOT of the consent to the making of the Subcontract, that it shall make no claim whatsoever against CTDOT, its members or agents, for any work performed or thing done by reason of said Subcontract, or for any other cause whatsoever that may arise by reason of the relationship created between the Contractor and the Subcontractor by the Subcontract.
- I. Payments to Subcontractors:
Section 49-41 and Section 49-41c of the Connecticut General Statutes require general Contractors to pay their Subcontractors within thirty (30) days of having received payment by CTDOT for work performed or materials furnished by such Subcontractor. In turn, Subcontractors have thirty (30) days upon receiving payment from the general Contractor to pay their Subcontractors.

A20. Contract Time and Liquidated Damages

One Thousand One Hundred (1100) calendar days from the NTP will be allowed for completion of work on this project.

- A. It is understood and agreed by the Contractor that time is of the essence in the delivery of supplies, services, materials, and equipment of the character and quality specified in this Contract.
- B. On or before the date stated above, or the date to which the time of delivery shall have been extended under the provisions of Section A21., delivery of all locomotives shall have been completed in accordance with the terms of the Contract.
- C. In the event these specified supplies, services, materials and equipment are not delivered by the dates specified in the Contract, there will be deducted, not as a penalty but as Liquidated Damages, the sum of eight hundred dollars (\$800) per day per each locomotive not delivered, one thousand dollars (\$1000) per set of drawings, and two thousand dollars (\$2000) per set of manuals not delivered.

- D. When a delay occurs due to reasonable causes beyond the control of the Contractor, including but not limited to, acts of God, acts of government of any governmental agency, war or war conditions, riot or civil conditions, sabotage, strikes, lockouts, accident, fire, flood, typhoons, hurricanes, explosion, damage to plant, equipment, or facilities, the time for performance and completion of the work may be adjusted and extended as required to accommodate the delays and their effect.
 - 1. Upon receipt of a written request and justification for any extension from the Contractor, CTDOT may extend the time for performance of the Contract or delivery of goods herein specified, at CTDOT's sole discretion, for good cause shown.
 - 2. The Contractor shall have the option of providing leased equipment subject to the acceptance of the Engineer and CTDOT's sole discretion.
- E. The Contractor shall use reasonable diligence to remove or overcome any such causes as expeditiously as possible. In no event, however, shall the Contractor be liable for Liquidated Damages for each locomotive under this provision or any other provision of the Contract in excess of ten percent (10%) of the value of the work on each locomotive, as indicated in Exhibit B.
- F. Whatever sum of money may become due and payable to CTDOT by the Contractor under this Section may be retained out of money belonging to the Contractor in the hands and possession of CTDOT.
- G. Permitting the Contractor to continue and deliver locomotives after the time fixed for their completion, or after the date to which the time for delivery may have been extended, shall in no way operate as a waiver on the part of CTDOT of any of its rights under the Contract.

A21. Determination and Extension of Contract Time for Completion

- A. It is an essential part of this Contract that the Contractor shall perform fully, entirely, and in an acceptable manner, the work required under the Contract within the time stated in the Contract, except that the Contract time for completion shall be adjusted as follows:
 - 1. In case the commencing of the work is delayed by CTDOT or any part thereof is delayed or suspended by CTDOT (except for reasons caused by the fault or neglect of the Contractor), the Contractor shall be granted an extension of time in which to complete the work or any portion of the delay less a reasonable period of time within which it could have done necessary preliminary work.
 - 2. Each Change Order as issued will include a statement of additional time, if any, that is agreed upon by the Contractor and CTDOT as required for the completion of this Contract by reason of this Change Order, and no other time allowance on account of the performance of the work covered by such Change Order shall be allowed.

A22. Stop and Suspension of Work

- A. CTDOT may, at any time, by written order to the Contractor, stop all, or any part, of the work called for by this Contract for a period not to exceed ninety (90) days after the order is delivered to the Contractor and for any further period to which the parties may agree ("Stop Work Order").
 - 1. Any such order shall be specifically identified as a Stop Work Order issued pursuant to this Section.
 - 2. Upon receipt of such an order, the Contractor shall forthwith comply with its terms and take all reasonable steps to minimize the incurring of costs allocable to the work covered by the order during the period of work stoppage.
 - 3. Within a period of ninety (90) days after a Stop Work Order is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, CTDOT shall either:
 - a. Cancel the Stop Work Order; or

b. Terminate the work covered by such order as provided in the Contract, Section 10, Termination.

B. If a Stop Work Order issued under this Section is cancelled or the period of the order or any extension thereof expires, the Contractor shall resume work.

1. An equitable adjustment will be made in the delivery schedule or Contract price, or both, and the Contract will be modified in writing accordingly, if:

a. The Stop Work Order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this Contract; and

b. The Contractor asserts a claim for such adjustment within thirty (30) days after the end of the period of work stoppage; provided that, if CTDOT decides the facts justify such action, it may receive and act upon such claim asserted at any time prior to final payment under this Contract.

C. If a Stop Work Order is not cancelled and the work covered by such order is terminated for the convenience of CTDOT, the reasonable costs resulting from the Stop Work Order, as determined by CTDOT will be paid to the Contractor.

A23. Claim for Delay or Suspension of the Work

A. The Contractor hereby agrees that it shall have no claim for damages of any kind on account of any delay in commencement of the work or any delay or suspension of any portion thereof, except as hereinafter provided.

1. If, in the Engineer's judgment, the performance of all or any major portion of the work is suspended, delayed, or interrupted for any unreasonable period of time, any act of CTDOT in the administration of the Contract or by CTDOT's failure to act as required by the Contract within the time specified in the Contract (or if no time is specified, within a reasonable time), and without the fault or negligence of the Contractor, an adjustment shall be made by CTDOT for any increase in the actual cost of performance of the Contract (excluding profit and overhead) necessarily caused by the period of such suspension, delay, or interruption.

a. Adjustment shall be made also in the delivery or performance dates or any other Contractual provision affected by such delay or interruption.

b. No adjustment shall be made if the performance by the Contractor would have been prevented by other causes even if the work had not been suspended, delayed or interrupted by CTDOT or its representative.

c. No adjustment shall be made, under this Section, for which an adjustment is provided or excluded under any other Section of this Contract.

2. No claim shall be allowed under this Subsection for CTDOT's failure to act as required by the Contract within the time specified in the Contract (or if no time is specified, within a reasonable time) for any cost incurred more than twenty (20) days before the Contractor shall have notified CTDOT in writing of its claim due to CTDOT's failure to act.

3. No claim under this Subsection shall be allowed unless the claim, in an amount stated, including breakdown of how the amount was computed, is asserted in writing as soon as practical after the termination of such delay or interruption, but not later than the date of the final payment under the Contract.

B. Any dispute concerning whether the delay or suspension is unreasonable or any other question of fact arising under this paragraph shall be determined by CTDOT or its designee and such determination and decision, in case any question should arise, shall be a condition precedent to the right of the Contractor to receive any money hereunder.

C. The Contractor further agrees that the sole allowance for any such delay or suspension, other than as provided above, is an extension of time as provided in Section A21., A.

A24. Abandonment or Default by Contractor

- A. CTDOT may, subject to the provisions of the Contract, Section 10, Termination, by written notice of default to the Contractor, terminate the whole or any part of this Contract in any one of the following circumstances:
1. If the work to be done under this Contract is abandoned by the Contractor; or
 2. If the Contractor fails to make delivery of the supplies or to perform the services within the time specified herein or any extension thereof; or
 3. If the Contractor fails to perform any of the other provisions of this Contract, or so fails to make progress as to endanger performance of this Contract in accordance with its terms, and in either of these two circumstances does not cure such failure within a period of ten (10) days (or such longer period as CTDOT may authorize in writing) after receipt of notice from CTDOT specifying such failure.
- B. In the event CTDOT terminates this Contract in whole or in part as provided in Section A24.A hereof, CTDOT may procure, upon such terms and in such manner as CTDOT may deem appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to CTDOT for any excess costs for such similar supplies or services; provided, that the Contractor shall continue the performance of this Contract to the extent not terminated under the provision of this section.
- C. Except with respect to default or delay to Subcontractors, the Contractor shall not be liable for any excess costs if the failure to perform the Contract arises out of causes beyond the control and without the fault or negligence of the Contractor.
1. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the government in its sovereign capacity or CTDOT in its contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case, the failure to perform must be beyond the control and without the fault or negligence of the Contractor.
 2. If the failure to perform is caused by the default or delay of the Subcontractor or supplier at any tier, and if such default or delay arises out of causes beyond the control of the Contractor and Subcontractor and supplier and without the fault or negligence of any of them, the Contractor shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the Subcontractor or supplier were obtained from other sources in sufficient time to permit the Contractor to meet the required delivery schedule.
- D. If this Contract is terminated as provided in the Contract, Section 10, Termination, CTDOT, in addition to any other rights provided in this section, may require the Contractor to transfer title and deliver to CTDOT, in the manner and to the extent directed by CTDOT, any completed supplies, and such partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and Contract rights (herein after called "manufacturing materials") as the Contractor may have specifically produced or specifically acquired for the performance of such part of this Contract as has been terminated; and the Contractor shall, upon direction of CTDOT, protect and preserve property in the possession of the Contractor in which CTDOT has an interest.
1. Payment for completed supplies delivered to and accepted by CTDOT shall be at the Contract price.
 2. Payment for manufacturing materials delivered to and accepted by CTDOT and for protection and preservation of property shall be in an amount agreed upon by the Contractor and the Engineer; failure to agree to such amount shall be a dispute concerning a question of fact within the meaning of the section of this Contract entitled "Claims and Disputes", Section A27.
 3. CTDOT may withhold from amounts, otherwise due the Contractor for such completed supplies or manufacturing materials, such sum as the Engineer determines to be necessary to protect CTDOT against loss because of outstanding liens or claims of former lien holders.

- E. If, after notice of termination of this Contract under the provisions of this section, it is determined for any reason that the Contractor was not in default under the provisions of the section, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the Contract, Section 10b, Termination.
- F. If the Contractor fails to deliver the supplies or perform the services within the time specified in this Contract, or any extension thereof, the actual damage to CTDOT for the delay will be difficult or impossible to determine.
 - 1. Wherefore in lieu of actual damages, the Contractor shall pay to CTDOT as fixed, agreed, and Liquidated Damages for each day of delay, the amount set forth in Section A20., C.
 - 2. The Contractor shall not be charged with Liquidated Damages when the delay arises out of causes beyond the control and without the fault or negligence of the Contractor and Subcontractor and supplier at any tier, as defined in Section A19 above, and in such event, subject to the "Claims and Disputes", Section A26, the Engineer shall ascertain the facts and extent of the delay and shall extend the time for performance of the Contract when in its judgment the findings of fact justify an extension.
- G. The rights and remedies of CTDOT provided in this section shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.
- H. As used in this exhibit, the terms "Subcontractor" and "Subcontractors" mean Subcontractor(s) at any tier.

A25. Changes to Contract

- A. By written notice to the Contractor, CTDOT may make changes within the general scope of the Contract, in the goods or services to be provided by the Contractor, the method of shipment or packing, the place of delivery, or the place of performance. The Contractor shall promptly comply with the notice and shall make all subsequent shipments of goods and performance of services in conformity to the notice.
- B. If any such change causes an increase or decrease in the Contractor's cost of performance or the time required for performance, an equitable adjustment in the Contract price and/or the time allowed for performance of the Contract shall be negotiated and the Contract modified accordingly by written supplemental agreement. Any claim by the Contractor for adjustment under this clause must be asserted by written notice to CTDOT within thirty (30) days from the date of receipt by the Contractor of the change notice.
 - 1. In no event, may the amount of the Contract, without adequate consideration, be increased for any purpose, including, but not limited to, relief of a Contractor from the consequences of an error in its Proposal.
 - 2. If the parties fail to agree to an adjustment, the question of an increase or decrease in the Contract price or time allowed for performance shall be resolved in accordance with the procedures for resolving disputes provided by Section A27.
- C. Neither the existence of a claim, a dispute, submission of the dispute to the dispute resolution process, litigation or any portion of this provision or changes shall excuse the Contractor from promptly proceeding with performance of the Contract as changed by the notice. Any proposed change in this Contract shall be submitted to CTDOT for its prior approval.
- D. CTDOT may, upon mutual agreement with the Contractor, issue written modifications to the Technical Specifications of this Contract, and within the general scope thereof. In making any modification, the resulting increase or decrease in cost for the modification shall be determined by one of the following methods as selected by CTDOT:
 - 1. The written modification shall stipulate the mutually-agreed upon price for the specific addition to/deletion from the Technical Specifications which shall be added to or deducted from the Contract

amount.

2. The written modification shall stipulate the number of unit quantities added to/deleted from the Contract and multiplied by the unit price which shall be added to or deducted from the Contract amount.
 3. The written modification shall direct the Contractor to proceed with the work and to keep, and present in such form as CTDOT may direct, a correct account of the cost of the change together with all vouchers therefore. The cost shall include an allowance for overhead and profit to be mutually agreed upon by CTDOT and the Contractor.
- E. The written notice submitted by the Contractor for work outside of the scope of the Contract shall include the following information:
1. Description of the change and detail of the work to be done.
 2. Detailed cost and pricing data to include material, labor, overhead and profit. Prices shall be quoted in United States of America dollars (no cents) on a per locomotive basis.
 3. A statement of additional time, if any, that is required for the completion of the Contract.
- F. CTDOT acknowledges that damages may exist which are not visibly obvious and are not currently included in the Specification. Should the Contractor discover such damages, the Contractor shall immediately notify CTDOT and begin the preparation of a Change Order request document, in accordance with the following:
1. Description of change and details of work to be done.
 2. Detailed cost and pricing data to include material, labor, overhead and profit. Prices shall be quoted in United States of American dollars (no cents) on a per locomotive basis.
 3. A statement of additional time, if any, that is required for the completion of the Contract by reason of this proposed modification.
- G. The Contractor shall maintain and provide a record of all engineering and/or Contractual Change Orders that have been submitted and/or accepted/denied by CTDOT.
1. Changes shall be logged and listed on a Change Order status report that shows and identifies the action taken on each change.
 2. The Change Order status report shall be updated at least bi-weekly and copies submitted to the CTDOT, Office of Rail Operations, Project Manager, and the onsite Engineer.
 3. A separate report shall be prepared and updated showing the original and revised Contract cost per locomotive delineating all additions on a per item and per Change Order basis, with the format of the report to be approved by CTDOT.
- H. Employees and representatives of CTDOT are not authorized to request work to be performed or services to be provided other than as specified above.
- I. CTDOT shall not accept any responsibility whatsoever for work or services for which there is no specific proper authorization.
- J. All Change Orders shall be executed in accordance with CTDOT policies and procedures, the document of which shall be supplied to the Contractor at the time of execution.
- K. Contractor Proposed Changes
1. The Contractor may at any time submit to CTDOT in writing for review and acceptance or denial, proposed modifications to the Contract Documents which will benefit CTDOT. CTDOT shall review and may accept such modifications. Upon acceptance by CTDOT of the proposed changes, CTDOT

shall execute and issue a Change Order.

2. Denial of a proposed modification shall neither provide the Contractor with any basis for claim for damages nor release the Contractor from Contractual responsibilities.

A26. Dispute Accounting

- A. When costs are a factor in any request by the Contractor for a Contract price adjustment pursuant to "Changes to Contract", Section A25, "Claim for Delay or Suspension of Work", Section A23 or a claim under any provision of this Contract, the Contractor and/or any Subcontractor engaged in performing the affected work shall maintain and furnish to CTDOT, on request, separate accounts by job order or other suitable accounting procedure, of all incurred segregatable, direct costs, (less allocable credits), of work, both changed and not changed, allocable to the change.

A27. Claims and Disputes

- A. Except as otherwise provided in this Contract, any dispute concerning a question of fact arising under this Contract which is not disposed of by agreement shall be decided by the Assistant Rail Administrator (Bureau of Public Transportation), who shall produce its decision in writing within sixty (60) days of receipt of written notification of the dispute by the Contractor and mail or otherwise furnish a copy thereof to the Contractor.
- B. The decisions of the Bureau of Public Transportation shall be final and conclusive unless, within six (6) months from the date of receipt of such copy, the Contractor mails or otherwise furnishes to CTDOT a written appeal addressed to the Department of Transportation, Bureau of Finance and Administration, Office of Purchasing and Materials Management, 2800 Berlin Turnpike, P.O. Box 317546, Newington, Connecticut, 06131-7546.
- C. In connection with any appeal proceeding under this Section, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal.
- D. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract and in accordance with CTDOT's decision.

A28. Storage of Materials and Preparation for Delivery

- A. Storage of Materials
 1. All materials intended for use on these locomotives shall be marked and stored in the Contractor's plant so as to be readily identified, and shall be adequately protected during handling and storage.
- B. Certificate of In-Plant Inspection and Release for Shipment
 1. Unless specifically excepted by the Contract Documents, and additionally at the sole discretion of CTDOT, each locomotive shipped from the Contractor's plant shall be complete, ready to run.
 2. In the event that locomotives are complete and ready for shipment prior to the delivery dates required by CTDOT as detailed in this specification, the Contractor shall so notify CTDOT. At CTDOT's option, said locomotives may be shipped.
- C. Preparation for Delivery
 1. All parts that must be removed to permit shipment and those items not permanently secured to the locomotive(s), shall be securely boxed to prevent damage, and shipped in the locked locomotive to which they belong.
- D. Delivery
 1. To be considered to be "delivered", each locomotive, subsequent to receipt, must be in a sound, whole, ready-to-run condition, ready for receiving inspection. Should CTDOT agree to allow locomotives to be shipped onto the Service Operator's property with work remaining to be done, the locomotives shall not, unless otherwise agreed upon by CTDOT, be considered to be "delivered" until the Contractor has

satisfactorily completed all such work. The Contractor shall be responsible for all locomotive related costs incurred during the "shipment", "receipt" and delivery of the locomotives.

A29. Receipt of Contractor Furnished Equipment and Materials

A. Receipt of Locomotives

1. Each completed locomotive shall be received on its own wheels on the tracks at the Connecticut Commuter Rail Maintenance Facility, 54 Hallock Ave., New Haven, Connecticut, 06519.
2. Each locomotive will be inspected and a Receiving Report will be prepared by CTDOT.

B. Receipt of Spare Parts and Other Materials

1. The Contractor shall notify:

The Connecticut Department of Transportation
Office of Rail Operations
4 Brewery Street
New Haven, Connecticut, 06519

Attn: SLE Locomotive Overhaul, Ms. Marci Petterson, Supervising Rail Officer.

in writing not less than fourteen (14) days prior to shipment of spare parts and other materials that are to be shipped separately from the locomotive(s).

2. The spare parts and other materials shall be shipped prepaid to:

Connecticut Commuter Rail Maintenance Facility
54 Hallock Avenue,
New Haven, Connecticut, 06519

Attn: SLE Locomotive Overhaul, Ms. Marci Petterson, Supervising Rail Officer

3. A Receiving Report shall be prepared by CTDOT listing any missing parts or damage that may have occurred during shipment. The report shall be signed by both the Service Operator's representative and CTDOT's representative.
4. On receipt of any such report which indicates a short shipment or damaged item, the Contractor shall promptly replace any missing or damaged equipment and material to prevent delay of the project. (See Section A23).

A30. Contractor's Title to Materials

No materials or supplies for the work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sales or other agreement by which an interest is retained by the seller. The Contractor warrants that it has clear title to all materials and supplies for which it invoices for payment.

A31. Schedule of Joint Inspection and Release for Work

- A. Within thirty (30) days after the NTP, the Contractor shall prepare and ship six (6) of the locomotives from their location at the time to the Contractor's facility.
- B. The Contractor shall be responsible for preparation and shipment of all locomotives from CTDOT to the Contractor's plant and the return of same to CTDOT.
- C. Within thirty (30) days of arrival at the Contractor's facility, the Contractor and CTDOT will successfully complete a joint inspection and CTDOT will release the locomotives for project work. This does not release the Contractor for and other obligations or Contract provisions
- D. The number of locomotives that may be removed from CTDOT's property at any one time will be determined based on factors such as service needs, the status of the remainder of the locomotive fleet,

and the Contractor's availability. This number is to include locomotives in transit to or from the Contractor's facilities. It is anticipated that work will commence on the prototype units of each type a sufficient time period prior to the remaining locomotives to allow for modifications to plans or designs as necessary. CTDOT will release additional locomotives of the same type on a one (1) for one (1) basis upon the Conditional Acceptance of each locomotive.

A32. Inspection

- A. All supplies (which throughout this clause includes without limitation raw materials, components, intermediate assemblies, and end products) shall be subject to inspection and test by CTDOT, to the extent practicable at all times and locations.
- B. CTDOT shall have the right to reject (with or without instructions as to their disposition) or to require correction to, supplies or lots of supplies which are defective in material or workmanship, or are not otherwise in conformity with the requirements of this Contract. Such supplies shall be removed or, if permitted or required by CTDOT, corrected in place by and at the expense of the Contractor promptly after notice, and shall not thereafter be submitted for acceptance.
- C. If the Contractor fails to promptly remove such supplies or lots of supplies which are required to be removed or promptly replaced or correct such supplies or lots of supplies, CTDOT may either:
 - 1. By contract or otherwise replace or correct such supplies and back charge to the Contractor the cost incurred by CTDOT thereby; or
 - 2. Terminate this Contract for default as provided in the clause of this Contract entitled "Abandonment or Default by Contractor", Section A24.
- D. Unless the Contractor corrects or replaces such supplies or lots of supplies within the delivery schedule, the Engineer may require the delivery of such supplies or lots of supplies at an equitable reduction in price. Failure to agree to such price reductions shall be a dispute concerning a question of fact within the meaning of the section of this Contract entitled "Claims and Disputes", Section A27.
- E. If any inspection or test is made by CTDOT on the premises of the Contractor or a Subcontractor, the Contractor without additional charge shall provide all reasonable facilities and assistance for the safety and convenience of CTDOT's inspectors in the performance of their duties.
- F. If CTDOT's inspection or test is made at a point other than the premises of the Contractor or a Subcontractor, it shall be at the expense of CTDOT except as otherwise provided in this Contract; provided, that in the case of rejection, CTDOT shall not be liable for any reduction in value of samples used in connection with such inspection or test.
- G. All inspections and tests by CTDOT shall be performed in such a manner as not to unduly delay the work.
- H. CTDOT reserves the right to charge to the Contractor any additional cost incurred by the Engineer for inspection and test when supplies are not ready at the time such inspection and test is requested by the Contractor, or when re-inspection or re-test is necessitated by prior rejection or when the Contractor proceeds with a test that CTDOT and/or the Engineer wish to be present at and have given proper advance notice to be present at such test.
- I. Acceptance or rejection of the supplies shall be made as promptly as practicable after delivery, except as otherwise provided in this Contract; but failure to inspect and accept or reject supplies shall neither relieve the Contractor from responsibility for such supplies as are not in accordance with the Contract requirements nor impose liability on CTDOT therefore.
- J. The inspection and test by CTDOT of any supplies or lots of supplies does not relieve the Contractor from any responsibility regarding defects or other failures to meet the Contract requirements which may be discovered prior to acceptance. Except as otherwise provided in this Contract, acceptance shall be conclusive except with regards to latent defects, fraud, or such gross mistakes or negligence as to amount to fraud.

- K. The Contractor shall provide and maintain a quality assurance and inspection system acceptable to CTDOT covering the supplies hereunder.
- L. Records of all inspection work by the Contractor shall be kept complete and available to CTDOT during the performance of this Contract and for such longer period as may be specified elsewhere in this Contract.

A33. Responsibility for Inspection

Notwithstanding the requirements for any CTDOT inspection and test contained in the Specifications applicable to this Contract, except where specialized inspections or tests are specified for performance solely by CTDOT, the Contractor shall perform or have performed the inspections and tests required to substantiate that the supplies and services provided under the Contract conform to the drawings, Specifications, and Contract requirements.

A34. Correction of Deficiencies

A. Definitions: As used in this section:

1. "Deficiency" (or Deficiencies) means any condition or characteristics in any supplies (which term shall include related technical data) or services furnished hereunder, which is not in compliance with the requirements of this Contract; and
2. "Correction" means any and all action necessary to eliminate any and all Deficiencies; and
3. The word "Supplies" as used herein means items or end items as furnished by the Contractor and related services required under this Contract.

B. General: The rights and remedies of CTDOT provided in this section:

1. Shall not be affected in any way by any other provisions under this Contract concerning the conclusiveness of inspection and acceptance; and
2. Are in addition to and do not limit any rights afforded to CTDOT by any other section of this Contract.
3. This section shall apply to those deficiencies discovered concerning materials or the locomotive(s) by either CTDOT, its duly appointed representatives, or the Contractor for up to two (2) years after the locomotive(s) are accepted, or a lesser time as indicated in the Contract Documents.
4. The Contractor shall not be responsible under this section for the correction of deficiencies in CTDOT furnished materials, except for deficiencies in installation, unless the Contractor performs or is obligated to perform any modifications or other work on such property. In that event, the Contractor shall be responsible for correction of deficiencies to the extent of such modifications or other work as required in the Contract Documents.
5. The Contractor shall not be responsible under this section for the correction of deficiencies caused by CTDOT.

C. Deficiencies in Accepted Supplies or Services

1. Notice to Contractor; Its Recommendation for Correction

If CTDOT determines that a deficiency exists in any of the supplies or services accepted by CTDOT under this Contract, CTDOT shall promptly notify the Contractor of the deficiency, in writing, within ten (10) days. Upon timely notification of the existence of such a deficiency, or if the Contractor independently discovers a deficiency in accepted supplies or services, the Contractor shall promptly submit to CTDOT in writing within ten (10) days its recommendation for corrective actions, together with supporting information in sufficient detail for CTDOT to determine what corrective action, if any, shall be undertaken.

2. Direction to Contractor Concerning Correction of Deficiencies

Within ten (10) days after receipt of the Contractor's recommendations for corrective action and

adequate supporting information, CTDOT shall give the Contractor written notice not to correct any deficiency, or to correct or partially correct any deficiency within a reasonable amount of time and at a specified location.

3. Correction of Deficiencies by Contractor

The Contractor shall promptly comply with any timely written direction by CTDOT to correct or partially correct a deficiency, at no increase in the Contract price. The Contractor shall also prepare and furnish to CTDOT data and reports applicable to any correction required under this section (including revision and updating of all other affected data called for under this Contract) at no increase in the Contract price.

4. Modification of Contract With Respect to Uncorrected Deficiencies

In the event of timely notice of a decision not to correct or only to partially correct, the Contractor shall promptly submit a technical and cost proposal to amend the Contract to permit acceptance of the affected supplies or services in accordance with the revised requirements, and an equitable reduction in Contract price shall promptly be negotiated by the parties and reflected in a supplemental agreement to this Contract.

D. Deficiencies in Supplies or Services Not Yet Accepted

If the Contractor becomes aware at any time before acceptance by CTDOT (whether before or after tender to CTDOT) that a deficiency exists in any supplies or services, it shall promptly correct the deficiency or, if it elects to invoke the procedures in Section A34, C. above, it shall promptly communicate information concerning the deficiency to CTDOT, in writing, together with its detailed recommendation for corrective action.

E. No Extension in Time for Performance; Increase in Contract Price

1. In no event shall CTDOT be responsible for extension or delays in the scheduled deliveries or periods of performance under this Contract as a result of the Contractor's obligations to correct deficiencies, nor shall there be any adjustment of the delivery schedule or period of performance as a result of such correction of deficiencies, except as may be agreed to by CTDOT, in a supplemental agreement with adequate consideration.
2. It is hereby specifically recognized and agreed by the parties hereto that this clause shall not be construed as obligating CTDOT to increase the Contract price of this Contract.

F. Transportation Charges

1. When CTDOT returns supplies to the Contractor for correction or replacement pursuant to this section, the Contractor shall be liable for transportation charges up to an amount equal to the cost of transportation by the usual commercial method of shipment from the designated destination point under this Contract to the Contractor's plant, in addition to any charges provided for by Section A34, F.2. below. The Contractor shall also bear the responsibility and the risk of loss for the supplies while in transit.
2. When compliance with the terms of this section by the Contractor involves shipment of corrected or replacement supplies from the Contractor to CTDOT, the Contractor shall be liable for transportation charges up to an amount equal to the cost of transportation by the usual commercial method of shipment from the Contractor's plant to the designated destination point under this Contract, in addition to any charges provided for by Section A34, F. 1. above. The Contractor shall also bear the responsibility and the risk of loss for the supplies while in transit.

G. Failure to Correct

If the Contractor fails or refuses to:

1. Present a detailed recommendation for corrective action in accordance with A34., C. above,

2. Correct deficiencies in accordance with A34., C. above, or
3. Prepare and furnish data and reports in accordance with A34., C. above, CTDOT shall give the Contractor written notice specifying the failure or refusal and setting a period after receipt of the notice within which it must be remedied. If the failure or refusal is not cured within the specified period of time, CTDOT may, by Contract or otherwise, as required:
 - a. Correct the supplies or services, or
 - b. Replace the supplies or services -- and if the Contractor fails to furnish timely disposition instructions, CTDOT may dispose of non-conforming supplies for the Contractor's account in a reasonable manner, in which case CTDOT is entitled to reimbursement from the Contractor or from the proceeds for the reasonable expenses of care and disposition, as well as for excess costs incurred or to be incurred; and
 - c. Obtain applicable data and reports; and charge to the Contractor the cost occasioned to CTDOT thereby.

H. Correction of Deficient Replacements and Re-performances

Any supplies or parts thereof corrected or furnished in replacement and any services re-performed pursuant to this section shall also be subject to all the provisions of the section to the same extent as supplies or services initially accepted.

I. Disassembly / Reassembly Expense

The Contractor shall be liable for reasonable cost of disassembly/reassembly of larger items necessary to remove the supplies to be inspected and/or returned for correction or replacement.

A35. Delivery of Completed Locomotives

- A. The overhauled locomotive(s) shall be delivered by the Contractor, to the Connecticut Commuter Rail Maintenance Facility, Hallock Avenue, New Haven, CT 06519 at its own expense. Delivery of the overhauled locomotives to the New Haven site will not constitute acceptance by the State. Liability for any damage, vandalism, including, but not limited to shipping damage, damage while on the State's property prior to CTDOT's formal conditional acceptance in writing, will remain the responsibility of the Contractor. CTDOT's issuance of a certificate of conditional acceptance, signed by a duly authorized representative will be the only transfer of liability to CTDOT, excepting Warranty requirements and such other requirements as contained within the Contract. (See Contract, Section 32 "Insurance").
- B. The twelve (12) P40 locomotives shall be delivered to CTDOT within a maximum of One Thousand One Hundred (1100) days from the NTP. Locomotives may be delivered earlier than scheduled.

A36. Conditional Acceptance of Locomotives

- A. CTDOT will commence Conditional Acceptance inspection as expeditiously as possible after the delivery of each locomotive. CTDOT will advise the Contractor of any defects by reason of which CTDOT cannot make its Conditional Acceptance of the locomotive. Upon issuance of a written "Notice of Rejection" by CTDOT, the locomotive(s) will be turned back to the Contractor for appropriate corrective action(s). After the Contractor has completed its corrective work, CTDOT will recommence its Conditional Acceptance inspection.
 1. Conditional Acceptance Tests and procedures will be agreed to between the Contractor and the Engineer.
 2. On-site testing at CTDOT shall only be conducted on weekdays between the hours of 9 p.m. and 4:00 a.m. The Contractor and CTDOT's representative shall be present during all testing.
- B. If, during Conditional Acceptance inspection, CTDOT determines that a locomotive(s) is suitable for operation in revenue service, but that it is not totally responsive to the Specification requirements such

that substantial delay might be incurred in implementing required corrective action(s), CTDOT may, at its discretion, issue a "Certificate of Conditional Acceptance" for the locomotive(s) for mutual execution by CTDOT and the Contractor. Such conditionally accepted locomotives shall then be available to CTDOT for use in revenue service until such time as the Contractor is able to initiate and execute the necessary corrective action(s).

1. Such "Conditional Acceptance of a locomotive(s)" shall not negate its (their) eligibility for achieving a milestone payment in accordance with the Schedule of Partial Payments (Section A40.)
2. Warranty commences to run on all parts upon Conditional Acceptance into revenue service except for those parts requiring corrective action.

A37. Final Acceptance of Locomotives

Final Acceptance of each locomotive will be as agreed to by the Contractor and the Representative.

A38. Technical Assistance

- A. The Contractor shall provide Service Representative(s) at CTDOT's Maintenance Facility to conduct receiving inspection and acceptance testing, and subsequently for a period of thirty (30) days, commencing with the start of revenue service, and thereafter at the request of CTDOT.
- B. The Service Representative(s) shall:
 1. Participate in Contractor-provided training of CTDOT's operating and maintenance personnel.
 2. Conduct (with CTDOT) receiving inspections and testing of locomotives upon delivery.
 3. Participate in acceptance documentation.
 4. Assist CTDOT in processing and expediting warranty claims and ordering of parts and materials.
 5. Provide technical expertise and support to CTDOT in commissioning, troubleshooting, and liaison with the Contractor. Office space for Contractor personnel will be provided by CTDOT.

A39. Compensation/Milestone Payment Schedule Terms of Payment

Payment Terms: CTDOT payment terms are Net 45. Since the Contract allows for milestone payments all such payments shall be governed by the Net 45 payment term.

The following constitutes the method of payment of this Contract:

- A. CTDOT shall make all payments to the Contractor in United States Dollars.
- B. Payment for the locomotives will be made by check within forty five (45) days after receipt of a properly prepared Contractor's invoice and upon completion of the milestone corresponding to the payment due.
- C. Milestone payments shall be achieved and become eligible for payment only in the sequential order listed in Section A40. below.
- D. In no event shall the amount of invoices to CTDOT at the time of each milestone exceed 100% of the cost incurred by the Contractor to that date.
- E. If a locomotive does not meet all of the requirements set forth in the Technical Provisions, CTDOT may, as its exclusive option, "Conditionally Accept" the locomotive and place it in revenue service pending receipt of Contractor furnished materials and/or labor necessary to effectuate corrective action.
- F. When the first milestone payment is prepared, the Contractor shall submit to CTDOT, a cash draw-down forecast indicating the estimated amount of each progress payment by month projected through the completion of the project.
- G. Invoices shall be prepared in triplicate. The original document is to be forwarded to:

Connecticut Department of Transportation
2800 Berlin Turnpike
P.O. Box 317546
Newington, Connecticut 06131-7546
Attn: Mr. Mark Hayes
Manager of Fiscal and Administration

The first copy of the invoice package should be sent to:

Connecticut Department of Transportation
4 Brewery Street
New Haven, Connecticut, 06519
Attn: Ms. Marci Petterson
Supervising Rail Officer

Remainder of page intentionally left blank

A40. Schedule of Partial Payments

The release of payment for the Contractor's work shall be based on a milestone completion schedule. The payment schedule shall be based on milestones as follows:

Table 2: Milestone Completion Payment Schedule

Milestone	%	total %	Description
1	2	2	Negotiation Complete, Award of Contract
2	1	3	Bonds and Insurance
3	2	5	Joint Specification Review, Complete CDRL List Review
4	1	6	Preliminary program Schedule, Inspection and Test Procedure Submission Schedule
5	2	8	Contractors Program Management Plan for Incorporation into CTDOT's PMP
6	2	10	Submission and Acceptance of Quality Assurance Program
7a-l	12 x 1%	22	Joint inspection – each unit
8	2	24	Preliminary System Overhaul Plan, Preliminary Manual Outlines
9	4	28	Subcontractor List and Purchase Order Copies
10	4	32	Submission and Acceptance of Test Plan
11	4	36	Submission of Recommended Spare Parts List
12	4	40	Shipment of First Units to Contractor
13-24	12 x 4%	88	Conditional acceptance – per unit
25	12	100	Final acceptance of ALL Locomotives

A41. Cost-Plus Work

- A. The Contractor shall not proceed with any cost-plus work until written authorization is given by CTDOT or its representative.
- B. The Contractor shall issue a monthly invoice for approved and executed cost-plus work on a per vehicle basis.
- C. An initial estimate of the work shall be submitted by the Contractor and shall include the estimated time and materials required to complete the work. This estimate is subject to a cost analysis which will act as a basis to determine a not to exceed amount so that the work may proceed prior to a final agreement. The agreed upon estimate will be used as a basis for negotiation of costs associated with the work.
- D. For all work done on a cost-plus basis, the Contractor's compensation shall be determined in accordance with the following:

1. Labor

For all labor, CTDOT shall pay the Contractor the wage rate actually paid as shown by its certified payroll, which shall be at least the minimum rate established for the Project by the State Labor Department or the U.S. Department of Labor, and in accordance with the rates provided in the Contractor's Proposal. CTDOT shall also pay the Contractor the certified overhead rates provided in the Contractor's Proposal. CTDOT reserves the right to determine the number and type of personnel to be employed for the Cost Plus work.

2. Specialized Work

When CTDOT directs the Contractor to perform specialized work requiring skills, tools and equipment substantially unlike those ordinarily used by the Contractor or its authorized subcontractors, CTDOT will pay the Contractor for the use of a specialist to perform the specialized work. For such specialized services, including materials incorporated into the work, CTDOT will pay the Contractor its actual costs, plus a fee/profit markup of three percent (3%). Prior to performing such specialized work, the Contractor shall obtain and submit a minimum of three (3) price quotes for the work, if requested by CTDOT.

Approval of such additional payments will be given only after the Contractor provides to CTDOT receipted supplier invoices for all relevant costs. Failure of the Contractor to produce receipted supplier invoices will result in non-payment by CTDOT.

3. Materials

For all materials necessary for cost-plus work, CTDOT will pay the Contractor its actual cost for such materials, including delivery charges as shown by original receipted invoices. Failure of the Contractor to produce receipted supplier invoices will result in non-payment by CTDOT.

In lieu of receipted invoices for materials used which were not specifically purchased for the Project, but were taken from the Contractor's stock, the Contractor shall provide to CTDOT an affidavit certifying that such materials were not purchased for the Project, that the materials were taken from the Contractor's stock, that the quantity claimed to have been used on the Project was actually so used, and that the price claimed for the materials is currently their fair market value.

CTDOT will not reimburse the Contractor for any penalty or charge incurred due to the Contractor's late or delayed payment for the pertinent materials.

4. Handling Fees and Profits

The initial proposed estimate for the work will be used as the basis to negotiate handling fees and profits associated with the work as follows:

Up to \$1,000 – an added 10% of that dollar value.

Over \$1,000 to \$10,000 – \$100 plus five percent (5%) of any amount over \$1,000.

Over \$10,000 – \$550 plus three percent (3%) of any amount over \$10,000.

5. Miscellaneous

The compensation provided for in (1), (2), (3) and (4) above shall be deemed payment in full for the cost-plus work and shall be deemed as full compensation for same, including costs of superintendence, use of small tools, equipment for which no rental is allowed, safety equipment, consumables, field office overhead, home office overhead, bonding, other insurance and profit. The Contractor's representative and the Engineer shall compare their respective records of the extra work done on a cost-plus basis at the end of each day. Copies of these records shall be signed by both the Engineer and the Contractor's representative. The Engineer will then forward a copy of same to the Contractor in accordance with Department procedures. Upon payment of such costs by the Contractor, the Contractor shall immediately furnish the Engineer with original receipted bills covering the costs, including transportation charges, for all materials used for such work.

A42. Payment for Spare Parts

The fee for spare parts shall be payable based upon receipt and acceptance by CTDOT. Acceptance or rejection of each item shall be made within forty-five (45) days of receipt of such item.

A43. Basis for Payment

Basis for payment shall be as follows:

- A. In the event the Contractor has subcontracted any of the work in accordance with the provision of Section A19., prior to final payment, the Contractor shall furnish valid waiver and release of lien documents in form acceptable to CTDOT for the work.
- B. The acceptance by the Contractor of the final payment shall operate as and shall be a release to CTDOT and every member, agent, and employee thereof, from all claim and liability to the Contractor for anything done or furnished for, or relating to, the work, or for any act or neglect of CTDOT or of any person relating to or affecting the work.

A44. Retainage

- A. Upon the completion of all work on all twelve (12) locomotives (or such lower amount if the State has reduced the number of locomotives), a final statement of costs shall be submitted to CTDOT within ninety (90) days. The final payment to the Contractor shall be made within thirty (30) days from the submission of the final statement, minus five percent (5%) of the total contract value, as retainage as required by CTDOT to guarantee successful completion of the Contract, subject to final audit by CTDOT or its Representative.
- B. Upon completion of the project to the satisfaction of the Engineer, the Contractor may request, in writing, the release of the retained amount. Upon receipt of such request, CTDOT shall certify for payment of such retained monies.

A45. Project Meetings

- A. Meetings shall be held monthly or as deemed necessary, or as scheduled by CTDOT, at which time the Contractor and the Engineer shall be present to discuss any and all details as required relative to the execution of the work.
 - 1. Additional meetings shall be held as required by CTDOT, or at the request of the Contractor, in order to discuss the particular aspects of the work.
 - 2. Manufacturers, Subcontractors, Suppliers and/or other representatives, as determined necessary by CTDOT, shall be present at any such meetings.
- B. The Contractor shall be responsible for keeping detailed minutes of all meetings, including but not limited to the following information:
 - 1. Date, time, and location:

2. Attendees, including titles and affiliations;
 3. Subjects discussed, and agreements reached;
 4. Drawings and sketches submitted for review and action taken.
- C. The minutes of each meeting shall be prepared by the Contractor and delivered, within ten (10) business days of the close of the meeting, as directed by CTDOT's designee present.
- D. The minutes shall be reviewed by all attendees for any corrections, if necessary, and any discrepancies shall be brought to the attention of the Engineer in writing for resolution.

A46. Project Photographs

- A. The Contractor shall furnish a group of photographs of each locomotive to CTDOT, showing the progress, taken at the start of repair and/or overhaul, at significant stages of the work, and at the completion.
- B. The minimum number of photographs to be taken per locomotive shall be at the discretion of CTDOT.

A47. Contractor's Drawings, Analysis and Specification

- A. The Contractor shall maintain and update as required a log listing all drawings and analyses by number and title and showing dates of preparation, submission, and preliminary and final acceptance, and shall submit copies of same to the Engineer if any modifications or alterations have been made.
- B. Should the Contractor find that original drawings are required in order to perform the Work, the Contractor shall submit to the Engineer, with such promptness as to cause no delay in the work, a request for said drawings. The time required for CTDOT to provide original drawings, when available, to the Contractor shall not be accepted as a reason for delays in delivery.

A48. Drawing Review

- A. Review by the Engineer of the Contractor's drawings does not relieve the Contractor or any Subcontractor of the responsibility for full compliance with the Contract requirements; for correctness of dimensions, clearances and material quantities; for proper design of details; for proper fabrication and construction techniques; for proper coordination with Subcontractors; and for providing all devices required for safe and satisfactory construction and operation.
- B. The Contractor shall submit drawings for review with such promptness as to cause no delay in the work.
- C. CTDOT may exercise its right of First Article Acceptance as a further review to confirm the validity of the Contractor's design and drawings.
- D. The following drawings shall be submitted for review by the Engineer in accordance with a deliverables schedule that will be developed by the Contractor and submitted to CTDOT for approval prior to commencement of Work:
 1. The Contractor shall submit two (2) sets of electronic copies of drawings prepared specifically for this Contract to the Engineer for review and approval. Each electronic copy of each drawing shall be provided as an AUTOCAD drawing with *.DWG file extension, as well as a .pdf copy. A submittal form shall be provided with each drawing listing the drawing number, title and revision.
 2. Electronic copies of all supplier drawings, catalog cuts, instruction books, renewal parts data lists, tabulations and the like, not adaptable for the furnishing of reproduces.
 3. Review procedures shall be as follows:
 - a. Contractor submits drawings for review.
 - b. Engineer shall respond as rapidly as practical, fifteen (15) working days average time from receipt, to the Contractor that drawings fall in one of the following categories:
 - (1) Approved
 - (2) Conditionally Approved

(3) Disapproved

- c. This review shall not relieve the Contractor or any Subcontractor of responsibility for full compliance with Contract requirements; for correctness of dimensions, clearances and material quantities; for proper design of details; for proper fabrication and construction techniques; for proper coordination with other trades; and for providing all devices required for safe and satisfactory construction and operation.
 - d. The Engineer shall make every effort to expedite review of drawings to protect the Contractor's required lead time, to protect delivery schedule.
 - e. Drawings designated in categories (2), and (3) above shall be promptly revised and resubmitted by the Contractor.
 - f. Construction on the various areas of the locomotive(s) shall not commence until new and/or revised drawing(s) delineating the work to be performed on the particular area of the locomotive(s) have been submitted to the Engineer and been designated "Approved" or "Conditionally Approved".
 - g. Contractor shall submit drawings for review in the order in which he intends to undertake work on the locomotive(s).
 - h. All drawings must be submitted to CTDOT, but work may only begin on items and areas for which drawings have been submitted and approved by CTDOT.
 - i. However, the Contractor shall submit drawings showing physically related areas of the locomotive(s) as simultaneously as possible.
 - j. Acceptance of the Contractor's drawings and data by CTDOT shall be for general detail and arrangement only, and shall not relieve the Contractor of any responsibility including, but not limited to, responsibility for accuracy of dimensions and details. The Contractor shall remain responsible for agreement and conformity of its drawings and data to the Contract Documents and Specifications.
- E. Any drawings which are revised subsequent to signed approval by the Engineer shall be resubmitted for review and acceptance of the revision.

A49. Rights in Technical Data

- A. CTDOT shall have the right to use, duplicate or disclose technical data, in any form, including but not limited to those listed below, in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so:
- 1. Any manuals, instructional materials prepared for installation, operation, maintenance or training purposes;
 - 2. Technical data pertaining to end items, components or processes which were prepared for the purpose of identifying sources, size, configuration, mating and attachment characteristics, functional characteristics and performance requirements ("form, fit and function" data, e.g., specification control drawings, catalog sheets, outline drawing, etc.);
 - 3. Other technical data which has been, or is normally furnished without restriction by the Contractor or Subcontractor;
 - 4. Other specifically described technical data which the parties have agreed will be furnished without restriction.
- B. CTDOT shall have the right to use, duplicate, or disclose technical data other than that defined in Section A17., A.1., in whole or in part, with the express limitation that such technical data shall not, subject to FOIA, without the written permission of the party furnishing such technical data, be:
- 1. Released or disclosed in whole or in part outside CTDOT and its contractors for the operation and maintenance of the CTrail Service;
 - 2. Used in whole or in part by CTDOT for manufacture; or,
 - 3. Used by a party other than CTDOT except for emergency repair or overhaul work only, by or for CTDOT

where the item or process concerned is not otherwise reasonably available to enable timely performance of the work; provided that the release or disclosure thereof outside CTDOT shall be made subject to a prohibition against further use, release or disclosure.

- C. Technical data provided in accordance with the provisions of Section A.17 A.2. shall be identified by a legend which suitably recites the aforesaid limitation. Nothing herein shall impair the right of CTDOT to use similar or identical data acquired from other sources.
- D. Technical data, as used in this section, means technical writing, sound recordings, pictorial reproductions, drawings, or other graphic representations and works of a technical nature, whether or not copyrighted, which are specified to be delivered pursuant to this Contract. The term does not include financial reports, cost analyses, and other information incidental to Contract administration.
- E. Material Covered by Copyright
 - 1. The Contractor agrees to and does hereby grant to CTDOT and to its officers, agents and employees acting within the scope of their official duties, a royalty-free, non-exclusive and irrevocable license throughout the world for CTDOT purposes to publish, translate, reproduce, deliver, perform, dispose of, and to authorize others to do so, all technical data now or hereafter covered by copyright.
 - 2. No such copyrighted matter shall be included in technical data furnished hereunder without the written permission of the copyright owner for CTDOT to use such copyrighted matter in the manner described above.
 - 3. The Contractor shall report to CTDOT (or higher tier Contractor) promptly and in reasonable written detail each notice or claim of copyright infringement received by the Contractor with respect to any technical data delivered hereunder.
- F. Relation to Patents

Nothing in this section shall imply a license to CTDOT under any patent, or be construed as affecting the scope of any license or other right otherwise granted to CTDOT under any patent.

A50. Warranty

- A. The Contractor warrants and guarantees to CTDOT all items that have been reconditioned, repaired, overhauled or replaced and any newly installed equipment for two (2) years commencing on the date of Conditional Acceptance.
 - 1. The Contractor shall provide, at no additional cost to the State, Warranty Bonds equal to twenty-five percent (25%) of the amount of the base contract of each car to protect against faulty materials or workmanship for two (2) years from the date of acceptance of each locomotive.
 - 2. Warranty Bonds will be accepted and corresponding Performance Bonds will be released in kind upon final acceptance of each locomotive.
- B. Warranties in this specification are in addition to any statutory remedies or warranties imposed on the Contractor. Consistent with this requirement the Contractor warrants and guarantees to CTDOT and its Service Operator assignee each complete locomotive, and specific subsystems and components as follows:
 - 1. The locomotive is warranted and guaranteed to be free from defects for two (2) years beginning on the date of Conditional Acceptance of each locomotive. During this warranty period, the locomotive shall maintain its structural, mechanical and functional integrity. The warranty is based on regular revenue service operation of the locomotive and associated sub-systems under the operating conditions of commuter passenger rail and the prevailing climate and track conditions in the Connecticut region
 - a. Spare parts for two (2) years from date of installation. In no case shall the guarantee period exceed four (4) years from the date of delivery of the spare parts.
 - b. All warranty and retrofit work for a period of two (2) years from the date such work is completed.
 - 2. If, after placing the locomotive into revenue service operation, and for the duration of the warranty

period, the equipment fails to meet the terms of the warranty, CTDOT will notify the Contractor of the existence of such a defect.

- a. The Contractor shall correct or replace the defective equipment at its expense including associated costs such as, but not limited to, freight out and in, service engineering charges, etc.; and shall be subject to all provisions of this section to the same extent as materials initially delivered.
 - b. If the Contractor is not responsible for maintaining the locomotive for CTDOT, then a root cause analysis of the alleged defect shall be conducted in accordance with the process set forth in Exhibit DA.2, attached hereto and incorporated herein by this reference. If the root cause analysis indicates the root cause of the equipment failure was the Contractor's workmanship or failure of a part, specific subsystem or component installed by the Contractor pursuant to this Agreement, then the Contractor shall correct or replace the defective part, subsystem or component at its expense including associated costs such as, but not limited to, freight out and in, service engineering charges, etc.; and shall be subject to all provisions of this section to the same extent as materials initially delivered. Otherwise, the alleged defect shall not be covered by the Contractor's warranty.
3. If the Contractor receives warranties from Subcontractors, such warranties shall be passed to CTDOT.
 4. The warranty shall not apply to any part or component of the locomotive that has been subjected by CTDOT to damage due to the negligence of CTDOT, accident, or that has been repaired or altered by CTDOT so as to adversely affect its performance or reliability, except insofar as such repairs were in accordance with the Contractor's maintenance manuals and the workmanship was in accordance with recognized standards of the industry. The warranty shall also be voided if CTDOT fails to conduct normal inspections and scheduled preventive maintenance procedures as recommended in the Contractor's maintenance manuals.
 5. The warranty shall apply to scheduled maintenance items except consumables. The warranty shall extend to any part that fails or is damaged as a result of a failure of a warranted part.
 6. The Service Operator will do whatever is necessary to make minor repairs to the locomotives as soon as possible after discovery of the need for such repairs without the necessity of prior approval from the Contractor. The Service Operator will notify the Contractor as soon as practicable. The Service Operator and the Contractor will seek to resolve warranty responsibility issues as soon as contact is made and will continue the discussion after the repairs have been completed if necessary.

When warranty repairs are required, CTDOT and/or its Service Operator, and the Contractor shall agree within ten (10) working days or less after notification on the most appropriate course for the repairs and the exact scope of the repairs to be performed under the warranty.

- a. If no agreement is reached within ten (10) working days or less, or if the Contractor fails or refuses to replace or correct the deficiency, CTDOT and/or its Service Operator may have the materials corrected or replaced with similar items.
 - b. CTDOT and/or its Service Operator will bill the Contractor the full amount, plus a service and general administration fee, of the costs occasioned thereby, or obtain an equitable adjustment in the Contract price to compensate for the defects.
7. If CTDOT requires the Contractor to perform major warranty covered repairs, the Contractor must begin work necessary to effect repairs within five (5) working days after receiving notification of a defect. CTDOT shall make the locomotive available for complete repairs in accordance with the Contractor's timely repair schedule.
 - a. It is agreed that the Contractor will undertake major warranty repairs (i.e. those which cannot be performed by the Service Operator at the CCR shop) within five (5) working days after receiving notification of a defect. For non-major repairs, the Contract Operator will perform the repair work as soon as possible.
 8. Due to the regular maintenance demands on the Service Operator's facilities and maintenance

personnel, it will be possible for said forces to undertake only minimal adjustment, repair, or replacement work on equipment for the duration of the Contract.

9. The Contractor shall, therefore in such event, be responsible for securing facilities and personnel to complete all work required for the duration of the Contract.
 10. The Contractor agrees that all corrective and warranty work and services that are to be accomplished on the State's property must be performed by the Service Operator designated by CTDOT. All negotiations for the performance of such work and services must be conducted solely with the Service Operator. CTDOT shall not at any time, be charged for required corrective and warranty work and services provided by the Service Operator or the Contractor.
 11. In no case shall corrective and/or warranty work, under guarantee or otherwise, of defects in design, material, or workmanship, take the form of an increase in maintenance requirement beyond that specified in the Contract Documents, or that submitted by the Contractor at the time of bidding for the Contract, or that described in the original edition of the maintenance instructions.
- C. If CTDOT and/or its Service Operator performs the warranty covered repairs, it shall correct or repair the defects and any related defects using Contractor supplied spare parts if available from its own stock, or those supplied by the Contractor specifically for this repair.
1. If spare parts are not available from the Contractor on a timely basis, then original parts of the same or better quality shall be used by CTDOT or its Service Operator so as to maintain original equipment performance fit, durability, reliability, and function. Substitution of used parts for new spare parts is prohibited.
 2. Monthly, or at a period to be mutually agreed upon, reports of all repairs covered by this warranty shall be submitted by CTDOT and/or its Service Operator to the Contractor for reimbursement or replacement of spare parts.
- D. CTDOT may request that the Contractor supply spare parts for warranty covered repairs being performed by CTDOT. These parts shall be shipped prepaid to CTDOT from the source selected by the Contractor or within ten (10) working days of receipt of the request for said parts.
1. The Contractor may request that parts covered by the warranty be returned to the manufacturing plant. The total cost for this action shall be paid by the Contractor.
 2. CTDOT and/or its maintenance provider shall be reimbursed by the Contractor for defective parts and for parts that must be replaced to correct the defect. It is agreed that any spare parts borrowed by the Contractor shall be replaced with like components as originally delivered.
 3. If any component, unit, or subsystem is repaired, rebuilt, or replaced by the Contractor or by CTDOT, with the concurrence of the Contractor, the subsystem shall have the unexpired warranty period of the original subsystem.
 4. Functional operation, as referred to above, shall commence on the date that the equipment is first put into revenue service operation. If the date of revenue service operation exceeds three (3) months from the date of actual delivery by the Supplier, the Supplier shall have the right to inspect its equipment prior to revenue service operation.

A51. Fleet Failure (Components)

- A. Where a fleet failure of ten percent (10%) of the quantity for warranted multiple units (example: traction motors) or twenty-five percent (25%) of the warranted quantity for single components (example: air compressor) occurs within the warranty period, the remaining items shall be thoroughly inspected by the Contractor and CTDOT, or its Representative, receive repair, replacement or adjustment under the warranty, even those items which have passed beyond the warranty period before failure was recognized. All such items shall be subject to warranty reinstatement provided for in the following:
1. The Contractor shall correct a fleet defect under the warranty provisions as defined herein. After

correcting the defect, the Contractor shall promptly undertake and complete a work program reasonably designed to prevent the occurrence of the same defect in all other similar type vehicles overhauled under this Contract. The work program shall include inspection and/or correction of the potentially defective parts in all of the vehicles.

2. The warranty on items determined to be fleet defects shall extend no longer than one (1) year from the date of final acceptance of the last unit to be overhauled in this program. The extended warranty shall begin on the repair/replacement completion date for the corrected item.
3. In the event that the calculations of failures, based on the above percentages, results in a fractional figure it shall be rounded off to the next highest whole number.

A52. Purchase Orders and Payments

Purchase Orders

Questions concerning purchase orders are to be directed to CTDOT's Processing Unit at 860-594-2070.

Invoices and Payments

CTDOT's Accounts Payable Unit through the Comptroller's Office will issue Payments. Payment and invoicing inquiries should be directed to CTDOT's Accounts Payable Unit at 860-594-2305.

All invoices must include:

1. Contractor F.E.I.N.
2. Complete Contractor name and billing address.
3. Project number, if applicable.
4. Invoice number and date.
5. Purchase order number.
6. Itemized description of services and/or material supplied.
7. Adjustments, if applicable.
8. Quantity, unit, unit price, and extended amount.
9. Ticket numbers corresponding to each invoice must be listed or attached to the company invoice as a separate sheet, if applicable.
10. Work periods and traffic control prices must be itemized, if applicable.

For prompt payment processing, please mail invoices to the following address:

State of Connecticut
Department of Transportation
Bureau of Finance and Administration
Attn: Accounts Payable SW1A
P.O. Box 317546
Newington, CT 06131-7546

Payments may be delayed if the invoice form is not properly completed in accordance with the instructions noted above.

A53. Business Operational Changes

In the event that the Contractor moves or updates telephone numbers, it is the responsibility of the Contractor to advise the Department of Transportation, Procurement Services such changes in writing. The State will not be held responsible for payments or Purchase Orders that are delayed due to additional routing caused by the lack of notification on the Contractor's part. Change of address or telephone updates must be forwarded to:

State of Connecticut, Dept. of Transportation
Procurement Services
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546
Attn: Mary Matuszak, Fiscal Administrative Supervisor
mary.matuszak@ct.gov

A54. Revisions in Organization of Corporation

That the Contractor shall notify the State in writing when there is a change in its Connecticut Certificate of Registration with the Secretary of State's Office or a change in the individual(s) in charge of the work specified herein. Neither change shall relieve the Contractor of any responsibility for the accuracy and completeness of all products of the work under this Agreement, including any supplements thereto.

A55. Revisions in Organization of Partnership

That The State, on written notice by the Contractor of changes in the partnership structure of its organization, may enter into a supplemental agreement with the new partners providing releases are provided to the State from the former partner, or partners, stating that he/she has been compensated in full or that provision has been made for compensation in full for all work performed under terms of the Contract and a financial statement is submitted showing that solvency of the partnership is maintained. The death of a partner shall not release the partnership from the performance of the Contract and the remaining functions must be performed by the surviving partner(s) until the terms of the Contract are fully executed. The withdrawal of any partner from the partnership shall not relieve him from its liability for performance of the Contract.

A56. Errors or Omissions

The Contractor shall take no advantage of any apparent error or omission in the Plans or Work Scope. In the event the Contractor discovers such an error or omission, it shall immediately notify CTDOT. CTDOT shall then make such corrections and interpretation as may be deemed necessary for fulfilling the intent of the Contractor's responsibilities.

A57. Standards

- A. The equipment and materials provided by the Contractor shall comply specifically with the requirements of the AAR and FRA and the recommendations of the APTA PRESS Standards, latest revisions. They shall also comply with all other applicable federal, state and local codes in effect at the time of submission of Proposal by the Contractor.
 - 1. Overhauled locomotives shall be suitable for operation in Connecticut, New York, and Massachusetts
- B. If a conflict is discovered among any of the requirements in A57.A, above, the following order of priority shall govern:
 - 1. FRA – USDOT regulations
 - 2. EPA regulations
 - 3. Laws of the State of Connecticut
 - 4. Laws of the Commonwealth of Massachusetts
 - 5. Laws of the State of New York
 - 6. Exhibit A, Terms and Conditions and Exhibit A.1, Specification
 - 7. Standards and Recommended Practices of the AAR
 - 8. Standards and Recommended Practices of APTA

In the event of such conflict, the Contractor shall notify CTDOT promptly.

- C. Trade names and/or manufacturer's names and part numbers shown through this specification do not denote "Sole Source Items" unless specifically identified as such.
- D. The Contractor may, propose, subject to CTDOT's approval, alternates for CTDOT's acceptance in accordance with the requirements of this specification.
- E. Where references are made to the requirements of the FRA (49 CFR), EPA, recommendations of the AAR, and specifications and instructions of the equipment manufacturer, it is the intent that they shall be the latest issue in effect at the time of Proposal submittal.

A58. General Overhaul Requirements

- A. This Specification outlines the specific components of the locomotive on which work is required for renewal, upgrading, overhaul, or replacement of parts or apparatus.
- B. Replacement of parts or apparatus shall be made in kind except where specified that an upgraded replacement is required.
 - 1. The Contractor may propose, subject to CTDOT's approval, unit exchange (UTEX) parts of apparatus for equivalent parts of the same manufacture which meet the requirements of this Specification.
 - 2. Components furnished by a manufacturer that are assembled, housed, and wired into package units at the point of manufacture, shall be tested at the point of manufacture, and a certified test report concerning actual tests made on the components being furnished for this Contract shall be mutually agreed upon between the Contractor and CTDOT.

Other Requirements

A59. Rail Safety Improvement Act of 1988

- A. The Contractor shall comply with the Rail Safety Improvement Act of 1988 – Public Law 100-342 dated June 22, 1988, or as amended.
- B. This Act mandates that the U.S. Department of Transportation (DOT) revise the Code of Federal Regulations (CFR) Title 49 Parts 200 through 268 to include the intent of the law.
- C. The Contractor shall be aware of developments in the FRA rule making procedures and advise CTDOT in writing of any changes to the locomotive or locomotive borne equipment that might be required as a result of the rule revisions.

A60. Roadway Worker Protection

All Contractor personnel working in the vicinity of the railroad or on railroad property must receive Roadway Worker Protection (RWP) training. The Contractor is responsible for all costs of RWP Training. All Contractor personnel working in the vicinity of the railroad or on railroad property must wear a hard hat, an approved fluorescent safety vest, OSHA approved safety glasses and proper work boots, provided by the Contractor, at all times. The Contractor shall provide their personnel with a photo identification badge, which shall include the employee's full name and the name of the Contractor.

A61. AMTRAK Railroad Operations

The Contractor shall coordinate its activities with the local Amtrak Operations and Mechanical Departments, and shall receive permission for all operations that are in proximity of the railroad tracks. Work within fifteen (15) feet of the tracks shall be avoided, and the Contractor is prohibited from performing any work that could interfere with Amtrak Railroad operations or the protection of railroad crossings.

A62. Americans with Disabilities Act of 1990

This clause applies to those contractors who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990, (42 U.S.C. 12101 et seq.), (Act), during the term of the Contract. The Contractor represents that it is familiar with the terms of the Act and that it is in compliance with the Act. Failure of the Contractor to satisfy this standard as the same applies to performance under this Contract, either now or during the term of the Contract as it may be amended, will render the Contract voidable at the option of the State upon notice to the Contractor. The Contractor warrants that it will hold the State harmless and indemnify the State from any liability which may be imposed upon the State as a result of any failure of the Contractor to be in compliance with this Act, as the same applies to performance under this Contract.

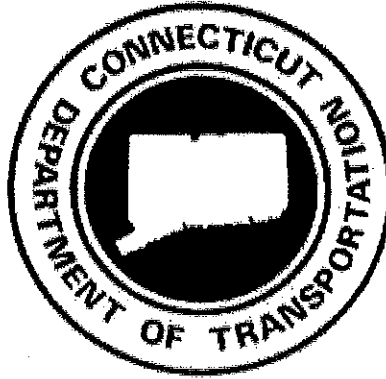
A63. Code of Federal Regulations

The Contractor shall comply with the Regulations of the United States Department of Transportation (Title 49, Code of Federal Regulations, Part 21) issued in implementation of Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4.

EXHIBIT A.1

TECHNICAL SPECIFICATIONS

Exhibit A:1



Connecticut Department of Transportation

P40 Overhaul Technical Specification

November, 2017

Table of Contents

1	SCOPE AND RESPONSIBILITIES	1-1
1.1	SEE EXHIBIT A	1-1
2	GENERAL REQUIREMENTS	2-2
2.1	LOCOMOTIVE CHARACTERISTIC REQUIREMENTS.....	2-2
2.1.1	General Requirements.....	2-2
2.1.2	Basic Design Considerations And Maintainability.....	2-2
2.1.3	Regulatory Compliance	2-2
2.1.4	Specific Design Requirements	2-3
2.1.4.1	Locomotive Noise Emission	2-3
2.1.4.2	Cab Interior Noise	2-4
2.1.4.3	Exhaust Emissions	2-4
2.1.4.3.1	Environment And Wayside Conditions.....	2-4
2.1.4.4	Equipment Temperature Considerations.....	2-5
2.1.4.5	Track Configuration	2-5
2.1.4.6	Electromagnetic Interference	2-5
2.1.4.6.1	Electromagnetic Compatibility.....	2-5
2.1.4.6.2	Operating Performance	2-5
2.2	CLEARANCE REQUIREMENTS	2-5
2.3	WEIGHT REQUIREMENTS.....	2-5
2.4	CONTRACT DELIVERABLE REQUIREMENTS LIST	2-6
3	LOCOMOTIVE BODY AND STRUCTURE REQUIREMENTS	3-1
3.1	GENERAL SCOPE OF WORK	3-1
3.1.1	Locomotive Body Inspection and Repairs.....	3-1
3.1.1.1	General Inspection	3-1
3.1.1.2	Welding Inspection	3-1
3.1.1.3	Main Frame/Underframe Structure	3-2
3.1.1.3.1	Front End Arrangement.....	3-2
3.1.1.3.2	Rear End Arrangement.....	3-2
3.1.1.4	Locomotive Body Exterior.....	3-2
3.1.1.5	Carbody Interior: Main Engine Room	3-3
3.1.1.6	Carbody Interior: Compressor Room.....	3-5
3.1.1.7	Carbody Interior: Toilet Room.....	3-6
3.1.1.8	Carbody Interior: Electrical Equipment Room	3-6
3.1.1.9	Carbody: Other Areas	3-7
3.1.2	Paint and Exterior Treatments	3-7
3.1.2.1	Materials and General Requirements.....	3-7
3.1.2.2	Identification Numbers.....	3-8
3.2	CONTRACT DELIVERABLE REQUIREMENTS LIST	3-9
4	COUPLER, DRAFT GEAR AND TRAINLINE CONNECTION OVERHAUL REQUIREMENTS.....	4-1
4.1	GENERAL SCOPE OF WORK	4-1
4.1.1	Coupler and Draft Gear.....	4-1
4.1.2	Electric and Pneumatic Trainlines	4-1
4.1.2.1	480 Volt Trainline System	4-1
4.1.2.2	27 Point Communication Trainline	4-2

4.1.2.3	27 Point MU Trainline	4-2
4.2	CONTRACT DELIVERABLE REQUIREMENTS LIST	4-2
5	CAB AND LOCOMOTIVE CONTROLS.....	5-1
5.1	GENERAL SCOPE OF WORK	5-1
5.1.1	Cab Area and Control Stand/Console –	5-1
	<u>All of the following shall be completed by the Contractor</u>	<u>5-1</u>
5.1.1.1	Cab Area.....	5-1
5.1.1.2	Control Stand/Console	5-1
5.1.2	Cab Controls	5-2
5.1.2.1	Windshield Wipers.....	5-2
5.1.2.2	Radio and Communications	5-2
5.1.2.2.1	Communications Equipment	5-2
5.1.2.2.2	Cab Radio	5-2
5.1.3	Seats	5-2
5.1.4	Cab Heat.....	5-2
5.1.5	Cab Air Conditioner.....	5-3
5.1.6	Cab Interior	5-3
5.1.7	Cab Inward and Forward Facing Camera and LDRS-V System	5-3
5.1.7.1	LDRS-V Components	5-3
5.1.7.2	LDRS-V	5-4
5.1.7.3	Wide Angle Color Camera.....	5-4
5.1.8	Standard Lens Color Camera	5-4
5.1.9	Split PoE/Audio Cables	5-4
5.1.10	M12 Ethernet Cables.....	5-4
5.1.11	External Mic Cable	5-4
5.1.12	Microphone Module Assembly LSZH.....	5-5
5.1.13	Power and Alarm Cable Assembly	5-5
5.1.14	Cable Assembly LL to LDRS and M Series Recorder LL Splitter.....	5-5
5.1.15	Power Source	5-5
5.1.16	Connectivity to the Event Recorder	5-5
	THE LDRS-V IS EQUIPPED WITH A FRA CRASH HARDENED MEMORY MODULE THAT WILL BE USED TO STORE ALL RECORDED VIDEO AND LOCOMOTIVE/CAB CAR DATA. IT DOES REQUIRE CONNECTIVITY TO THE VEHICLES EVENT RECORDER TO MAINTAIN TIME SYNCHRONIZATION.	5-5
5.2	CAB LIGHTING AND SWITCHES.....	5-5
5.3	ELECTRICAL DOORS	5-5
5.4	CAB SAFETY APPLIANCES.....	5-6
5.5	DOORS, WINDOWS AND GLASS	5-6
5.6	CAB ROOF.....	5-6
5.7	CONTRACT DELIVERABLE REQUIREMENTS LIST	5-6
6	MAIN AND AUXILIARY GENERATOR, PROPULSION AND DYNAMIC BRAKING SYSTEMS	6-1
6.1	GENERAL SCOPE OF WORK	6-1
6.2	MAIN GENERATOR.....	6-1
6.3	AUXILIARY GENERATOR.....	6-1
6.4	PROPULSION ELECTRICAL COMPONENTS AND CABINETS.....	6-1
6.5	TRACTION MOTORS AND GEARBOX.....	6-1

6.6	PROPULSION SYSTEM HIGH AND LOW VOLTAGE CABLING AND CONNECTIONS.....	6-1
6.7	CONTRACT DELIVERABLE REQUIREMENTS LIST	6-2
7	MISCELLANEOUS ELECTRICAL SYSTEMS	7-1
7.1	GENERAL SCOPE OF WORK	7-1
	THE ELECTRICAL WORK TO BE PERFORMED SHALL BE CONFIRMED BY THE CONTRACTOR AND PRESENTED TO CTDOT FOR REVIEW AND APPROVAL IN A ELECTRICAL SYSTEM OVERHAUL PLAN [CDRL 7-001].....	7-1
7.2	ELECTRICAL SYSTEM.....	7-1
	<u>All of the following shall be completed by the Contractor</u>	7-1
7.2.1	Batteries	7-1
7.2.2	Video Display Units.....	7-1
7.2.3	Dynamic Brake Hatch.....	7-2
7.2.4	Equipment Blower Hatch.....	7-2
7.2.5	Interior and Exterior Lighting.....	7-3
7.2.6	Battery Charger.....	7-3
7.3	CONTRACT DELIVERABLE REQUIREMENTS LIST	7-3
8	TRUCK AND SUSPENSION	8-1
8.1	GENERAL SCOPE OF WORK	8-1
8.1.1	Wheels, Axles and Journal Bearings	8-1
	8.1.1.1 Wheels 8-1	
	8.1.1.2 Axles 8-1	
	8.1.1.3 Journal Bearings.....	8-1
8.1.2	Suspension Elements	8-1
8.1.3	Truck Frame —.....	8-2
	8.1.3.1 Journal Boxes	8-2
8.1.4	Liners and \Wear Surfaces	8-2
	8.1.4.1 Tread Brakes and Rigging.....	8-2
8.1.5	Truck Mounted Air Piping.....	8-2
8.2	CONTRACT DELIVERABLE REQUIREMENTS LIST	8-3
9	AIR SUPPLY AND FRICTION BRAKE SYSTEM.....	9-1
9.1	GENERAL SCOPE OF WORK	9-1
9.1.1	Valves	9-1
9.1.2	Air Compressor and Filter/Dryer	9-1
9.1.3	Air Tanks and Piping	9-1
	9.1.3.1 Main Reservoir.....	9-1
9.1.4	Warning Devices.....	9-2
	9.1.4.1 Horn9-2	
	9.1.4.2 Bell 9-2	
9.1.5	Sanding	9-2
	9.1.5.1 Sand Traps and Hoses	9-2
	9.1.5.2 Sand Box.....	9-2
	9.1.5.3 Sand Fill Covers.....	9-2
	9.1.5.4 Electrical System.....	9-2
9.2	CONTRACT DELIVERABLE REQUIREMENTS LIST	9-3

10	MAIN ENGINE, MAIN ENGINE COOLING AND FUEL SYSTEM	10-1
10.1	GENERAL SCOPE OF WORK	10-1
10.1.1	Engine	10-1
10.1.1.1	Automatic Engine Stop/Start System (AESS)	10-1
10.1.2	Cooling System	10-1
10.1.2.1	Radiator Hatch	10-1
10.1.2.2	Engine Air Intake Hatch	10-2
10.1.3	Fuel System	10-2
10.1.3.1	Fuel Tank	10-2
10.1.3.2	Ecology Tank	10-3
10.1.3.3	Fuel Fill	10-3
10.2	CONTRACT DELIVERABLE REQUIREMENTS LIST	10-3
11	HEAD END POWER	11-1
11.1	GENERAL SCOPE OF WORK	11-1
11.2	CONTRACT DELIVERABLE REQUIREMENTS LIST	11-1
12	OPERATIONAL SAFETY SYSTEMS	12-1
12.1	GENERAL SCOPE OF WORK	12-1
12.1.1	CAB SIGNAL/ACES SYSTEM	12-1
12.1.2	Alerter	12-2
12.1.3	Event Recorder	12-2
12.1.4	LDRS-V Forward and Interior Facing Camera System	12-2
12.1.5	Speed Sensing System	12-2
12.1.6	First Article Inspections	12-2
12.2	CONTRACT DELIVERABLE REQUIREMENTS LIST	12-3
13	MATERIALS AND WORKMANSHIP	13-1
13.1	GENERAL	13-1
13.1.1	Standards	13-1
13.1.2	Marking	13-2
13.1.3	Prohibited Materials	13-2
13.1.4	Cleaning	13-2
13.1.5	Unit Exchange (UTEX)	13-3
13.2	ELASTOMERS	13-3
13.3	GLASS	13-3
13.4	WIRE AND CABLE	13-4
13.4.1	Wiring	13-4
13.4.2	Conduits, Junction Boxes and Fittings	13-4
13.5	WELDING AND BRAZING	13-4
13.5.1	General	13-4
13.5.2	Structural	13-5
13.5.3	Welder Qualification	13-5
13.6	PIPING AND TUBING	13-5
13.6.1	General	13-5
13.6.2	Air Piping, Tubing, and Fittings	13-6

13.6.3	Air Conditioning System Piping, Tubing, and Fittings	13-7
13.6.4	Brazing and Soldering of Piping, Tubing, and Fittings	13-7
13.7	PRESSURE VESSELS	13-8
13.8	CONTRACT DELIVERABLE REQUIREMENTS LIST	13-8
14	QUALITY ASSURANCE REQUIREMENTS	14-1
14.1	GENERAL	14-1
14.2	APPLICATION.....	14-1
14.3	REQUIREMENTS.....	14-1
14.3.1	General 14-1	
14.3.2	Contractor Inspection Representative	14-1
14.3.3	Quality Control and Inspection Log.....	14-2
14.3.4	Documents for Inspection.....	14-2
14.3.5	Test and Inspection Equipment.....	14-2
14.3.6	Purchasing.....	14-2
14.3.7	Incoming Material Inspection	14-2
14.3.8	Fabrication, Manufacturing and Assembly Inspection	14-2
14.3.9	Workmanship	14-2
14.3.9.1	Welding	14-3
14.3.10	Test and Inspection Records	14-3
14.3.11	Material Control.....	14-3
14.3.12	Accommodation, Facilities and Assistance	14-3
14.4	EVALUATION AND INSPECTION	14-3
14.4.1	General 14-3	
14.4.2	Final Inspection.....	14-3
14.4.3	Receiving Inspection.....	14-4
14.5	CONTRACT DELIVERABLE REQUIREMENTS LIST	14-4
15	INSPECTION AND TESTING	15-1
15.1	INSPECTIONS AND TESTS.....	15-1
15.1.1	General 15-1	
15.1.2	Test Procedures	15-1
15.1.3	Test Requirements	15-1
15.1.4	Written Reports	15-3
15.1.5	General Test Requirements.....	15-3
15.1.6	Test Plans and Data.....	15-4
15.2	TESTS AT CTDOT FACILITIES.....	15-4
15.3	CONTRACT DELIVERABLE REQUIREMENTS LIST	15-5
16	TECHNICAL DOCUMENTS AND TRAINING	16-1
16.1.5	Locomotive History Books	16-2
16.1.6	Photographs.....	16-2
16.1.6.1	Construction	16-2
17	SHIPMENT AND ACCEPTANCE.....	17-1
17.1	CONSIGNMENT AND ROUTING	17-1
17.2	CERTIFICATE OF IN-PLANT INSPECTION & RELEASE FOR SHIPMENT	17-1

17.3	RECEIVING INSPECTION.....	17-2
17.4	CONDITIONAL ACCEPTANCE INSPECTION (ALL LOCOMOTIVES).....	17-3
17.4.1	Preparation for Road Service	17-3
17.4.2	Conditional Acceptance Inspection	17-3
17.5	FINAL ACCEPTANCE	17-4
17.6	CONTRACT DELIVERABLE REQUIREMENTS LIST	17-4

1 SCOPE AND RESPONSIBILITIES

1.1 SEE EXHIBIT A

2 GENERAL REQUIREMENTS

2.1 LOCOMOTIVE CHARACTERISTIC REQUIREMENTS

All locomotives overhauled by the Contractor shall meet the following requirements.

2.1.1 General Requirements

This Section establishes performance, environmental and general overhaul criteria for eight (8) ex-Amtrak CTDOT P40 locomotives No.'s 833, 834, 836, 838, 840, 842 and 843 and four (4) ex-NJT CTDOT P40 locomotives No.'s 4800, 4801, 4802 and 4803. These requirements apply to all aspects of the locomotive.

2.1.2 Basic Design Considerations And Maintainability

- A. The overhauled locomotive shall make every possible provision for safety of employees, for maximum ease and safety of passage through the locomotive, and for ease of cleaning and maintenance.
- B. Apparatus requiring frequent inspection or attention shall be readily accessible and replaceable.
- C. The new installation or relocation of apparatus supports and housings shall be arranged to provide interchangeability between like equipment and locomotives.
- D. As part of the general requirements for safe construction, the Contractor shall ensure that there are no sharp edges or corners anyplace in the locomotive where operators or maintenance personnel may come in contact with such edges. This requirement shall apply to equipment or components furnished by Suppliers as well as to material of the Contractor's own manufacture.
- E. Maintainability of the locomotive and associated equipment shall be given prime consideration by the Contractor in the overhaul of the locomotive, and by the Contractor's vendors in the design and building of the components and subsystems. No component of the locomotive shall require scheduled periodic maintenance more frequently than once every ninety-two (92) days, normal inspection and servicing excluded.
- F. The overhauled locomotives shall be capable of a minimum of twelve (12) to fifteen (15) years of operation after completion of the overhaul.

2.1.3 Regulatory Compliance

- A. Overhauled locomotives shall be suitable for operation in Connecticut, New York, and Massachusetts.
- B. They shall comply with the most recent standards and recommendations of the following agencies:

1. Association of American Railroads
 2. Federal Railroad Administration
 3. Environmental Protection Agency, Clean Air Act
 4. American Public Transportation Association
- C. While specific agency regulations and recommendations are called for in this Specification, they shall not be considered to the exclusion of all others. Where apparent conflict exists, the Contractor shall advise CTDOT immediately so that CTDOT may determine the prevailing requirement.
- D. The locomotives shall also conform to the requirements of all applicable collective bargaining agreements.

2.1.4 Specific Design Requirements

The locomotives shall meet the following specific design requirements. The Contractor shall present documentation that confirms that these design requirements have been met [CDRL 2-001].

- A. The maximum height of the locomotives shall remain at 14 feet, 8 inches as delivered, with new wheels and no variable supplies (fuel and sand). The locomotives shall be capable of operation in multiple unit configurations with each other, with CTDOT's GP40 locomotives, and with any of CTDOT's cab control cars.

2.1.4.1 Locomotive Noise Emission

- A. The locomotives shall be overhauled to achieve the lowest possible external noise levels.
- B. The locomotives shall not exceed the noise levels specified in this specification and 49 CFR 210 and 40 CFR 201.
- C. The locomotives shall meet the following external noise requirements when static and in open field conditions.
1. All values are in A-weighted sound level (dBA) and shall be measured using properly calibrated equipment at 100 ft. fore, aft, sides, 48 inches above ground:
 - a. Prime mover at idle (no HEP) 66 dBA max.
 - b. Throttle 8 (no HEP) 86 dBA max.
 2. Noise tests shall be conducted on the first unit.
- D. Noise shall also be measured with the locomotive moving at 60 mph. on level tangent track, with all normal accessories operating, 100 ft. from the locomotive in an open field.
- E. The horn shall be tested to ensure that noise level from the installed location is in compliance with requirements of 49 CFR 229.129.

2.1.4.2 Cab Interior Noise

- A. Locomotive cab noise shall be in compliance with the requirements of 49 CFR 229.121 (a), except that the sound level shall average less than or equal to 78 db(A), with an upper 99% confidence limit of 80 db(A).
- B. Noise emission plates shall be prepared and installed in all locomotives in a location in the cab approved by CTDOT.

2.1.4.3 Exhaust Emissions

The prime mover diesel engine shall be certified to meet the Tier 0 exhaust emission requirements of 40 CFR 92 as tested in the locomotives overhauled under this Contract. Should an upgrade be developed that will allow the engine to comply with Tier 0+ emission standards, it shall be installed.

2.1.4.3.1 Environment And Wayside Conditions

Vehicle shall be designed to operate in the following ambient conditions:

2.1.4.3.1.1 Temperatures

Table 2-1

	Normal (95% of Duty Cycle)		Peak (5% of Duty Cycle)	
Maximum:	98°F	37°C	111°F	40°C
Minimum:	0°F	-18°C	-18°F	-28°C

The locomotive shall be capable of continuous full engine horsepower operation at standard conditions. Engine lube oil, cooling and exhaust systems and locomotive electrical equipment design shall ensure that the locomotive is capable of continuously delivering the full available horsepower of the diesel engine(s) to traction and HEP at ambient temperatures of up to 111° F.

2.1.4.3.1.2 Wind Velocity

Normal maximum 40 mph (64 kmph) with gusts to 87 mph (140 kmph).

2.1.4.3.1.3 Relative Humidity

20% to 100% (Non-Condensing).

2.1.4.3.1.4 Snow

Maximum of 23.6" (599 mm) per 24 hour period.

2.1.4.3.1.5 Rain Fall

2.10" (53 mm) in any one hour, with a maximum of 8.40" (213 mm) per 24 hour period.

2.1.4.3.1.6 Freezing Rain

0.50" (12.7 mm) in any hour, with a maximum of 2.00" (51 mm) per day.

2.1.4.4 Equipment Temperature Considerations

- A. All equipment shall be designed to operate effectively, with full functionality, up to 140°F (60°C)
- B. Equipment enclosures shall be ventilated if necessary to prevent the internal temperature from exceeding 120°F (49°C)
- C. All equipment shall be designed to withstand extended storage in extreme temperature conditions (non-functioning), from -30°F (-35°C) up to 180°F (82°C)

2.1.4.5 Track Configuration

- A. Nominal gauge – 4 feet 8-½ inches
- B. Minimum horizontal curve (coupled to train) – 288 ft radius (20 degree curve)
- C. Maximum track superelevation – 6 inches
- D. Operation may be on track maintained to all classes track per 49 CFR 213.9, for speeds of up to 103 mph (166 km/h).
- E. The locomotive shall be able negotiate a No. 8 crossover on 12' 2" track centers when coupled to a CTDOT trailer car.
- F. Minimum radius of vertical curve – 2000 feet.

2.1.4.6 Electromagnetic Interference

The locomotives and their components shall not be adversely affected by any electro-magnetic frequency at field strengths found in CTDOT, Amtrak NEC and MNR territory, and conversely, shall not interfere with the transmission and the reception of the following established frequencies, as currently exist on the CTDOT, Amtrak NEC and MNR network in the following categories:

- A. Audio frequencies for overlay track circuits and highway crossing approach circuits.
- B. Audio frequencies for highway crossing island circuits and electrical lock circuits.
- C. Signal power.

2.1.4.6.1 Electromagnetic Compatibility

Emission Limits: Locomotive emissions shall not exceed the limits set forth in the applicable portions of Title 47 CFR.

2.1.4.6.2 Operating Performance

The locomotives shall be overhauled to maintain the same As-built performance.

2.2 CLEARANCE REQUIREMENTS

The locomotives shall comply with As-built clearance requirements.

2.3 WEIGHT REQUIREMENTS

The locomotives shall comply with As-built weight limits.

2.4 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 2-2

CDRL	Description	Due
CDRL 2-001	Design Requirements Confirmation	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

3 LOCOMOTIVE BODY AND STRUCTURE REQUIREMENTS

3.1 GENERAL SCOPE OF WORK

The body and structural work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in a Locomotive Body and Structural Overhaul Plan [CDRL 3-001].

3.1.1 Locomotive Body Inspection and Repairs

- A. The Contractor shall inspect the locomotive body for structural integrity, fatigue cracks, corrosion, water leaks and general appearance. The sides, roof and ends of the locomotive body exterior shall be inspected for cracks, dents, holes and damaged or defective welds. Dye penetrant or other non-destructive testing methods shall be used to verify cracks or weld defects which visual inspection cannot conclusively confirm. Dye penetrant testing shall be performed in accordance with the most current edition of ASTM Standard Test Method for Liquid Penetrant Examination, ASTM E-165.
- B. The Contractor's inspection process will consist of, but not be limited to, the following:

3.1.1.1 General Inspection

The Contractor shall visually inspect the entire structure of each locomotive for defects in accordance with good practice and the Specification's requirements. The Contractor shall identify any material that is missing, bent, cracked, modified, or distorted in any way. The Contractor shall prepare and provide CTDOT with a report for each locomotive identifying these defects. This report shall identify each defect and recommend its disposition. This disposition may be to accept the defect "as is" or to repair. If the recommendation is to repair, a repair procedure shall be prepared for each recommended repair. The repair procedure shall describe the repair in sufficient detail so that it can be evaluated for manufacturing and engineering. The Contractor's base proposal shall include a predetermined amount of locomotive body and structural repair work up to a pre-defined scope and cost limit that the Contractor has presented as part of the Contractor's response to CTDOT's RFP relating to the Project [CDRL 3-002]. For any locomotive-specific body and structural work that is discovered to be beyond the predetermined and agreed threshold, the Contractor shall prepare a cost estimate and repair procedure and that have sufficient detail so that it can be evaluated for CTDOT approval. No work on items included as part of this submittal shall commence without CTDOT approval [CDRL 3-003].

3.1.1.2 Welding Inspection

The Contractor's welding inspector shall visually inspect, and dye penetrant inspect all structural welds that are accessible for inspection. The welding inspector shall prepare a report for each locomotive describing the findings. The report shall include the inspector's recommended disposition for any structural weld defects [CDRL 3-004].

3.1.1.3 Main Frame/Underframe Structure

- A. The following shall be inspected for cracks and/or wear and repaired as indicated.
 - 1. Center pin traction post shall be inspected and re-qualified. All materials shall be returned to OEM dimensional specifications.
 - 2. Air ducts shall be inspected and replaced if found defective.
 - 3. Fuel tanks shall be inspected and re-qualified.
 - 4. All air piping and associated clamps where piping passes through the frame and carbody floor. Replace if found to be defective.
 - 5. Draft gear pockets shall be inspected and re-qualified.
 - 6. The Contractor shall ensure that all new welds conform to ANSI/AWS D15.1-86 specifications.
- B. All damaged or worn frame areas shall be repaired.
- C. Front and rear end plates and supports shall be replaced only if the locomotive has been in a major collision. On all other locomotives, the front and rear end plates shall be repaired. Front skirts shall be replaced if damaged.

3.1.1.3.1 Front End Arrangement

- A. Snow Plow – re-qualify.
- B. Sidesteps – re-qualify.

3.1.1.3.2 Rear End Arrangement

- A. Replace or repair hose storage rack assembly.
- B. Sidesteps – re-qualify.
- C. The car-body floor shall be sealed, and drainage shall be routed to the holding tank which is located between the fuel tanks. All floor drain holes must be ground flush so as to allow water to drain out of the carbody. Ensure that drain pipe is adequately welded to deck plate (i.e. no void or cracks).

3.1.1.4 Locomotive Body Exterior

- A. Radiator hatch shall be removed and repaired.
- B. Dynamic brake grid hatch shall be removed and repaired.
- C. Equipment blower/excitation hatch shall be removed and repaired.
- D. Engine air intake hatch shall be removed, inspected for cracks and metal fatigue and repaired. Applicable GE field modification instructions shall be performed. All gaskets and seals shall be replaced with new materials.
- E. All other roof hatches shall be removed, washed, inspected for cracks and metal fatigue and re-qualified. All gaskets and seals shall be replaced with new materials. Hatches shall be installed with new mounting hardware.

- F. All exterior damage, holes and carbody rust shall be repaired, particularly the rear corners at the side sill area and the rain gutters on the cab end. Dents and scrapes in excess of ¼" deep and within a 3 foot radius shall be repaired with CTDOT's approval.
- G. Any drain holes that have raised lip shall be ground down flat so as not to prevent water from draining out. Ensure that drain pipe is adequately welded to deck plate (i.e. no voids or cracks).
- H. All exterior carbody screens shall be removed and replaced with new material. Insure that new V screens have the identical hole size and pattern as that which is being replaced.
- I. Side cab entry step treads shall be replaced with new components.
- J. Battery boxes shall be replaced with new boxes. The new boxes shall have grating type drain pan installed in the bottom of the box and be painted with acid resisting paint.
- K. Sandboxes shall be re-qualified. Copper bearing steel, Cor-Ten or equivalent material to be used to make repairs.
- L. Rear outside sand trap doors, hinges and latches shall be re-qualified.
- M. All safety appliances shall be inspected and repaired or replaced to ensure compliance with Federal regulations.
- N. GE FMI 00052 – Composite Nose Modification shall be performed on the eight (8) CTDOT ex-Amtrak locomotives.
- O. All doors, latches and hinges for the air conditioning and air brake cabinets shall be inspected for rust damage and to ensure proper function and re-qualified. Both hinges and latches shall be lubricated.
- P. All headlight, ditch light and marker light bulbs shall be replaced with new material. All wiring and fastening terminals shall be inspected to ensure a good connection. Lighted number boards, shall be eliminated and covered with blanking plates that are painted per the paint scheme provided in this Section. The light fixtures and wiring for the number boards located in the short hood area shall remain in place and be inspected and repaired as necessary.
- Q. Both left and right side emergency fuel cut-off (EFCO) switches, seal-tite and junction box shall be tested and inspected for damage or defects. If defects are found they shall be replaced with new. Operational testing of switches shall be performed on both inbound and outbound inspections.
- R. The Contractor shall inspect all locomotive body mounts, structural supports and attachment points for cracks, breaks, or structural damage. Dye penetrant or other non-destructive testing methods shall be used to verify cracks that visual inspection cannot conclusively confirm.

3.1.1.5 Carbody Interior: Main Engine Room

- A. All rotating equipment shall be disconnected. All wiring shall be marked and tagged for identification and hook-up. All fuel, oil and water lines to the engine, lube cooler, radiators, fuel tank, ecology tank and pre-heater shall be disconnected so as not to

damage existing piping. All mounting bolts and hardware shall be removed. Rotating equipment shall be removed. The interior and sump area of the locomotive shall be washed. Traction motor air ducts shall be cleaned. The main engine and traction/HEP alternator shall be UTEX with General Electric, re-aligned together and re-installed in the carbody. All threaded holes shall be chased and new hardware shall be installed to re-mount equipment. All mounting and assembly hardware shall be new material.

- B. Remove lube cooler and UTEX with General Electric. Inspect all associated piping and fittings, replace or re-qualify existing. Replace all gaskets and O-rings with new material.
- C. Flexible air ducting for blower hatch shall be removed and replaced with new upon installation.
- D. The electrical cabinet metal cooling shroud shall be removed to ensure thorough cleaning of electric panels.
- E. New fire extinguishers and brackets shall be installed.
 - 1. Fire extinguisher shall be CTDOT/MNR standard.
- F. All conduit, seal-tite and wiring for engine room lights shall be inspected and replaced if damaged. All light lenses shall be removed, cleaned and re-installed. All bulbs shall be replaced with new bulbs.
- G. All conduit, seal-tite and wiring to water temperature switch (WTS) and engine air filter pressure switch (EFPS) shall be inspected and replaced if damaged.
- H. All wiring, seal-tite and cleats for main alternator, auxiliary blower excitation hatch and traction motor blower shall be inspected for defects and re-qualified to OEM specifications.
- I. Fuel monitoring seal-tite, wiring and cannon plugs shall be inspected for damage or defects and re-qualified to OEM specifications.
- J. Air intake flexible boot, and all rubber hoses and clamps for the air intake filter box hatch shall be replaced with new material.
- K. Water and oil drain lines from the engine to the ecology tank shall be replaced with new material.
- L. All fuel ball cocks and fuel lines between the manifold and the main engine shall be replaced with new material.
- M. Four (4) surge assemblies are mounted on the deck, one (1) above each fuel compartment. Check this assembly for cracks and/or signs of leakage. Re-qualify all surge assemblies to meet OEM specifications. NOTE: There is an internal baffle that is critical to performance of this arrangement; however, repairs should only be made if fuel leaks from vent tubes during filling or in service.
- N. New horn magnet valves shall be installed.
- O. All engine room doors and latches shall be inspected and repaired if necessary. All keepers, latches and handles shall be replaced with new material.
- P. All engine room door seals shall be replaced with new material.

- Q. Rubber door stops on all engine room doors shall be replaced with new material.
- R. Engine room top rail shall be thoroughly cleaned.
- S. Hatch support rail gaskets shall be replaced with new material.
- T. Check and re-apply sealant to all horizontal carbody "Z" section side wall stiffeners and vertical "U" shaped posts where sealant is missing or has separated.

3.1.1.6 Carbody Interior: Compressor Room

- A. All rotating equipment shall be disconnected. All wiring shall be marked and tagged for identification and hook-up. All water and air lines shall be disconnected so as not to damage existing piping. All mounting bolts and hardware shall be removed. Rotating equipment shall be removed. The interior of the compartment shall be washed. The air compressor and equipment blower shall be UTEX with General Electric. UTEX and installation procedure shall be submitted to CTDOT for review and approval [CDRL 3-005].
- B. Both the air compressor and equipment blower motor mounting plates shall be cleaned and prepared for re-installation. All threaded holes shall be chased and new hardware installed to re-mount equipment.
- C. The air compressor discharge line gasket and O-ring shall be replaced with new material.
- D. Air compressor exhaust pipe and rubber hose shall be replaced with new material.
- E. The compressor governor switch in the CA9 cabinet shall be renewed.
- F. The main reservoir gauge in the CA9 cabinet shall be re-certified.
- G. All copper and steel air lines shall be cleaned, inspected and replaced with new material if damaged or defective.
- H. All rubber hoses to radiators shall be replaced with new material.
- I. All Victaulic or Marmon seals and mounting clamps shall be replaced with new material, torque to OEM specification.
- J. Equipment blower inlet seal and seal outlet duct shall be replaced with silicone when mounting the equipment.
- K. All seal-tite, and wiring to engine room lights, marker lights, headlights and resistor panel shall be cleaned, inspected and replaced with new material if damaged or defective. Light fixtures shall be cleaned and bulbs replaced with new.
- L. The CA-9 shall be cleaned of all dirt and debris.
- M. Compressor contactors CDC1, CDC2 and CDC2A in CA9 cabinet shall be replaced.
- N. All conduit, cables and cleats shall be replaced.
- O. Fuel monitoring system shall be tested. If found to be defective, it shall be replaced with new material.
- P. CA9 cabinet door seal shall be replaced with new material.

- Q. Upper wall hatch rails shall be cleaned and radiator hatch mounting holes shall be inspected.
- R. Side and rear door seals shall be replaced with new material. Rubber door stops on all three doors shall also be replaced with new material. Side and rear door hinges shall be inspected and lubricated, mounting bolts shall be tightened. Side and rear door keeps shall be replaced with new material; door latches and locks shall be inspected and tested to ensure functionality.
- S. Side and rear door windows and rubber mounting weather stripping shall be replaced with new material.
- T. Rear wall tool box shall be emptied and cleaned. Hinges, latches and door seals shall be inspected and replaced if found to be damaged. Hoses and tools shall be installed on outbound inspection. A bracket shall be installed on the tool box for attaching a lead seal, seal numbers shall be recorded on the appropriate form prior to departure.
- U. CTDOT/MNR type fire extinguishers and associated brackets shall be installed. CTDOT will provide manufacturer and model numbers to the Contractor.
- V. Insure that all deck drains are clean.

3.1.1.7 Carbody Interior: Toilet Room

- A. The toilet and all of its associated equipment shall be removed and abandoned.
- B. Toilet room shall be washed and disinfected.
- C. The Contractor shall provide a plan for closing and sealing all toilet penetrations for CTDOT approval [CDRL 3-006].
- D. Light fixture shall be removed, cleaned and re-installed, the lens shall be cleaned and the bulb replaced.
- E. Toilet room shall be completely painted per the requirements stated in Section 3.1.2.

3.1.1.8 Carbody Interior: Electrical Equipment Room

- A. All dirt and debris shall be cleaned out.
- B. The AFR, BPFR, BRP, RBCP, HEFR, EDR, and FRP control rectifiers shall be blown out and cleaned.
- C. Contactor tips shall be replaced on the following:
 - 1. power contactors
 - 2. braking contactors
 - 3. air compressor drive contactor
 - 4. motor braking contactors
 - 5. reverser and dynamic braking contactors.
 - 6. All motor switch modules shall be UTEX'ed. All pneumatic switch gears shall be replaced.

D. All HEP switchgear shall be inspected and re-qualified.

3.1.1.9 Carbody: Other Areas

A. GE FMI (Short Hood Area) – 27 point connector reinforcement and installation of stainless steel washer bottle shall be performed on the eight (8) ex-Amtrak locomotives.

3.1.2 Paint and Exterior Treatments

3.1.2.1 Materials and General Requirements

A. The Contractor shall submit color samples and manufacturer's specifications of recommended paints and primers to CTDOT for review and approval [CDRL 3-007]. Each locomotive shall be completely painted in accordance with CTDOT-specified locomotive exterior paint scheme including logos, locomotive numbering and other exterior lettering.

1. The interior and exterior of the locomotive shall be thoroughly cleaned and prepared for repainting.
2. Painting materials shall be applied according to the recommendations of paint manufacturer including cleaning and material preparation.
3. Contractor shall ensure that all surfaces to be painted are as free as possible of surface blemishes that may detract from the finished appearance.
4. Interior signs and equipment markings shall be rigid labels securely applied, or decals or vinyl lettering. Materials (signs) and application methods are to be submitted to CTDOT for review and approval prior to application [CDRL 3-008].
5. Exterior Painting – The Contractor shall paint the exterior of the carbody, and all exterior equipment (from the bottom of the side sills and anti-climbers up) using DuPont "IMRON" polyurethane paints or approved equivalent. Couplers and draft gear shall not be painted.
 - a. All painted exterior carbody surfaces shall have a three-coat paint application, consisting of one (1) primer coat and two (2) finish coats.
 - b. A Final clear coat will be applied on top of the three-coat paint application.
 - c. Contractor shall select a complete paint system to ensure compatibility between the primer, finish coats and clear coat.
6. Underframe Painting – Underframe equipment and structure, except control equipment, (from the bottom of the side sills and anti-climbers down) shall be given at least two (2) coats of rust preventive paint. The underframe structure shall be cleaned of all scale, flux, etc. and Primer painted before application of finish paint.
7. Interior Painting – The interior of the locomotive shall be painted using the Contractor's standard color(s).
 - a. Interior painted surfaces shall have a minimum of two (2) coats, consisting of one (1) primer coat and one (1) finish coat.
 - b. Contractor shall select a complete paint system to ensure compatibility between the primer and finish coat.

8. Truck Painting – Before truck installation, the Contractor shall clean all accumulated dust, dirt or other foreign matter off of the trucks. Contractor shall spray and air dry one coat of metal primer on all exposed surfaces of the trucks and a final coat of light-bodied approved truck paint. Truck paint shall be of a type that will not conceal cracks that may develop in service. Wheels, axles, exposed elastomers and brake shoes shall not be painted.
 9. Equipment Compartment and Locker Paints – The inside of all newly installed control equipment compartments, electrical lockers and junction boxes shall receive at least two (2) coats of an approved white electrical insulating paint. Repaired interior areas of existing electrical enclosures shall be touch-up painted to maintain the insulative properties.
 10. Battery Enclosure – Metal battery enclosure(s) shall be given one (1) coat of a CTDOT approved acid resisting paint.
 11. Lettering and Numbering – Lettering, numbering and logos shall be applied to the exterior and interior as applicable, subject to review and acceptance by CTDOT. Breakers, switches and gauges shall be properly and clearly identified. All electrical items such as terminal blocks, relays and resistors shall be clearly and permanently identified as per applicable locomotive or subcontractor wiring drawings.
- B. Tags and Stenciling – All FRA – required stenciling shall be provided by the Contractor, in conformance with FRA requirements. Raised – letter identifying tags shall be applied at all external air and electrical receptacles, and hoses.

3.1.2.2 Identification Numbers

- A. Side Numbers
- B. Rear end numbers
- C. Cab interior locomotive numbers and letter
- D. A five inch tall decal “F” is located on each side sill near the front end and shall identify that end as the front. The decal’s color shall be selected to provide the greatest visibility, and shall be approved by CTDOT.
- E. All letters and numbers shall be Helvetica medium face.
- F. Install new AEI tags with new road numbers. CTDOT to supply AEI tags.

Note: CTDOT will provide the Contractor with a list of new locomotive road numbers prior to the application.

3.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 3-1

CDRL	Description	Due
CDRL 3-001	Locomotive Body and Structural Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 3-002	Scope and Cost Limit for Locomotive Body and Structural Repair Work	Included in Contractor's response to CTDOT's RFP
CDRL 3-003	Locomotive-specific body and structural work scope and cost estimate	Case-by-case, as needed basis
CDRL 3-004	Welding Inspector's Report	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 3-005	UTEX and Installation Procedure	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 3-006	Plan for sealing toilet penetrations	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 3-007	Paint color samples	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 3-008	Materials (signs) and application methods	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

4 COUPLER, DRAFT GEAR AND TRAINLINE CONNECTION OVERHAUL REQUIREMENTS

4.1 GENERAL SCOPE OF WORK

Locomotives shall be capable of multi-unit operation in consist with other CTDOT locomotives and cab control trailer cars.

The coupler, draft gear and trainline connection work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in a Coupler, Draft Gear and Trainline Connection Overhaul Plan [CDRL 4-001].

4.1.1 Coupler and Draft Gear

Inspect front coupler, draft gear assembly, coupler carrier and wear plate assembly and replace only if necessary. Replace rear coupler, NC390 draft gear, and coupler carrier wear plate with new material.

4.1.2 Electric and Pneumatic Trainlines

4.1.2.1 480 Volt Trainline System

- A. The two (2) permanently attached jumper cables at the rear of the locomotive shall be replaced by the Contractor with new standard HEP jumper cables, Clements National 84B102702P3 or approved equal. All existing HEP receptacles shall be cleaned, inspected, tested, and re-qualified to OEM specifications.
- B. The nylon securement system shall be replaced by the Contractor with new.
- C. New 480 volt jumpers on all four corners shall be inserted and attached to the locomotive by the Contractor.
- D. The 480 volt junction boxes shall be opened and inspected by the Contractor. All lugs and connections shall be checked for tightness and continuity. Boxes shall be cleaned and repaired to like new condition and lid gasketing shall be replaced with new material.
- E. 480 volt trainline shall be checked by the Contractor for continuity from side to side and end to end.
- F. The trainline complete system shall be checked by the Contractor for continuity from side to side and end to end.
- G. The Contractor shall reconfigure the HEP power pin phase rotation on the four (4) ex-NJT locomotives to match the phase rotation on the eight (8) ex-Amtrak locomotives.
- H. The Contractor shall reconfigure the HEP control pins 1, 2 and 3 on the four (4) ex-NJT locomotives to match the configuration on the eight (8) ex-Amtrak locomotives.

4.1.2.2 27 Point Communication Trainline

- A. The 27 point communication trainline circuits on the four (4) ex-NJT locomotives shall be reconfigured by the Contractor from NJT standards to CTDOT standards.
- B. The existing 27 point communication trainline shall be inspected by the Contractor, and each wire tested for continuity and grounds from end to end and side to side. Receptacles and contact pins shall be replaced by the Contractor with new material. The trainline system shall be re-qualified to meet OEM performance standards.
- C. Unless otherwise noted, all original functions within the locomotive will be retained.
- D. The mounting surfaces of receptacles shall be inspected by the Contractor for corrosion, cleaned and repaired as required.

4.1.2.3 27 Point MU Trainline

- A. The 27 point MU trainline circuits on the four (4) ex-NJT locomotives shall be reconfigured by the Contractor from NJT standards to CTDOT standards.
- B. The existing 27 point communication trainline shall be inspected by the Contractor, and each wire tested for continuity and grounds from end to end and side to side. Receptacles and contact pins shall be replaced by the Contractor with new. The trainline system shall be re-qualified by the Contractor to meet OEM performance standards.
- C. Unless otherwise noted, all original functions within the locomotive will be retained.
- D. The mounting surfaces of receptacles shall be inspected by the Contractor for corrosion, cleaned and repaired as required.

4.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 4-1

CDRL	Description	Due
CDRL 4-001	Coupler, Draft Gear and Trainline Connection Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

5 CAB AND LOCOMOTIVE CONTROLS

5.1 GENERAL SCOPE OF WORK

The cab and locomotive control work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in a Cab and Locomotive Controls Overhaul Plan [CDRL 5-001].

5.1.1 Cab Area and Control Stand/Console –

All of the following shall be completed by the Contractor

5.1.1.1 Cab Area

The cab area shall have the following equipment replaced with new or rebuilt components:

- A. New MAP form holder, F-40 Style.
- B. New holder for FRA Inspection Form – F6180-49A.
- C. Remove ashtray, and cover hole with blank plate. Blanking plate shall be finished to match surrounding surfaces.
- D. Nose access screen shall be removed and repaired if damaged and re-qualified to meet OEM performance standards.
- E. Trash receptacles shall be replaced with new receptacles.
- F. EBCO ER 2RR refrigerator/freezer shall be replaced with a new unit.
- G. The coat hooks located on the electrical doors shall be replaced with new coat hooks.
- H. A new Amtrak standard First Aid kit shall be installed.
- I. Install new CTDOT approved fire extinguishers.
- J. Inspect and re-qualify side mirrors. If broken, replace with new in-kind.
- K. Inspect fusee and flare box and replace if damaged.
- L. Refinish cab interior wall and ceiling panels in place, in accordance with Section 3.1.2.
- M. Quick disconnect fasteners shall be installed in both overhead cab visor panels.
- N. Replace both engineer and foreman's windshield solar screens with new 49 CFR 238 compliant screens.

5.1.1.2 Control Stand/Console

- A. Control stand/Console shall be cleaned and exterior shall be painted by the Contractor.
- B. The center lift-up panel on the control stand shall be removed by the Contractor. Inspect all mounting hardware, make any necessary repairs and re-qualify. Sand and paint panel and all coffee-cup holders. Re-install on locomotive.

5.1.2 Cab Controls

5.1.2.1 Windshield Wipers

- A. Windshield wiper motors and wipers shall be rebuilt in kind and all associated air piping shall be re-qualified to meet OEM performance standards.
- B. Windshield washer tanks shall be removed. FMI GE FMI (Short Hood Area) – 27 point connector reinforcement and installation of stainless steel washer bottle shall be performed. (ref. Section 3.1.1.9)
- B. The reservoir compartment shall be cleaned and all rusted surfaces shall be repaired and painted.
- C. New washer fluid shall be added and the wipers and washer system shall be tested for proper operation. Adjustments and/or part replacements shall be made until it is achieved.
- D. Clamps shall be applied in the overhead console to secure windshield washer hoses.

5.1.2.2 Radio and Communications

5.1.2.2.1 Communications Equipment

- A. 12VDC radio battery shall be replaced with a new battery and the system shall be tested to ensure radio operation during locomotive battery failure.
- B. Qualcomm System shall be de-activated and removed.
- C. End-of-Train system shall be de-activated.

5.1.2.2.2 Cab Radio

- A. The current radio shall be removed.
- B. All wiring and connectors shall be re-qualified to OEM performance standards .
- C. A new CTDOT approved multi-channel, programmable narrow band (12.4kHz) radio system, Motorola Spectra (Model #MBR43KME1170AD) or GE 12RII or approved equivalent, shall be installed, and shall operate in conjunction with the train communication system.
- D. The Contractor is responsible for integration of the radio with the locomotive and any other systems with which the radio interacts in normal revenue and non-revenue operation.

5.1.3 Seats

The engineer's seat shall be replaced, in-kind, with a new seat. Inspect other cab seats and replace only if damaged.

5.1.4 Cab Heat

The 74V forced air cab heater system shall be removed, rebuilt to meet OEM performance standards and reinstalled.

5.1.5 Cab Air Conditioner

All of the following shall be completed by the Contractor

- A. Prime 480V air conditioner package shall be removed and rebuilt to meet OEM performance standards.
- B. Car body air filters shall be replaced with new material.
- C. Areas under the cab floor and the air conditioner drain line shall be cleaned.
- D. Air conditioner air ducts shall be thoroughly cleaned and disinfected. Deflector shrouds shall be cleaned, repaired if necessary and re-qualified to meet OEM performance standards.
- E. All cab air ducts shall be inspected for rips or tears, and replaced if defective. Ensure that all air ducts have hose straps installed and secured.
- F. Air conditioner mounting pads shall be inspected and replaced with new material if cracked or stripped.
- G. Air conditioner mounting pads and compartment floor shall be painted with a CTDOT approved rust-inhibiting paint.
- H. The rebuilt air conditioning package shall be re-installed using all new hardware.

5.1.6 Cab Interior

The Cab shall remain intact. Cab walls, windows, side-sliding windows, and doors shall be inspected by the Contractor, repaired or replaced and re-qualified. All new materials installed in the cab as part of this overhaul shall be compliant with 49 CFR part 238. The Contractor shall provide a list of these materials to CTDOT, along with signed material certificates verifying compliance with the requirements of 49 CFR part 238. The refurbished cab as completed by the Contractor shall meet the requirements of the sound test specified in this Specification.

Existing cab flooring shall be cleaned, inspected and replaced, by the Contractor, with new floor covering as required. Damaged or torn subflooring panels shall be replaced. All floor panel latches shall be cleaned, inspected, lubricated, by the Contractor, to meet OEM performance standards or replaced with new as required.

5.1.7 Cab Inward and Forward Facing Camera and LDRS-V System

The Contractor shall install a Wabtec Railway Electronics (WRE) LDRS-V system which is their next generation video system that combines video and event recorder data into a single hardware component which includes a FRA crash hardened memory module.

5.1.7.1 LDRS-V Components

The Contractor shall install a new LDRS-V system from Wabtec Railway Electronics. The Contractor is responsible for the installation, integration and testing of the LDRS-V System and all its components as described in Sections 5.1.7.1 through 5.2.1. The Contractor shall provide the system kit as supplied by Wabtec Railway Electronics, consisting of the following components:

- A. 1 ea. WRE Part No. 34331P - LDRS-V

- B. 1 ea. WRE Part No. 34690-2 - Color Camera – Wide Angle
- C. 1 ea. WRE Part No. 34556-2 - Color Camera – Standard Lens
- D. 2 ea. WRE Part No. 34546P - Cable Assembly Split PoE / Audio
- E. 2 ea. WRE Part No. 83369P - M12 to M12 Ethernet Cable
- F. 1 ea. WRE Part No. 34553-5 - Cable Assembly External Mic
- G. 1 ea. WRE Part No. 34554P - Microphone Module Assembly LSZ H
- H. 1 ea. WRE Part No. 33643P - Cable Assembly LL to LDRS
- I. 1 ea. WRE Part No. 34606P - Cable Assembly Power/Alarm
- J. 1 ea. WRE Part No. 83955P - LSI Bracket, 6MCU Max
- K. 1 ea. WRE Part No. 34624P - Fabricated Mounting Plate LSI Shelf

5.1.7.2 LDRS-V

The LDRS-V installed by the Contractor is the main component of the system which records and stores all of the collected data into its internal FRA crash hardened memory module. It is powered by the vehicle's 74VDC power supply and it is connected directly to the vehicle's event recorder. The LDRS-V can be mounted in the vehicles short hood area or in the compartment where the lavatory was originally installed.

5.1.7.3 Wide Angle Color Camera

The Contractor shall install a wide angle color camera to be used to capture the actions within the cab. The wide angle color camera will be mounted in a location that is unobtrusive and that which provides the best view of the operator's activities while operating the train.

5.1.8 Standard Lens Color Camera

The Contractor shall install a standard lens color camera to be used to capture the actions ahead of the train. The standard lens color camera will be mounted on the observer's side directly facing the windshield using the provided mounting bracket. The standard lens color camera will be positioned so that the lens is in the operators line of sight and within the sweep of the windshield wiper.

5.1.9 Split PoE/Audio Cables

The Contractor shall install two (2) split PoE audio cables to be used as splitters that provide connectivity between the cameras, microphone(s) and the LDRS-V via the Ethernet cables.

5.1.10 M12 Ethernet Cables

The two (2) M12 to M12 cables will be routed from the LDRS-V unit to each of the cameras located in the cab by the Contractor.

5.1.11 External Mic Cable

The external mic cable will be routed above the cab ceiling panel from the PoE splitter to the microphone module assembly by the Contractor.

5.1.12 Microphone Module Assembly LSZH

The LSZH microphone will be used to monitor horn and bell activation. It will be mounted in a suitable location to record the horn and bell activation by the Contractor.

5.1.13 Power and Alarm Cable Assembly

The power and alarm cable will be routed to the terminal boards located in the electrical compartment to pick up the required 74VDC input and interface to the vehicles horn and alarm inputs by the Contractor.

5.1.14 Cable Assembly LL to LDRS and M Series Recorder LL Splitter

The LL to LDRS cable and LL splitter will be used to provide connectivity between the LDRS-V and the vehicles event recorder by the Contractor.

5.1.15 Power Source

The Contractor shall install a new circuit breaker to power the system in the locomotives 74VDC Load Center.

5.1.16 Connectivity to the Event Recorder

The LDRS-V is equipped with a FRA crash hardened memory module that will be used to store all recorded video and locomotive/cab car data. It does require connectivity to the vehicles event recorder to maintain time synchronization.

5.2 Cab Lighting and Switches

All of the following shall be completed by the Contractor

- A. Inspect all cab light fixtures and replace with new material only if damaged or defective.
- B. Replace all instrumentation light bulbs with new material.
- C. Ensure all lighting and miscellaneous switches are operational and perform to OEM performance standards.
- D. Inspect all sand switches and lights to ensure proper operation and perform to OEM performance standards.
- E. Replace horn sequencer switch assembly with a new assembly.

5.3 Electrical Doors

All of the following shall be completed by the Contractor

- A. All electrical doors shall be inspected for damaged panels. Repair, replace all panels as required.
- B. Inspect latches and hinges on all electrical doors and replace only if damaged or defective.
- C. Replace electric locker door seals with new material.

- D. GE FMI MOD00242 – “The Locomotive CRU Cover Foam Kit” modification shall be performed.
- E. GE FMI (Cab) – “The Cab Insulation Upgrade” around electrical cabinet shall be performed.

5.4 Cab Safety Appliances

- A. All grab irons shall be inspected by the Contractor for damage, repaired or replaced if necessary and re-qualified to OEM performance standards.
- B. All bumper pads shall be inspected by the Contractor for damage and replaced with new material as necessary.

5.5 Doors, Windows and Glass

- A. Fixed and sliding-side windows, as well as rubber, shall be replaced by the Contractor with new material.
- B. Cab entry door seals and engine room door seals shall be replaced by the Contractor with new material. Ensure that seals are properly vented.
- C. Install new FRA approved heated front windshields.
- D. Cab entry and engine room door latches, hinges and keepers shall be replaced by the Contractor with new material.

5.6 Cab Roof

The cab roof shall be inspected by the Contractor for any damage, repaired and re-qualified by a leak test or other CTDOT-approved means.

5.7 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 5-1

CDRL	Description	Due
CDRL 5-001	Cab and Locomotive Controls Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

6 MAIN AND AUXILIARY GENERATOR, PROPULSION AND DYNAMIC BRAKING SYSTEMS

6.1 GENERAL SCOPE OF WORK

The main and auxiliary generator, propulsion and dynamic braking system work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in an Main and Auxiliary Generator, Propulsion and Dynamic Braking Systems Overhaul Plan [CDRL 6-001].

6.2 MAIN GENERATOR

The main generator shall be Unit Exchanged (UTEX) with General Electric by the Contractor.

6.3 AUXILIARY GENERATOR

Auxiliary generator bearings and slip rings shall be removed and replaced in accordance with GE maintenance manual and with OEM parts. Auxiliary generator shall be re-qualified by the Contractor to OEM specifications.

6.4 PROPULSION ELECTRICAL COMPONENTS AND CABINETS

All components within propulsion control cabinets shall be inspected and re-qualified by the Contractor to OEM specifications. If defects are found, the components shall be replaced with OEM components.

6.5 TRACTION MOTORS AND GEARBOX

- A. GE 752 AH traction motors shall be be UTEXed and returned as GE 50 R configuration motors and reinstalled by the Contractor. New pinions shall be installed on the motors.
- B. Traction motors shall be assembled into complete wheel combo units by the Contractor per OEM specifications.

6.6 PROPULSION SYSTEM HIGH AND LOW VOLTAGE CABLING AND CONNECTIONS

All propulsion high and low voltage cabling and connections shall be inspected by the Contractor and re-qualified to OEM performance standards. Any defective cabling and/or connection shall be replaced with OEM standard cabling and/or connection for the application being addressed.

6.7 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 6-1

CDRL	Description	Due
CDRL 6-001	Main and Auxiliary Generator, Propulsion and Dynamic Braking Systems Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

7 MISCELLANEOUS ELECTRICAL SYSTEMS

7.1 GENERAL SCOPE OF WORK

The electrical work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in a Electrical System Overhaul Plan [CDRL 7-001].

7.2 ELECTRICAL SYSTEM

All of the following shall be completed by the Contractor

7.2.1 Batteries

Replace main starting batteries with new 530 amp-hr lead-acid batteries.

7.2.2 Video Display Units

The three (3) Video Display Units shall be removed by the Contractor. Contractor shall replace these VDUs with General Electric Model 780, or CTDOT approved equivalent.

Electrical System Details

A. Locomotive Wiring

1. All Communication and MU/Control trainline wiring, HEP cabling, high voltage traction motor cabling and cleats shall be inspected by the Contractor for physical damage, repaired or replaced if necessary and re-qualified, with a procedure approved by CTDOT.
 2. All trainline wiring, high voltage cabling and HEP cabling shall be cleared of all grounds. Insulation resistance to ground shall not be less than 5 Megohms (MΩ). Cleats shall be inspected by the Contractor for physical damage, repaired or replaced if necessary and re-qualified to OEM performance standards.
- B. The memory backup batteries in the cab logic panel and IFC panels shall be replaced with new batteries by the Contractor.
- C. The Contractor shall UTEX all motors and generators with General Electric and shall include two (2) DC grid fans, one (1) radiator cooling fan, two (2) equipment blower motor assemblies, one (1) alternator blower motor assembly, auxiliary generator, compressor motor and one (1) main/HEP alternator. ALL ROTATING EQUIPMENT REMOVAL AND INSTALLATION SERIAL NUMBERS SHALL BE RECORDED AND PROVIDED TO CTDOT.
- D. Contractor shall inspect, test and re-qualify master controller to OEM performance standards. Controller shall be greased and bulb shall be replaced. If found to be defective, replace with a rebuilt unit.
- E. All conduit shall be inspected for damage, repaired or replaced if necessary and re-qualified to OEM performance standards.

1. Contractor shall inspect, repair or replace if damaged and re-qualify all conduit and piping which contains underframed wiring between left and right fuel tanks for damage.
- F. All magnet valves, including control wiring and piping shall be replaced with new material by the Contractor.
- G. All pressure switches, including control wiring and piping shall be replaced with new material by the Contractor.
- H. Replace redundant battery charger system with new components.
- I. Replace engine prime, stop/start switch with new components.
- J. Existing lights and fixtures shall be repaired or replaced if necessary and re-qualified to OEM performance standards.
- K. "GE FMI MOD00179 – P42 XFC Contactor Elimination Modification" shall be performed.

7.2.3 Dynamic Brake Hatch

- A. The dynamic brake hatch cover shall be removed, cleaned, repaired and painted by the Contractor. Grids shall be inspected and tested per SMI-51031. Insulators that support grids shall be replaced with new material. Wiring shall be inspected and meggered and all necessary repairs shall be made prior to re-installation. Both dynamic brake grid motors shall be UTEX.
- B. Contractor shall install new foam and rubber seals on the hatch.
- C. All mounting holes shall be inspected by the Contractor. Holes found to be oblong or cracking around the hole shall be repaired.
- D. The hatch shall be re-installed utilizing all new roof mounting hardware by the Contractor.
- E. All hoses shall be replaced with new hoses by the Contractor.

7.2.4 Equipment Blower Hatch

- A. The equipment blower hatch cover shall be removed, cleaned, repaired and painted by the Contractor.
- B. Both equipment blowers shall be removed and UTEX by the Contractor.
- C. All wiring seal-tite and conduit shall be inspected by the Contractor and repaired as necessary.
- D. All removable interior and exterior panels shall be removed, cleaned, painted and reinstalled by the Contractor. Any damaged panels shall be replaced in-kind with new material.
- E. Hatches shall be inspected by the Contractor for cracked or broken welds and repaired as required.
- F. New foam seals on equipment blowers shall be installed by the Contractor.

- G. Both UTEX equipment blowers shall be re-installed by the Contractor.
- H. All mounting holes shall be inspected by the Contractor. Holes found to be oblong or cracking around the hole shall be repaired as required.
- I. All rubber and foam seals on the hatch shall be replaced with new material by the Contractor.
- J. Contractor shall install new air intake filters and install hatch utilizing new mounting hardware.
- K. Contractor shall replace all air and drain hoses with new hoses.

7.2.5 Interior and Exterior Lighting

All interior and exterior lighting fixtures shall be reconditioned in to conform with OEM performance standards by the Contractor.

7.2.6 Battery Charger

The Contractor shall recondition the battery charger to conform with OEM specifications.

7.3 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 7-1

CDRL	Description	Due
CDRL 7-001	Electrical System Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

8 TRUCK AND SUSPENSION

8.1 GENERAL SCOPE OF WORK

The trucks shall be completely rebuilt by the Contractor per OEM specifications using only General Electric approved truck kit and parts. The current 752AH traction motors shall be retained. New Timken journal roller bearings, or approved equivalent, shall be used. ALL REMOVAL AND INSTALLATION SERIAL NUMBERS FOR WHEEL SETS, TRACTION MOTORS, TRUCKS AND POSITION ON LOCOMOTIVE SHALL BE RECORDED AND PROVIDED TO CTDOT.

The truck and suspension work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in a Truck and Suspension Overhaul Plan [CDRL 8-001].

8.1.1 Wheels, Axles and Journal Bearings

8.1.1.1 Wheels

Wheels shall be replaced with new AAR Type E-40, Class B wheels, in accordance with AAR Specification M-107, latest issue. Wheels shall also have AAR 1B narrow flange contour, with tread taper of 1:40.

8.1.1.2 Axles

- A. All axles are to be inspected by the Contractor and qualified in accordance with the AAR Wheel & Axle Manual, Section G, Part II of the "AAR Manual of Standards and Recommended Practices."
- B. Axles which cannot be qualified for reuse shall be replaced by the Contractor with new axles, which are in accordance with AAR Specification M101, Class F, latest issue. U-tube housings shall be rebuilt to OEM performance standards and re-installed.
- C. Bull gears shall be qualified and re-mounted by the Contractor per GE maintenance directives. If necessary, replace in-kind with new gears.

8.1.1.3 Journal Bearings

Contractor shall ensure that journal roller bearings are reconditioned by an approved AAR Wheel Shop and re-mounted in accordance with the Roller Bearing Manual, Section H, Part II of the AAR Manual, or alternative GE instructions if presented in the Contractor's overhaul plan and with the approval of CTDOT.

8.1.2 Suspension Elements

- A. Contractor shall replace all primary and secondary truck springs with new; clean, inspect and re-qualify to meet OEM performance standards all secondary suspension spring seats and replace with new as required.
- B. Contractor shall install new lateral, yaw and vertical shocks.

8.1.3 Truck Frame –

The Contractor shall be responsible for the following:

- A. All components shall be removed from truck frames. Frames shall be completely cleaned and repainted prior to build-up process.
- B. Magnetic particle inspection of trucks after thorough cleaning shall be required. This inspection should pay particular attention to the welds and cross ties.
- C. Replace nose supports and all pins and rubber bushings in trucks.
- D. Trucks shall be trammed and rebuilt to OEM specifications.
- E. All tie rods, rubber bushings and pins shall be removed from the truck frame. New tie rods and rubber bushings shall be installed.
- F. Remove lemniscate assembly (Watts link) from the truck frame, clean and paint all components and rebuild lemniscate assembly (Watts link). Install new rubber bushings in all components and inspect longitudinal frame for damage.
- G. Replace all hot support bearing probe assemblies with new probes on each combo U-tube assembly.
- H. Replace speed sensor cables with new cables.
- I. The rebuilt ombo units shall be re-installed into the rebuilt trucks.
- J. Replace sand brackets with latest style from General Electric or approved equivalent.
- K. Reassembly of trucks shall be accomplished with all new hardware, nuts, bolts and pins. Only General Electric hardware shall be used.

8.1.3.1 Journal Boxes

The Contractor shall inspect journal boxes for wear and cracking, and repair or replace and re-qualify to OEM performance standards .

8.1.4 Liners and \Wear Surfaces

All liners and wear surfaces shall be replaced by the Contractor with OEM specified new components.

8.1.4.1 Tread Brakes and Rigging

Tread brakes shall be removed by the Contractor and rebuilt to OEM specifications, automatic slack adjusters shall be replaced with new welded slack adjusters. New cylinders with dual air inlets for right and left positioning shall be installed.

8.1.5 Truck Mounted Air Piping

The Contractor shall be responsible for the following:

- A. Remove all truck mounted air lines. Install new truck piping, replace all pipe brackets, clamps and hardware with new components.
- B. Replace all air hoses running from tread brake units to truck piping with new hoses.

C. Replace all truck hoses and fittings as presently indicated by GE overhaul kit instructions.

8.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 8-1

CDRL	Description	Due
CDRL 8-001	Truck and Suspension Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

9 AIR SUPPLY AND FRICTION BRAKE SYSTEM

9.1 GENERAL SCOPE OF WORK

- A. Contractor shall provide a signed FRA cab card in the cab of the locomotive at delivery of the overhauled locomotive.
- B. Each locomotive's brake system shall receive a complete brake system overhaul, inspection and test to be performed by the Contractor in accordance with 49 CFR 229 and the requirements of this technical specification. The work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in an Air Supply and Friction Brake System Overhaul Plan [CDRL 9-001].

9.1.1 Valves

The Contractor shall be responsible for the following:

- A. The current 26L air brake system shall have all valves removed and replaced with rebuilt air valves.
 - 1. All air brake valves shall be rebuilt by an AAR certified Air Brake Shop.
 - 2. All air components shall meet the change-out requirements of 49 CFR 238.309 and applicable requirements of 49 CFR 229.
- B. The emergency valves in the cab shall be tested for operation and replaced if found to be defective.
- C. All vented and non-vented ball cocks on the trainline shall be inspected and tested to assure a seal against air leakage. If found to be defective they shall be replaced with new.

9.1.2 Air Compressor and Filter/Dryer

- A. Locomotive No.'s 4801, 4802 and 4803 are equipped with new generation Graham-White series electronic air dryers. The Contractor shall overhaul these air dryers to OEM performance standards.
- B. The Contractor shall remove the Salem 975 Series air dryers on the remaining locomotives and replace them with new generation Graham-White series air dryers. All air system filters shall be replaced with new filters.

9.1.3 Air Tanks and Piping

- A. Trainline brake pipe hose, MR train supply air hose and locomotive MU hoses shall be replaced by the Contractor at both ends and on both sides of the locomotive with new hoses.

9.1.3.1 Main Reservoir

- A. Main reservoir automatic drain valves shall be disconnected and removed by the Contractor. Main reservoir automatic drain valves shall be overhauled by the Contractor to like-new condition matching the latest configuration. Main reservoirs shall be blown

out with compressed air by the Contractor to remove any moisture and debris. Main reservoirs, mounting brackets, mounting hardware and MR automatic drain valve guards shall be inspected by the Contractor for damage and defects. Any main reservoirs or mounting hardware, which are found to be damaged, defective, cracked, or corroded, shall be replaced with new material by the Contractor. Upon completion of main reservoir inspection and repairs, the overhauled main reservoir automatic drain valves shall be reinstalled and reconnected. The Contractor shall verify proper operation of main reservoir automatic drain valves.

- B. The main reservoir line from the air tanks to the air compressor shall be wrapped with insulation by the Contractor in order to prevent pipe from freezing.

9.1.4 Warning Devices

The Contractor shall be responsible for the following:

9.1.4.1 Horn

The horn shall be tested with a calibrated sound level meter to ensure that the horn meets FRA requirements. Remove the horn from the equipment blower hatch and rebuild to OEM specifications if it fails the decibel test.

9.1.4.2 Bell

The bell shall be removed and rebuilt per OEM specifications. The bell shall be re-installed using new mounting rubbers and tested.

9.1.5 Sanding

The Contractor shall be responsible for the following:

9.1.5.1 Sand Traps and Hoses

Inspect and check operation of front and rear lead axle Salem 227 type sand traps, including rotary shut off valves. Install new sand hoses, clamps and nozzles to trucks.

9.1.5.2 Sand Box

- A. Inspect all sand boxes; ensure that they are not leaking nor blocked by wet sand. Repair if found to be defective.
- B. Remove the air conditioning unit and clean out all sand and debris in HVAC, air brake and sand box area under the cab floor.

9.1.5.3 Sand Fill Covers

Inspect all fill box doors, hinges and latches, repair if damage is found. All gaskets shall be replaced with new material.

9.1.5.4 Electrical System

Electrical wiring shall be inspected for nicks, cuts chafing and exposure to excessive oil. Damaged wires shall be replaced and tested with a procedure approved by the Engineer.

9.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 9-1

CDRL	Description	Due
CDRL 9-001	Air Supply and Friction Brake System Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

10 MAIN ENGINE, MAIN ENGINE COOLING AND FUEL SYSTEM

10.1 GENERAL SCOPE OF WORK

The main engine, main engine cooling system and fuel system work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in a Main Engine, Main Engine Cooling and Fuel System Overhaul Plan [CDRL 10-001].

10.1.1 Engine

Engine shall be a UTEX with a General Electric "Tier 0" certified engine per 40 CFR 1033. If a Tier 0+ certified UTEX engine is available at the time overhaul work commences, it shall be utilized by the Contractor. ENGINE REMOVAL AND INSTALLATION SERIAL NUMBERS SHALL BE RECORDED AND PROVIDED TO CTDOT.

The turbocharger air box shall be modified to conform with the requirements of GE FMI – GE Locomotive Air Box Modification P42.

10.1.1.1 Automatic Engine Stop/Start System (AESS)

- A. An AESS compliant with EPA Tier 0+ shall be installed by the Contractor that will automatically:
 - 1. Shut down the locomotive when it has been idling for a period of time as determined by CTDOT
 - 2. Start the main engine once the main engine coolant temperature has dropped 5 degrees Fahrenheit below a preset engine temperature to be maintained
 - 3. Shut down the main engine once a pre-determined temperature has been reached.
 - 4. Monitor and maintain battery charge.
- B. This modification shall conform with the requirements of GE FMI – Loco Auto Start-Stop.
- C. Contractor shall submit to CTDOT a detailed description of the equipment and functional operation of the AESS system it proposes to install for CTDOT approval [CDRL 10-002].
- D. Contractor shall provide revised locomotive electrical schematics for the AESS as installed [CDRL 10-003].
- E. Training in the operation of the AESS shall be provided by the Contractor [CDRL 10-004].

10.1.2 Cooling System

10.1.2.1 Radiator Hatch

The Contractor shall be responsible for the following:

- A. The radiator hatch shall be removed, cleaned, repaired and painted by the Contractor. Shutters shall be replaced with new assemblies. All shutter cylinders shall be replaced with new. All air lines shall be inspected and repaired. All damaged carbody screens shall be replaced with new screens. Radiator cooling fans shall be UTEX.
- B. Existing radiators shall be removed, and replaced with new OEM mechanically bonded radiators. New Gaskets and O-rings shall be installed.
- C. All wiring, seal-tite and conduit shall be inspected and replaced if defective with new material.
- D. All removable interior and exterior panels shall be removed, cleaned, painted and reinstalled.
- E. Any damaged panels or hatches shall be replaced with new material.
- F. Hatch welds shall be inspected. Cracked or broken welds shall be repaired.
- G. New foam seals on equipment blowers shall be installed.
- H. All mounting holes shall be inspected. Holes found to be oblong or cracking around the hole shall be repaired.
- I. All rubber and foam seals on the hatch shall be renewed.
- J. The hatch shall be re-installed utilizing all new roof mounting hardware.
- K. All hoses shall be replaced with new.

10.1.2.2 Engine Air Intake Hatch

The Contractor shall be responsible for the following:

- A. All air intake filters shall be replaced with new.
- B. Hatch shall be removed and interior and exterior shall be washed.
- C. Hatches shall be inspected for cracked or broken welds and repaired as required.
- D. All mounting holes shall be inspected. Holes found to be oblong or cracking around the hole shall be repaired as required.
- E. All hinges on the summer/winter doors shall be inspected and repaired as required.
- F. All other hinges and filter door tie down devices shall be inspected for cracked or torn rubber and repaired if defective.
- G. All rubber and foam seals on the hatch shall be renewed with new material.
- H. New secondary baggie air intake filters shall be installed, and the hatch shall be re-installed with new mounting hardware.
- I. All drain hoses shall be replaced with new.

10.1.3 Fuel System

10.1.3.1 Fuel Tank

The Contractor shall be responsible for the following:

- A. The fuel tanks shall be inspected for damage and leaks and repaired where defects are found. The tanks shall be re-qualified by the Contractor to OEM performance standards. The fuel tank shall be drained of fuel during the inbound inspection and will have the clean outs removed and cleaned so as not to collect any debris.
- B. All fuel sight glasses shall be removed and replaced with new sight glasses. Locomotive sight glass replacement modification (9722) shall be performed.
- C. Fuel equalization modification, FMI 34-3673 shall be performed.
- D. Remove fuel suction and return line assembly (one per compartment), inspect for cracks or other signs of deterioration and repair or replace with new components as required. Ensure that low fuel level shut off valve is in place and functioning properly.
- E. Inspect, repair or replace if damaged, all conduits, which contain underframe wiring running between left and right fuel tanks.

10.1.3.2 Ecology Tank

- A. The ecology tank shall be drained and flushed out by the Contractor.
- B. The ecology tank shall be inspected for damage and repaired if possible or replaced if the tank is damaged beyond repair. Any repaired ecology tanks shall be re-qualified to meet OEM performance standards.

10.1.3.3 Fuel Fill

- A. On locomotives equipped with Snyder type fuel fills, the fuel fill equipment shall be inspected, repaired if damaged and re-qualified by the Contractor in a manner approved by CTDOT.
- B. On locomotives that do not have Snyder fuel fill equipment, the existing fuel fill equipment shall be removed by the Contractor. A Snyder type fuel fill shall be installed on both sides of the locomotive, including electric shut-off sensors in each of the four (4) compartments.

10.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 10-1

CDRL	Description	Due
CDRL 10-001	Main Engine, Main Engine Cooling and Fuel System Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 10-002	Detailed description of the equipment and functional operation of the AEBS system	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 10-003	Revised locomotive electrical schematics for the AEBS as installed	TBD By Contractor and set forth in the Contract Deliverables Requirement List

CTDOT
P40 OVERHAUL Technical Specification

CDRL	Description	Due
CDRL 10-004	Training in the operation of the AESS	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

11 HEAD END POWER

11.1 GENERAL SCOPE OF WORK

Note: THE HEP alternator and HEP switchgear are to be overhauled by the Contractor per provisions elsewhere in the specification.

11.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 11-1

CDRL	Description	Due
N/A	N/A	N/A

End of Section

12 OPERATIONAL SAFETY SYSTEMS

12.1 GENERAL SCOPE OF WORK

The operational safety systems work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in a Operational Safety Systems Overhaul and Installation Plan [CDRL 12-001].

The Contractor shall remove and return all of the existing US&S cab signal system components on the ex-Amtrak locomotives and the ex-NJT locomotives to CTDOT for future disposition. The replacement ATC system to be installed and integrated by the Contractor will be a PHW 9-aspect cab signal system fully integrated and compatible with a PHW ACSES system configured to operate on Amtrak's Northeast Corridor. The PHW ATC system shall include all of the components required to integrate with the existing locomotive sub systems including the propulsion and braking systems as well as the locomotive IFC. The PHW 9 Aspect ATC Electronics will be housed in shared enclosure with the PHW ACSES OBC and Data Radio on both the ex-Amtrak locomotives and the ex-NJT locomotives. The ATC/ACSES electronics enclosures can be mounted in either the short hood space where the existing US&S Cab Signal equipment is located or in the compartment behind on the Engineer's side that was originally used as the lavatory. The Contractor is responsible for the installation, integration, and testing of the entire Cab Signal/ACSES System.

12.1.1 CAB SIGNAL/ACSES SYSTEM

- A. All of CTDOT's ex-Amtrak locomotives are currently equipped with PHW ACSES PTC systems using a 900 MHz Data Radio. The upgrade to ACSES II Rev 11 will require the change from the 900 MHz Data Radio system to the 220 MHz Data Radio. The upgrade to ACSES II will also require the installation of a new 220 MHz Tri Mode roof mounted antenna and the removal of the existing 900 MHz roof mounted antenna. The Contractor shall determine the location of the new antenna mount and properly seal the existing roof penetrations. All of the existing ACSES equipment (OBC enclosure, card file including all PCB's, power supplies) and data radios are currently located in the R-end of the locomotive. All of this ACSES equipment with the exception of the 900 MHz data radio is to be removed and returned to PHW for re-qualification and upgraded to the latest ACSES II configuration. The 900 MHz data radio is to be returned to CTDOT with the cab signal equipment. All of the ACSES components that are re-qualified and or upgraded will be repackaged and returned to the Contractor as part of the ATC/ACSES II kit for installation. All of the ACSES under floor equipment (scanner antenna and CTV box) shall also be removed, by the Contractor, cleaned and inspected and repaired as necessary and reinstalled in their existing locations, by the Contractor. The EC-5 Cable is used to connect the ACSES OBC to the under floor CTV box and shall be removed and discarded, by the Contractor. A new EC-5 cable shall be installed to connect the OBC (in its new location) to the CTV box, by the Contractor. The existing ACSES Pressure switch manifold assembly located under the cab floor, shall be removed and discarded, by the Contractor. A new PHW modular pressure switch manifold will be installed in the same location, by the Contractor. The existing ACSES ADU shall be removed and discarded,

by the Contractor. A new Revision 11 ADU shall be installed in the cab at the location of the existing ADU, by the Contractor.

- B. The Contractor shall install into the ex-NJT locomotives complete “new” ATC/ACSES packaged systems that are designed based on the repackaged system built for the ex-Amtrak locomotives.
- C. The entire ATC/ACSES system, when fully integrated, shall be compliant with Amtrak’s FRA PTC “Rev 11 type approval” [No. FRA-TA-2010-001]. Any deviation from the approved equipment requires the approval of CTDOT. In such event, the Contractor shall be responsible for obtaining “Type Approval” from the FRA for any equipment supplied which is different from that which has already been given type approval.

12.1.2 Alerter

The alerter system shall be re-qualified by the Contractor to meet OEM performance standards.

12.1.3 Event Recorder

The Contractor shall install a new Wabtec FRA crash hardened memory module (PCM) Event Recorder that interfaces with the IFC. At minimum, all existing inputs shall be recorded. In order to be in compliance with 49CFR 229.135, any additional PTC related inputs shall also be recorded.

The Event Recorder shall be synchronized with the LDRS-V and camera system specified in Section 12.1.4

12.1.4 LDRS-V Forward and Interior Facing Camera System

The Contractor shall install a new Wabtec LDRS-V and audio system to include a forward facing camera mounted on the fireman’s side dashboard, an interior facing camera and an in-cab microphone and a LDRS-V to record all forward facing video, cab operator activities and external audio events. The LDRS-V recording unit can be mounted in either the short hood space or the compartment with the ATC and ACSES train control equipment.

12.1.5 Speed Sensing System

All speed sensors shall be replaced with new OEM speed sensors. The speed sensor cables shall be re-qualified per OEM performance standards or replaced with new as required. The Quip speed sensor universal processor shall be re-qualified to meet OEM performance standards and re-installed.

12.1.6 First Article Inspections

A first article inspection (FAI) of the ATC/ACSES equipment shall be held at the Supplier’s facilities prior to its shipment to the Contractor. Appropriate testing of all ATC/ACSES equipment shall be conducted by the Contractor and/or supplier(s) as a part of the FAI for the ATC/ACSES equipment. FAI package shall be submitted to CTDOT within fifteen (15) days of scheduled FAI [CDRL 12-002].

A first article inspection (FAI) of the LDRS-V and interface to the IFC equipment shall be held at the supplier’s facilities prior to its shipment to the Contractor. Appropriate testing shall be a

part of the FAI for the LDRS-V FAI package shall be submitted to CTDOT within fifteen (15) days of scheduled FAI [CDRL 12-003].

12.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 12-1

CDRL	Description	Due
CDRL 12-001	Operational Safety Systems Overhaul and Installation Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 12-002	FAI package for ATC/ACSES	Within 15 days of scheduled FAI
CDRL 12-003	FAI package for LDRS-V Inward and Forward Facing Camera System and interface to the IFC and Event Recorder.	Within 15 days of scheduled FAI

End of Section

13 MATERIALS AND WORKMANSHIP

13.1 GENERAL

- A. This section is applicable to all parts of the locomotive.
- B. Contractor's material, workmanship and processes shall be in accordance with the requirements of this Section, unless otherwise approved.
- C. Inclusion of a material or method in this Section does not indicate approval for application or use in a specific situation. When a material or method is specified in this Section, this Section shall be applicable; however, specific requirements detailed in appropriate Specification take precedence over this Section.
- D. Material Safety Data Sheets (MSDS) shall be submitted by the Contractor for all materials, including lubricants used in the fabrication of these locomotives, except for non-hazardous metallic materials. Information provided by the Contractor shall be in a form compliant with ANSI Z400.1-1993.
- E. All materials and skillful workmanship supplied and performed by the Contractor shall be equal to or better than accepted industry standards.
 - 1. Substitution – Substitution of materials other than those designated, shall be submitted by the Contractor for prior review and approval by CTDOT.
 - 2. Mating Surfaces – All mating surfaces shall be clear and free from dirt, grease, scale and other contaminants prior to attachment or joining.
 - 3. Operating Environment – All materials used provided by the Contractor in the overhaul of the locomotives shall be chosen to economically and safely achieve their function for the design life of the locomotives in the intended service environment.
 - 4. Interior Cleaning – Fabrics and other non-metallic materials used by the Contractor for interior appointments shall not be affected by industrial compounds used for cleaning such materials.
 - 5. Replacement Parts – All replacement parts provided by the Contractor shall be OEM standard, unless otherwise approved by CTDOT.
 - 6. Replacement Hardware – Missing nuts, bolts, screws and similar hardware must be replaced by the Contractor. Additionally, all fasteners smaller than ½ inch diameter, which are removed by the Contractor in the course of the overhaul work shall be replaced with new.

13.1.1 Standards

- A. The following domestic standards and specifications define materials for this Contract: Federal or Military Specifications or Standards, the Specifications of the Aluminum Association of America, AAR, ANSI, APTA, ASME, ASTM, FRA, IEEE, and additional requirements, as specified herein.

- B. Where other or foreign standards are proposed by the Contractor, the Contractor shall submit to CTDOT documentation of the proposed standards for review and approval by CTDOT. The documentation shall demonstrate the proposed standards are the equivalent of the foregoing standards and specifications. Proposed substitute specifications shall be submitted in both English and the language of the country of origin.

13.1.2 Marking

All materials intended for use on the locomotives shall be marked or stored by the Contractor so as to be readily identifiable, and shall be adequately protected during handling and storage. Material rejected by the Contractor shall be clearly marked and stored in a controlled area specifically designated for that purpose at the Contractor's facility.

13.1.3 Prohibited Materials

The Contractor is prohibited from using the following materials on the locomotives:

- PVC
- Asbestos
- Cadmium
- Lead (except for solder and battery)
- PCBs
- Carcinogenic materials
- Materials listed in 29 CFR Sec. 1910.19

13.1.4 Cleaning

A. Cleaning During Locomotive Overhaul

1. During locomotive overhaul, the Contractor shall take adequate care to prevent drill cuttings or other material from entering in areas of tubing, piping or electrical wiring, or accumulating in areas, which become inaccessible after subsequent assembly.
2. Where drilling or other work has to be performed after installation of air brake equipment, piping or electrical equipment or wiring, the Contractor shall take adequate precautions to prevent metallic or other waste or debris from causing future problems.
3. A list of recommended cleaning agents shall be provided to CTDOT by the Contractor for all materials exposed to normal cleaning operations. This information shall also be included in the maintenance documentation for the locomotive [CDRL 13-001].

B. Before delivery of the locomotive, a final clean up shall be made by the Contractor to assure all debris is removed. Areas of particular concern, but not limited thereto, are:

1. All electrical junction boxes, lockers, panels, heaters, exposed terminal blocks where retained metallic debris can cause future problems

2. Oil, water, fuel and air tanks and piping from which debris could be drawn into valves, pumps, or other equipment.

13.1.5 Unit Exchange (UTEX)

- A. Unless otherwise stated, UTEX is to be with General Electric (GE). Alternate suppliers may be proposed and are subject to approval by CTDOT
- B. UTEX procedures shall be provided to CTDOT for approval by the Contractor prior to UTEX of equipment.

13.2 ELASTOMERS

- A. Elastomers shall be compounded and cured to perform as intended in the CTDOT environment. Elastomers shall have high resistance to ultraviolet and other solar radiation, weather, and to all locomotive-washing and cleaning fluids. All elastomeric parts shall be resistant to ozone, oxidation, heat, oil, grease and acid, and shall have the longest possible life, consistent with the other characteristics specified.
- B. The following elastomeric parts provided by the Contractor shall be of neoprene unless otherwise specified or approved:
 1. Glazing Rubber
 2. Door Seals
 3. Door Nosing
 4. Isolation Tapes/Pads
 5. Other parts exposed to the outdoor ambient environment, except where otherwise specified
- C. The following elastomeric parts provided by the Contractor shall be of natural rubber or approved equal:
 1. All resilient mounts
 2. Elastomeric truck components
- D. Elastomers used within pneumatic or hydraulic equipment shall be replaced with new by the Contractor to meet the performance requirements of this Specification for the pneumatic or hydraulic device.
- E. Window and Door Sealing – The Contractor shall ensure that all rubber shall be compounded to preclude discoloration or staining of neighboring areas, particularly from water drainage.

13.3 GLASS

- A. Front windshield provided by the Contractor shall conform to FRA 49 CFR part 223, type 1 requirements.
- B. Side glazing provided by the Contractor shall conform to FRA 49 CFR part 223, type 2 requirements.

13.4 WIRE AND CABLE

- A. All conductors provided by the Contractor shall be new soft annealed copper tinned and stranded per AAR Specification S502 (former No. 589), and jacketed with cross-linked polyethylene (Flammanol SL) or radiation cross-linked polyolefin (Exane) or CTDOT approved equivalent and shall have properties and characteristics as specified in AAR Specification S501.
- B. All wire and cable provided by the Contractor shall be in accordance with AAR RP-585 and the recommendations of APTA RP-009-98.

13.4.1 Wiring

The Contractor shall be responsible for the following:

- A. Wires shall be segregated according to APTA RP-E-002-98. Any deviation requires the express permission of CTDOT.
- B. All wiring practice and terminals shall be in accordance with APTA-RP-E-002-98 and IEEE-16-2004.
- C. Grounding – All electrical circuits shall be completely insulated from locomotive structure.
- D. Terminals – Terminals for wire and cable shall be of the crimp or soldered type. Terminals shall be applied using methods and tools, recommended by the terminal manufacturer. Terminations should be made according to APTA RP-E-002-98.
- E. Service loops in wiring at terminal board connections shall be provided. Conductors shall be protected by suitable means to minimize breakage of the conductor at or near the terminal.
- F. Inspect, repair or replace of damaged, and re-qualify PVC pipe, which contains underframe wiring running between left and right fuel tanks.
- G. All wiring harness will be adequately secured and protected from chafing.
- H. No more than four (4) terminations per stud (or per tier of a stud if using an AAR termination stacking configuration) shall be permitted.

13.4.2 Conduits, Junction Boxes and Fittings

Conduits, junction boxes and fittings shall be assembled by the Contractor to OEM standards and subject to prior approval by CTDOT. Replacement and newly installed conduit, junction boxes and fittings on the locomotive shall meet, at a minimum, IP65 rating for environmental construction.

13.5 WELDING AND BRAZING

13.5.1 General

- A. The Contractor shall be responsible for the quality of its own welding and brazing and that which is done by its Suppliers. All welders employed in the making of welds on structures or products built under this Specification shall have been tested to determine

their ability to operate the welding equipment to be used to make the types of welds required, in a Specification compliant manner, and per Section 13.5.3 .

- B. Before welding of any sort is started, parts to be joined shall be properly cleaned of coatings and films such as rust, oxide, mill scale, oil, grease, corrosion products and other foreign materials.
- C. Cleaning materials and processes shall be in accordance with applicable parts of Section 2, MIL-HDBK-132, "Protective Finishes". Finished welds shall present a clean appearance.

13.5.2 Structural

- A. All structural welding practices not specifically covered in other sections of this Specification shall be performed by the Contractor in accordance with requirements of the American Welding Society (AWS) "Structural Welding Code, Steel", AWS-D1.1 and AWS-D1.3 "Structural Welding Aluminum", AWS-D1.2 and the AWS Handbook. Resistance welding shall be in accordance with MIL-W-6858. Requirements for dynamically loaded structures shall have precedence over those for statically loaded structures.
- B. Additional information on definitions, processes or other questions pertaining to welding shall be referred to AWS Welding Handbooks, latest edition. Requirements in addition to AWS Requirements are specified in following paragraph (C) Welder Qualifications.

13.5.3 Welder Qualification

Welders employed by the Contractor and its Suppliers in the making of welds on structures or products built under this Specification shall make only those welds for which they have been qualified in accordance with the requirements of the AWS, ASME Section IX, or other approved qualifying procedures. Records of welder qualification tests shall be made available for review upon CTDOT's request.

13.6 PIPING AND TUBING

13.6.1 General

- A. All piping, valves, fittings, installation methods, and testing performed by the Contractor shall be in accordance with the Code for Pressure Piping, ASME B 31.1. All joints shall be easily accessible to maintenance employees for inspection and proper maintenance.
- B. Following installation by Contractor, all piping systems shall be cleaned to remove dirt, metal chips, oily contamination, and moisture. After cleaning, all piping systems shall be pressure tested in accordance with the "Code for Pressure Piping", ASME B 31.1. Following cleaning and pressure testing, a CTDOT-approved means to temporarily prevent recontamination shall be incorporated. All leaks shall be repaired and the system re-cleaned and retested until leak-free.
- C. Contractor must support pipes throughout their length and at all connections to prevent vibration or noise and to limit stresses in the pipe to less than 50% of the pipe's fatigue endurance limit. Pipes and their connections shall not interfere with the removal of other components. Pipe routing and support shall be planned and accomplished in an efficient,

organized manner by the Contractor to keep the total length and number of fittings and bends to an absolute minimum. All changes in direction shall be accomplished by bending the pipe to a radius of not less than specified by AAR Specification No. 2518, Standard S-400, or to an approved radius. Direction-change fittings are not permitted in the trainlined brake pipe or in the brake cylinder pipe. Support and clearances provided between adjacent pipes and between pipes and surrounding structure, equipment or other appurtenances shall be sufficient to prevent chafing or contact due to any combination of locomotive loading and deflection, locomotive dynamics, and thermally induced movement. The minimum clearance shall be $\frac{1}{8}$ inch (3 mm).

- D. At all locations where pipe or tubing passes through holes in the floor, bulkheads, structure, or any fixed member, it shall be rigidly clamped by the Contractor to protect against possible damage or noise due to bearing, abrasion, or locomotive dynamics-induced rattling. Clamps shall not be welded, brazed or otherwise permanently fastened to any pipe or tubing.
- E. Pipe and tubing interfaces with clamps shall be insulated by the Contractor with an elastomeric or woven non-asbestos mineral fabric tape material to protect and sound-insulate the pipe or tubing.
- F. Wherever locomotive body piping interfaces with vibration-isolated rotating equipment such as the air compressor and air conditioning compressor-condenser unit, approved flexible vibration eliminators shall be used by the Contractor. The pipe connection at either end of the flexible elements shall be rigidly clamped no farther than 2 inches (50.8 mm) from the flexible elements.
- G. All pipe clamps shall be inherently rigid and shall be firmly attached to locomotive structure by the Contractor. Cantilevered clamps or clamp supports that are weaker than service-proven designs will not be accepted. All clamps shall be of a suitable material for the application.

13.6.2 Air Piping, Tubing, and Fittings

- A. The main reservoir pipe and brake pipe utilized by the Contractor shall be stainless steel tube per ASTM A 269 or type "K" annealed copper tube per ASTM B 88, latest revision.
- B. Piping shall be installed by the Contractor no lower than 2 inches (50.8 mm) below the floor sheet or structural member and shall be arranged for maximum damage protection from flying rail debris, especially in the truck and outboard of the bolster areas. Where inherent locomotive borne equipment protection is not possible in damage-prone areas, approved guards or reinforced piping sections may be used, subject to approval by CTDOT. The sizing of the main reservoir pipe and brake pipes shall meet the brake supplier's requirements.
- C. If copper tubing is used by the Contractor, all fittings used in joints shall be made of wrought copper or non-porous cast brass in accordance with ASME B 16.22 and B 16.18.
- D. All air piping performed by the Contractor must comply in all respects with the OEM and air brake supplier's original design and installation requirements.

13.6.3 Air Conditioning System Piping, Tubing, and Fittings

- A. Air conditioning refrigerant lines larger than $\frac{3}{8}$ inch (9.5 mm) outside diameter shall be of seamless copper tubing, "ACR" type, drawn to H58 temper as defined by ASTM B 280. Air conditioning refrigerant lines smaller than $\frac{3}{8}$ inch outside diameter may be annealed to the O60 condition. Wrought copper sweat type fittings shall be used. Joints shall be kept to a minimum; wherever possible formed or bent tubing, bent utilizing a bending tool designed specifically for bending of the tubing used, shall be used in preference to fittings. All inaccessible runs of tubing shall be without joints, and all joints shall be readily accessible for inspection and repair.
- B. Suction lines provided by the Contractor shall be designed and installed without traps. The suction line shall be sized for 3 psi (20.7 kPa) maximum system pressure drop and the liquid line shall be sized adequately to prevent flashing due to pressure drop.
- C. Lines subject to condensation shall be insulated by the Contractor with an approved insulation, applied with approved contact cement. The liquid line shall be insulated in all areas where required to provide additional mechanical or thermal protection. Insulation at all joints and fittings shall be mitered and sealed with an approved material. The insulation, adhesive, and sealant shall meet the Specification requirements for thermal, smoke emission, toxicity, and flammability performance.
- D. All refrigerant piping and pipe subassemblies shall be deburred, cleaned, dried, and capped by the Contractor with plastic caps, or CTDOT approved equal on all openings after fabrication. Caps shall be sufficiently tight fitting to prevent incursion of fluids, dust and other contaminants and shall remain in place until immediately prior to incorporation into the final assembly.
- E. Vibration eliminators shall be used by the Contractor in piping at any location where there is relative motion between sections. Tubing installations shall be designed to allow any single length of tubing to be replaced without dismantling or removing surrounding equipment, piping, wiring, or other appurtenances.
- F. Condensate drain lines provided by the Contractor shall be seamless copper tubing, type "K", in either the O60 annealed or H58 tempered condition, as defined by ASTM B 88, or seamless stainless steel tubing.

13.6.4 Brazing and Soldering of Piping, Tubing, and Fittings

All brazing and soldering performed by the Contractor shall comply with the applicable parts of this Specification, and the following requirements.

- A. All refrigerant piping and air system copper tubing shall be joined by the Contractor using silver solder conforming to Federal Specification QQ-B-654A, BAg-5, BCuP-5, or for copper-to-copper connections only BCuP-3.
- B. Refrigeration piping and tubing shall be internally swept with a continuous flow of a non-oxidizing gas such as dry nitrogen during brazing by the Contractor.
- C. Condensate drain tubing shall be joined by the Contractor using 95-5 solder or Silver Solder as above.

- D. Solder joints shall be wiped and have flux cleaned from tubing and fittings by the Contractor after soldering.
- E. After fabrication, the refrigeration and air systems shall each be cleared of all dirt and foreign matter, flushed with a degreasing agent and dried, all according to a written procedure prepared for each by the Contractor and as approved.

13.7 PRESSURE VESSELS

- A. All pressure vessels provided by the Contractor shall conform to the latest revision of Section VIII of the ASME Boiler and Pressure Vessel Code for Unfired Pressure Vessels and applicable sections of 49 CFR 229.
- B. Contractor shall furnish test reports for each pressure vessel, and each pressure vessel shall be stamped to document the test [CDRL 13-002].

13.8 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 13-1

CDRL	Description	Due
CDRL 13-001	List of recommended cleaning agents shall be provided to CTDOT for all materials exposed to normal cleaning operations	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 13-002	Test reports shall be furnished for each pressure vessel, and each pressure vessel shall be stamped to document the test	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

14 QUALITY ASSURANCE REQUIREMENTS

14.1 General

This Specification defines the requirements for an Quality Assurance and Inspection Program to be maintained by the Contractor. The Contractor's Quality Assurance (QA) and Inspection Program shall assure that all aspects of the Contract are in conformance with the design, materials and workmanship requirements provided in this Specification. The Contractor shall submit a Quality Assurance and Inspection Program for CTDOT review and approval within fifteen (15) days after notice to proceed [CDRL 14-001].

14.2 Application

- A. The requirements of this Specification section shall apply to the extent necessary to demonstrate conformance with Contract requirements.
- B. The Contractor shall demonstrate a quality control program which provides for inspection, testing, documentation of material dispositions, acceptance/rejection and status identification of materials, components, processes, work in process and finished work to assure conformance with Contractor's standards and with the requirements of this Specification.

14.3 Requirements

14.3.1 General

- A. The Contractor shall be responsible for conducting all the inspections required to demonstrate full conformance of the work to Contract requirements.
- B. The Contractor shall perform these inspections at its own facility subject to the approval of CTDOT.
- C. The Contractor shall provide an inspection system capable of producing objective evidence that finished work meets the quality requirements of the Contract.
- D. The system shall be considered acceptable when, as a minimum, it provides for the detection and removal of non-conforming material, either prior to or at the latest stage of fabrication manufacture or other processing where a characteristic can be tested, observed or measured.
- E. Inspection necessary to demonstrate conformance to Contract requirements, wherever performed, shall hereinafter to be referred to as a final inspection.

14.3.2 Contractor Inspection Representative

The Contractor's designated Quality Assurance representative shall have authority, on behalf of the Contractor to resolve inspection matters to the satisfaction of CTDOT.

14.3.3 Quality Control and Inspection Log

The Contractor's quality control and inspection log, with such exceptions as may be noted below, shall be the controlling document for the overhaul of each locomotive. A copy shall be supplied to CTDOT for review and approval before put into use [CDRL 14-002]. This log will travel with each locomotive throughout the overhaul and testing process and shall be made available to CTDOT upon its request.

14.3.4 Documents for Inspection

The Contractor shall ensure that the latest approved versions of the applicable drawings, specifications and instructions, and changes thereto, are used for inspection purposes. These documents shall be made available to CTDOT for its view at the Contractor's location.

14.3.5 Test and Inspection Equipment

The Contractor shall be responsible for the provision and maintenance of inspection equipment suitable to demonstrate conformance of the work to technical requirements. This inspection equipment shall be maintained under a recognized gauge control system. Calibration shall be traceable to applicable standards.

14.3.6 Purchasing

The Contractor shall be responsible to ensure that all purchased material and services conform to Contract requirements.

14.3.7 Incoming Material Inspection

The Contractor shall provide for inspection, testing and identification of incoming material.

14.3.8 Fabrication, Manufacturing and Assembly Inspection

- A. The Contractor shall, as a minimum, perform all required final inspections. The Contractor may institute any additional inspection of material in process considered necessary to determine the quality of work.
- B. The Contractor shall ensure that the work has been subjected to all final inspections indicated on the inspection plan and that the relevant inspection records are complete. The Contractor shall subject all finished work to final inspection to ensure that Contract requirements as met. Only finished work which fully conforms to requirements shall be submitted for acceptance or be delivered.
- C. The Contractor shall keep objective evidence of the inspection and use checklists to be sure that no major functional characteristic has been overlooked.

14.3.9 Workmanship

The Contractor shall ensure that workmanship is maintained at a level of quality consistent with the technical and functional requirements of the work. Workmanship shall be defined to the greatest practical extent by written standards or production samples inspected and accepted by the Contractor as examples of satisfactory workmanship.

14.3.9.1 Welding

The Contractor's facilities and welders shall be certified in accordance with AWS and/or Contractor's equivalent standards and shall be verified as meeting these standards by random inspections of test pieces and of process variables. The Contractor may repair welding anomalies using industry-approved practices. The Contractor shall make Welder Certifications available to CTDOT upon its request.

14.3.10 Test and Inspection Records

The Contractor shall maintain records of all tests and inspections performed to substantiate conformance to Contract requirements. Records shall include positive identification of material, and finished work, the specified inspections performed, and the results obtained. Records shall include disposition of all rejected materials.

14.3.11 Material Control

The Contractor shall maintain a system which precisely indicates the up-to-date inspection status of material and finished work.

14.3.12 Accommodation, Facilities and Assistance

- A. The Contractor shall provide CTDOT with reasonable access at all times to plants of the Contractor and sub-contractors in order to monitor compliance with contractual quality requirements.
- B. The Contractor shall provide adequate office facilities including space, furniture and telephone service for such monitoring during the entire span of time during which the work on this Contract is performed. Anyone designated by CTDOT shall also be provided with reasonable access at all times.

14.4 Evaluation And Inspection

14.4.1 General

- A. The Contractor's Inspection System shall be subject to evaluation by CTDOT to ensure that it meets the requirements of this Specification and the requirement of the Contract. The method of evaluation shall be at the direction of CTDOT.
- B. The Contractor's operations required by this section shall be subject to:
 - 1. Review at unscheduled intervals, of the effectiveness of the Contractor's Inspection System.
 - 2. Inspection after receipt of the work, to determine compliance with Contract requirements.

14.4.2 Final Inspection

The Contractor shall perform a final inspection before shipment. CTDOT may monitor the inspection and require that any part, device or apparatus needing adjustment, repair or replacement be corrected.

14.4.3 Receiving Inspection

Upon arrival at the designated point of delivery, each locomotive shall be jointly inspected by CTDOT and by the Contractor representative(s) to assure that the locomotive is in safe and operable condition, to determine any damage incurred in transportation, and to conduct an inventory to assure that no items have been removed. The Contractor shall prepare a checklist listing all corrective actions that must be performed. CTDOT may withhold final acceptance until all corrective actions have been performed.

14.5 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 14-1

CDRL	Description	Due
CDRL 14-001	Quality Assurance and Inspection Program for CTDOT	15 days after NTP
CDRL 14-002	Contractor's Quality Control and Inspection Log	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

15 INSPECTION AND TESTING

15.1 INSPECTIONS AND TESTS

15.1.1 General

- A. Prior to final acceptance, tests shall be performed by the Contractor in accordance with previously submitted and approved test procedures. The results of these tests must demonstrate compliance with all test and specification requirements.
- B. All certificates of inspection, testing, and approval required by CTDOT or public authorities shall be secured by the Contractor and promptly submitted to CTDOT.

15.1.2 Test Procedures

- A. Unless otherwise specified, the Contractor's standard test procedures for this model locomotive shall apply. The test procedures to be used shall be submitted for CTDOT's approval within sixty (60) days after the Notice to Proceed [CDRL 15-001]. No test shall be conducted without prior approval of the procedure for such test.
- B. If the Contract Documents, laws, ordinances, rules, regulations, and orders of any public authority having jurisdiction require any portion of the procurement process or products to be inspected, tested, and approved, the Contractor shall:
 - 1. Notify CTDOT of the testing location, and obtain CTDOT's written approval prior to conducting tests [CDRL 15-002]; and
 - 2. Notify CTDOT of the date and time for such inspection and testing no less than thirty (30) days in advance so that CTDOT's Representative(s) may be present if necessary [CDRL 15-003].

15.1.3 Test Requirements

The following tests shall be performed by the Contractor on each locomotive:

- A. At the Contractor's shop:
 - 1. Full load engine test - preferably on a dynamometer
 - 2. Complete engine & main generator load test
 - a. During engine and generator test in the locomotive, check that radiator inlet shutters operate properly
 - 3. Functional blended brake test
 - 4. Static continuity and insulation tests of MU Control and Communications trainlines
 - 5. Functional cab signal/ATC/ACSES tests
 - 6. Cab air conditioning and heating functional tests
 - 7. Headlight, ditch light, and marker light tests

8. Basic megger testing of low and high voltage systems
9. Functional air brake test verifying performance meeting FRA regulations
10. Functional full load test of the HEP generator
11. Movement test on track
12. Fuel fill test including checks to make sure suction and return line piping for each compartment is correctly installed and that the shut off valves operate correctly
13. Dynamic Brake assembly full load test (via self loading) prior to blended brake test
14. All EFCO switches operates properly
15. Oil and water shutdowns operate properly
16. Each locomotive shall be tested for water-tightness in accordance with Contractor's test procedures.
17. Static clearance shall be measured on the first two (2) locomotives. The static outline of the locomotives shall not exceed AAR Plate 'C' or the maximum height listed in Section 2.
18. The Contractor shall weigh each locomotive at shipment and furnish a printed weight ticket to CTDOT. Each end of each locomotive shall be weighed individually to check for weight distribution. The scale used in weighing the locomotives shall be maintained as per Part 1 of the AAR Scale Handbook, 1988, or other approved standard.
 - a. The maximum allowable weight differential between trucks with full supplies is 2,700 pounds.
 - b. The pre-shipment weight ticket information shall be recorded in the Locomotive History Book.
19. Functional test of the wheel slip/slide system to verify performance as designed.
20. Functional test of the hand brake to verify it will hold the locomotive on a 3% grade.
21. A complete sequence test shall be made on each locomotive, including front-rear sequence changes, relays and switches, sanding, auxiliary motor starting circuits, wheel slip control, main propulsion and braking, main circuit breaker, calibration of safety relays, meter calibration, excitation, and any other testing required to insure that all circuits are performing properly.
22. Sound Level Tests
 - a. Cab interior noise, to demonstrate from this test that it meets the requirements of 49 CFR 229.121, Appendix H. This test shall be performed on two different locomotives.
 - b. An exterior sound test shall also be performed to verify compliance with 49 CFR 210.31 and 40 CFR 201.11. This test must be performed on one locomotive only.
23. Event recorder test to verify all inputs are properly recorded.
24. A full functional test of the AESS system installed in the locomotive shall be performed, verifying the correct operation of all the features of the system and its conformance to

the parameters (time, temperature, battery charge, etc.) established for the startup and stopping of the engine.

B. At CTDOT:

1. Static functional "compatibility test" with a CTDOT cab car
2. A shakedown non-revenue road test in CTDOT territory with a maximum size train of coaches

15.1.4 Written Reports

- A. Written reports of all tests performed by the Contractor on the locomotives and their components shall be submitted to CTDOT for acceptance within ten (10) days of completion of subject test [CDRL 15-004].
- B. Tests required by the Specification which are performed by the Contractor on all locomotives or all components shall be included in the Locomotive History Book, see Section 16.1.2.

15.1.5 General Test Requirements

- A. All tests required in Section 15.1.3.A shall be performed at plants of the Contractor or of Sub-contractors. Tests required in Section 15.1.3.B shall be performed at CTDOT. All test procedures and test facilities shall be reviewed by CTDOT prior to performance of the tests.
- B. The Contractor shall identify track of proper length and alignment to permit implementation of the qualification track tests required. These tests shall be conducted by and at the expense of the Contractor. All working and moving parts, and all operating devices and controls of each locomotive and its apparatus shall be tested and put in proper operating condition before locomotives are accepted. The Contractor shall perform all of the adjustments specified herein.
- C. Should the locomotives be disassembled in any way for shipment, they shall be given an operational test upon reassembling at the delivery point on the track provided by CTDOT, at the expense of the Contractor.
- D. After CTDOT's receipt of the locomotives at the designated delivery point and before entering into regular operation, each locomotive will be carefully inspected and any part, device or apparatus requiring adjustment, repair or replacement will be called to the attention of the Contractor, in writing, who shall make adjustment, repair or replace at its own expense.
- E. CTDOT reserves the right to make, at its own expense, additional operating tests of locomotives within the parameters set out in this Specification. The Contractor may assign a competent representative to witness such operating tests. Any defects disclosed by such tests, in apparatus, material or workmanship shall be corrected at the Contractor's expense. All expense and costs incurred in the removal of locomotives from the designated delivery point for correction of defects shall be borne by the Contractor.
- F. Official Final Acceptance of the locomotives by CTDOT shall be granted after all tests are successfully completed in accordance with the requirements stated herein. Except as

noted, all costs and expenses incurred in performing these tests, including transportation to and from the test tracks, shall be borne solely by the Contractor.

15.1.6 Test Plans and Data

- A. All test data, in accordance with the manufacturer's standard test procedures, shall be subject to CTDOT's review and comment, and shall become the property of CTDOT upon satisfactory completion of tests. If any locomotive or any related equipment or subsystems fail to satisfy the test requirements, or demonstrate noncompliance with proposal performance, necessary corrective adjustment shall be made, and the locomotive(s) shall be retested.
- B. The Contractor shall submit to CTDOT for review and approval, no later than sixty (60) calendar days after Notice to Proceed, a Master Test Plan covering all tests and equipment adjustments required by the Specification [CDRL 15-005]. The Master Test Plan shall cover all Supplier and Subcontractor tests to be completed at the Supplier's or Subcontractor's plant(s). All Contractor and Subcontractor tests are to be completed at its own plant (in order to determine if the locomotive meets the requirements of the Specification and is fully operational), prior to issuance of a "Release for Shipment" certificate by the CTDOT Representative. Should the Master Test Plan not be adequate and/or fail to meet the requirements of the Specification, CTDOT will require the submittal of additional plans, details, and schedules from the Contractor to ensure that the program is adequate to meet Specification requirements. The approval of CTDOT does not in any way relieve the Contractor of responsibility for the adequacy of the program within the scope of the Specification.
- C. The Contractor shall advise CTDOT five (5) working days in advance of the time and place of all tests. If CTDOT's representatives are not available at time of tests, tests will proceed to maintain construction sequence and timing.

15.2 TESTS AT CTDOT FACILITIES

- A. After delivery at New Haven, CTDOT will perform various tests. As part of this testing, each locomotive shall be coupled to a consist of four (4) trailer cars and one (1) cab car and tested for trainline air and electrical compatibility, all trainline air, control and electrical wiring shall be tested by functioning the consist first with the locomotive as control, then the cab car as control. Head end power supply including locomotive and wayside control loops shall be functioned and polarity checked.
- B. Upon successful performance of these tests, the train will then operate on the main line at various speeds up to maximum to demonstrate that the propulsion, braking and all other systems of the locomotive are operating properly. Specifically, the correct performance of the cab signal/ATC/ACSES system shall be verified over CTDOT operating territory between New Haven and New London.
- C. Contractor shall provide a service representative to advise CTDOT with regard to the tests and to witness the tests.
- D. The Contractor shall provide a detailed plan for this compatibility and road testing at CTDOT, including step-by-step procedures, for approval by CTDOT within sixty (60) days after NTP [CDRL 15-006].

15.3 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 15-1

CDRL	Description	Due
CDRL 15-001	Test Procedures	Within 60 days after NTP
CDRL 15-002	Testing locations	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 15-003	Test dates and times	Within 30 days prior to subject test
CDRL 15-004	Test report	Within 10 days after subject test
CDRL 15-005	Master Test Plan	Within 60 days after NTP
CDRL 15-006	Compatibility and road test plan	Within 60 days after NTP

End of Section

16 TECHNICAL DOCUMENTS AND TRAINING

16.1 DOCUMENTATION

The Contractor shall furnish sufficient documents for maintaining, repairing and servicing new or modified equipment and related systems applied to the locomotives as part of this overhaul, including suggested means of access and procedures.

These requirements do not apply to proprietary manufacturing details.

16.1.1 Drawings

- A. The Contractor shall provide photographs and “as-built” drawings as stated herein to show equipment and parts actually furnished for this order.
- B. Prior to commencement of work, the Contractor shall prepare and submit, four (4) sets of advance drawings, for review and comment by CTDOT [CDRL 16-001].
- C. Reproducible “as built” drawings shall be provided within fifteen (15) days after delivery of the first locomotive. These drawings shall be furnished in CAD format (dwg – AutoCAD or dgn – MicroStation). Mylar film to be delivered after final acceptance [CDRL 16-002].

16.1.2 Maintenance and Parts Catalogs

- A. Six (6) as-built parts catalogs shall be provided by the Contractor for all new equipment and systems applied to the locomotives. This shall be detailed through assembly drawings, diagrams and component breakdowns to include the lowest level replaceable components, identified by Contractor’s part numbers [CDRL 16-003].
- B. Servicing and maintenance manuals or other descriptive literature provided by the Contractor shall cover all components purchased and applied as units. The catalogs and supporting documentation shall be arranged and include sufficient information to identify, describe and facilitate ordering all replacement parts that will be required [CDRL 16-004].
- C. The identification on the “parts list” shall, as a minimum, show the reference number, part number, quantity required and description.

16.1.3 Records and Forms

Prior to, or upon delivery of each unit, the Contractor shall supply the following for each unit.

- A. Scale tickets showing the weight at each end and the total weight of each locomotive [CDRL 16-005].
- B. Serial number listing of new or UTEX main components. Engine serial number and piston clearance records shall include injector serial numbers [CDRL 16-006].
- C. Copies of all required test reports (see section 15)
- D. Four (4) copies of FRA Form F-6180-49A, “Locomotive Inspection and Repair Record,” completely filled out and notarized, for submission to the FRA, for display in the locomotive and for the files of CTDOT [CDRL 16-007].

- E. Two (2) copies of the Contract Operator's form "Automatic Train Stop and Cab Signal Test" [CDRL 16-008].

16.1.4 Support Equipment

A list of all non-standard tools required to operate and maintain the equipment and systems newly applied to the locomotives shall be provided by the Contractor prior to the return shipment of the first unit [CDRL 16-009].

16.1.5 Locomotive History Books

Prior to, or upon delivery of each unit, the Contractor shall supply the following for each unit, contained in loose-leaf bound "Locomotive History Books."

- A. Certificate of vehicle conformance. It shall be the responsibility of the Contractor to obtain all certificates of conformance.
- B. Scale tickets showing the weight at each end and the total weight of each locomotive.
- C. Serial number listing of main components. Engine serial number and clearance record shall include injector serial numbers. Truck serial number record shall include wheels and traction motors. Serial numbers of journal bearings and axles shall also be recorded. Refer to Appendix A Section A11 for additional Serial Number recording requirements.
- D. Air brake cleaning and testing records (Five (5) copies).
- E. Copies of all required test reports.
- F. Four (4) copies of FRA Form F-6180-49A, "Locomotive Inspection and Repair Record," completely filled out and notarized, for submission to the FRA, for display in the locomotive and for the files of CTDOT.

16.1.6 Photographs

For each photograph listed in the following subsections, the Contractor shall provide the JPEG file. All JPEG files shall be consolidated on USB flash drive(s) and delivered. The flash drive(s) shall include a searchable spreadsheet listing all JPEG filenames and corresponding brief description of the photograph.

16.1.6.1 Construction

Photographs of any locomotive produced under this Contract during various stages of construction are to be furnished by the Contractor. The photographs shall include:

- A. Completed truck assemblies:
- B. Underframe
 - 1. Prior to installation of attached equipment, showing engine bed, HEP and air compressor mounts, pneumatic tubing and piping, and electrical wiring, cables, conduits and raceways.
 - 2. Subsequent to installation of main engine alternator, compressor, equipment rack, HEP apparatus and electrical cabinet.

3. Finished Locomotive:

- A. Front View
- B. Rear View
- C. Left Side
- D. Right Side
- E. Engine Control Panels
- F. Cab Interior Complete
- G. Control Console
- H. Roof
- I. Carbody Interior Spaces and Equipment

16.2 TRAINING

The Contractor shall provide training, in form and substance satisfactory to CTDOT, for CTDOT's operating and maintenance personnel, in all aspects of operations, troubleshooting and maintenance of the new or modified locomotive components, sub-components or systems. These instruction courses shall be conducted at New Haven, CT. The Contractor shall coordinate with CTDOT to assure that the training is completed within thirty (30) calendar days of receipt of the first locomotive [CDRL 16-010].

16.3 TECHNICAL ASSISTANCE

The Contractor shall provide service representative(s) at CTDOT's Maintenance Facility to conduct receiving inspection and acceptance testing, and subsequently for the entire warranty period, commencing with the start of revenue service.

The Contractor's service representative(s) shall:

- A. Participate in Contractor-provided training of CTDOT's operating and maintenance personnel.
- B. Conduct (with CTDOT) receiving inspections and testing of locomotives upon delivery.
- C. Participate in acceptance documentation.
- D. Assist CTDOT in processing and expediting warranty claims and ordering of parts and materials.
- E. Provide technical expertise and support to CTDOT in commissioning, troubleshooting, and liaison with the Contractor. Office space for Contractor personnel will be provided by CTDOT.

16.4 DOCUMENT SUBMITTALS

Contractor shall submit to CTDOT for review and approval a listing and submittal schedule of all required documents described in this Specification within ninety (90) calendar days from the Notice to Proceed [CDRL 16-011].

16.5 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 16-1

CDRL	Description	Due
CDRL 16-001	Advance Drawings	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 16-002	As Built Drawings	15 Days After Delivery of First Locomotive
CDRL 16-003	As Built Parts Catalogs	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 16-004	Maintenance Manuals	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 16-005	Scale Tickets	At or prior to delivery of Each Locomotive
CDRL 16-006	Serial Number Listing	At or prior to delivery of Each Locomotive
CDRL 16-007	FRA Inspection and Repair Records	At or prior to delivery of Each Locomotive
CDRL 16-008	Automatic Train Stop and Cab Signal Test Form	At or prior to delivery of Each Locomotive
CDRL 16-009	List of Support Equipment	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 16-010	Training	30 Days After Delivery of First Locomotive
CDRL 16-011	Schedule of Documentation	90 Days after NTP

End of Section

17 SHIPMENT AND ACCEPTANCE

17.1 CONSIGNMENT AND ROUTING

- A. All expenses incurred in preparing and moving locomotives and materials to and from CTDOT facilities shall be the responsibility of the Contractor.
- B. Locomotives shall, at the Contractor's expense, be shipped from the Contractor's plant to the Contractor c/o The Connecticut Commuter Rail Maintenance Facility, Hallock Ave., New Haven CT 06519.
- C. All costs of transportation, including additional materials to be supplied by the Contractor, shall be the responsibility of the Contractor.
- D. Locomotives shall be shipped by the Contractor without sand, water, and fuel; however the prime mover and air compressor shall have a full complement of lube oil.
- E. Spare parts and material shall be shipped at the Contractor's expense to The Connecticut Commuter Rail Maintenance Facility, Hallock Ave., New Haven, CT 06519.
- F. If recommended spare parts are purchased, they shall be delivered to coincide with the delivery of the first locomotive.
- G. CTDOT shall be notified upon shipment of any locomotives, parts, or other items at:

Connecticut Department of Transportation
Office of Rail
CCO Building, 4th Floor
4 Brewery Street
New Haven, CT 06511

17.2 CERTIFICATE OF IN-PLANT INSPECTION & RELEASE FOR SHIPMENT

- A. A certificate of in-plant inspection and release for shipment shall be prepared prior to shipment of each locomotive from the Contractor's facilities.
 - 1. The certificate shall be signed and dated by both the Contractor's and CTDOT Representatives.
- B. Prior to shipment of the locomotive(s) to New Haven, a final in-plant inspection of the locomotive and a review of its documentation shall be performed by CTDOT Representative(s).
- C. At the final in-plant inspection the Contractor shall have compiled for review by CTDOT Representative(s) the documentation of all tests, inspections, serial numbers, weights, etc. to be entered into the individual Locomotive History Book.
- D. The Contractor shall allocate at least one (1) full working day, which shall be a weekday during daylight hours, for the CTDOT Representative(s) to perform the review inspection, over a pit, with station power and air applied, of each locomotive ready for shipment to

assure that the locomotive meets all of the requirements of the Specification and is fully operational.

- E. The Contractor shall furnish to CTDOT prior to completion of the "Release for Shipment" certificate for each locomotive, two (2) copies of the following original documents completed, signed and dated:
 - 1. Contract Operator's form "Automatic Train Stop and Cab Signal Test".
 - 2. The Contractor shall also place in the card holders in the cab of the locomotive the following original completed, signed and dated documents:
 - 3. Locomotive inspection and repair record, form FRA F6180-49A ("Cab Card"), including inspections and tests required by 49 CFR 229.23, 229.25, 229.27 and 229.31.
- F. The completed In-Plant Inspection and Release for Shipment certificates will be issued by CTDOT to accompany the shipment of the locomotive(s). A locomotive shall not be delivered to CTDOT's property without the Certificates. The Contractor shall make any necessary repairs and perform other necessary corrective action so that all Open Items are corrected.

17.3 RECEIVING INSPECTION

- A. Upon delivery of the completed locomotive(s) at CTDOT Facilities, the Contractor and CTDOT representatives shall visually inspect the locomotive(s) for damage, loss, vandalism, or other discrepancies incurred during shipment.
- B. Receiving inspections shall be conducted on Mondays through Fridays only, excepting holidays.
- C. A Receiving Inspection report listing all damage, loss, vandalism, or other discrepancies found shall be prepared and signed by the Contractor's representative(s).
 - 1. Any discrepancies noted in the Receiving Inspection Report shall be adjusted, repaired, or replaced by the Contractor, at the Contractor's expense.
 - 2. Due to the regular maintenance demands on the Connecticut Commuter Rail facilities and maintenance personnel, it will be possible for said personnel to undertake only running repairs necessary for daily revenue operation of the locomotives prior to Final Acceptance.
 - 3. The Contractor shall therefore be responsible for securing facilities and personnel separate from those of Connecticut Commuter Rail to complete all additional work required for the duration of the Contract.
 - 4. Any defects in apparatus, material, or workmanship disclosed by inspections or tests, shall be corrected at the Contractor's expense prior to Final Acceptance.
 - 5. All expenses and costs incurred in the removal of locomotive(s) from the designated delivery point for correction of defects shall be borne by the Contractor.

17.4 CONDITIONAL ACCEPTANCE INSPECTION (ALL LOCOMOTIVES)

17.4.1 Preparation for Road Service

- A. Following acceptance of the Receiving Inspection Report by CTDOT, the Contractor shall prepare the locomotive(s) for road service.
- B. Supplies of sand, coolant, and fuel will be furnished and applied by the Contract Operator.
- C. The Contractor shall successfully perform a terminal train air brake test and cab signal departure test as part of the preparation of the locomotive.

17.4.2 Conditional Acceptance Inspection

- A. Upon completion of the preparation of each locomotive and acceptance by CTDOT for road service, a non-revenue road test will be conducted by the Contract Operator. The Contractor shall be responsible for the compensation of any on-site test personnel employed by the Contractor.
 - 1. Road tests will be performed in accordance with Section 15.2.
 - 2. On-site testing at CTDOT shall only be conducted on weekdays between the hours of 9:00 p.m. and 4:00 a.m.. The Contractor and a CTDOT representative(s) shall be present during all testing.
- B. Following successful completion of the non-revenue road tests, a certificate of Conditional Acceptance will be prepared and signed by the Engineer. The certificate shall note any discrepancies remaining to be corrected by the Contractor, but of such a nature that they would not preclude safe operation of the locomotive in road service.
- C. Conditional Acceptance testing shall be performed in a timely fashion. CTDOT and the Contract Operator shall have a minimum of three (3) working days from the Receiving Inspection to begin conditional acceptance testing, and a maximum of five (5) working days from Receiving Inspection to furnish Conditional Acceptance provided the tested locomotive meets the Specification requirements. If multiple locomotives arrive simultaneously in New Haven, two (2) extra test days will be allocated per additional locomotive.
- D. If, during Conditional Acceptance inspection, CTDOT determines that a locomotive(s) is suitable for operation in revenue service, but that it is not totally responsive to the Specification requirements such that substantial delay might be incurred in implementing required corrective action(s), CTDOT may, at its discretion, issue a "Certificate of Conditional Acceptance" for the locomotive(s) for mutual execution by CTDOT and the Contractor. Such conditionally accepted locomotives shall then be available to CTDOT for use in revenue service until such time as the Contractor is able to initiate and execute the necessary corrective action(s).
 - 1. Such "Conditional Acceptance of a locomotive(s)" shall not negate its(their) eligibility for achieving a milestone payment in accordance with the Schedule of Partial Payments (Section A39).
 - 2. Warranty commences to run on all parts upon Conditional Acceptance into revenue service except for those parts requiring corrective action.

17.5 FINAL ACCEPTANCE

- A. Locomotive final acceptance shall be based on the following requirements having been met:
1. Contractual and workmanship deficiencies discovered during inspections of the locomotive have all been corrected by the Contractor in a manner judged satisfactory to the Contract requirements.
 2. The Contractor has provided CTDOT with Contract (including this Specification) test reports showing that the required tests and inspections have been successfully completed with results satisfactory to CTDOT.
 3. Documentation is complete, including historic record keeping of work performed in compliance with the Contract, and any documentation required per Section 16. All documentation must have received CTDOT approval.
 4. The locomotive has performed in revenue service for 5 round trips without requiring any unscheduled maintenance.
- B. A certificate of Final Acceptance will be executed by CTDOT for each locomotive [CDRL 17-001].

17.6 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 17-1

CDRL	Description	Due
CDRL 17-001	Certificates of Final Acceptance	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

Exhibit A.2

**ROOT CAUSE ANALYSIS FOR
POTENTIAL WARRANTY CLAIMS
AND
WARRANTY CLAIM OWNERSHIP PROCEDURE**

Exhibit A.2

ROOT CAUSE ANALYSIS FOR POTENTIAL WARRANTY CLAIMS

In the event a locomotive which has been overhauled by Contractor hereunder fails and Contractor is not the current locomotive maintenance provider, the following Processes, Procedures and Forms will be applied in order to determine (1) the root cause of the failure and (2) whether Contractor is responsible for correcting such failure pursuant to the warranty provided by Contractor under this Contract. The investigative team will consist of a representative of CTDOT, a representative of Amtrak and a representative of CTDOT's current maintenance provider.

- Connecticut Department of Transportation Warranty Claim Ownership Procedure
- Connecticut Department of Transportation Overhaul of P40 Locomotives Amtrak Warranty Process
- Additional Procedures and Reports to be developed for this contract by CTDOT and Amtrak, with content similar to the following:
 - Amtrak Standard Maintenance Procedure 25203 – Root Cause Analysis Program Policy- Procedure
 - Amtrak Problem Tracking Field Report - Document No. FM 3.7.4
 - Amtrak Vendor Problem Tracking Report - Document No. 3.7.4.04
 - Beech Grove Maintenance Facility Standard Operating Procedure for Nonconformance Corrective and Preventive Action – Document No. Bee-ADMN-SOP-001
 - Beech Grove Maintenance Facility Nonconforming Parts Form No. BEE-QLTY-FRM-002

Connecticut Department of Transportation Warranty Claim Ownership Procedure

GE P40 Locomotive Overhaul Project

Contract No.:

START

COMPONENT/PRODUCT
FAILURE DESCRIPTION

CTDOT and/or Maintenance
Provider Submits Warranty Claim

Amtrak WMS
Warranty Claim
Process Activated
(New Haven)

Notification to
Procurement, QM&C &
BG Mech. Claim was filed

New Haven Mechanical
Initiates RCA
Investigation
(Ref: Amtrak SMP 25023)

RCA Team Assembled-Start
Investigation
(Ref: Amtrak SMP 25023)

RCA Investigation
Complete - Develop Final
Report (RCA Team)

Final Report Review
(CTDOT, Amtrak,
Maintenance Provider)

Warranty Accepted?
YES / NO

YES

Amtrak Ownership

Follow Warranty Claim Procedure for P40
Overhaul Program

STOP

STOP

CTDOT Maintenance
Provider Ownership for
Component/Product Failure

NO

REFERENCE DOCUMENTS:

- 1) Amtrak Standard Maintenance Procedure 25023
Root Cause Analysis Policy-Procedure
- 2) Amtrak Warranty Claim Procedure for CTDOT
P40 Locomotive Overhaul Program

COMMENTS:

- 1) This procedure applicable if Amtrak is not the
current maintenance provider.



Exhibit A.3

ABBREVIATIONS AND COMMONLY USED TERMS

EXHIBIT A.3

ABBREVIATIONS AND COMMONLY USED TERMS

Wherever the following abbreviations are used in the Agreement, if at all, they are to be construed the same as the respective expressions represented:

AAR	Association of American Railroads
ACSES	Advanced Civil Speed Enforcement System
ADU	Aspect Display Unit
AESS	Automatic Engine Stop Start
AEI	Automatic Equipment Identification
Amp-hr	Ampere Hour
a.m.	Ante Meridiem
ANSI	American National Standards Institute
APTA	American Public Transportation Association
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
ATC	Automatic Train Control
AWS	American Welding Society
°C	Degrees Celsius
CAD	Computer Aided Drafting
CCR	Connecticut Commuter Rail
CDRL	Contract Deliverable Requirement List
CFR	Code of Federal Regulations
CTDOT	Connecticut Department of Transportation and designated agents
CTV	Compatibilite Television Vital (French)
dB	Decibel
dBA or dB(A)	A-weighted Decibel
DC	Direct Current
EFCO	Emergency Fuel Cut-Off
EPA	United States Environmental Protection Agency
etc.	Etcetera
°F	Degrees Fahrenheit
FAI	First Article Inspection
FMI	Field Modification Instruction
FRA	Federal Railroad Administration
ft.	feet
GE	General Electric
HEP	Head End Power
HVAC	Heating, Ventilation and Air Conditioning
IEEE	Institute of Electrical and Electronic Engineers
kHz	kilohertz

km	kilometer
kmph	Kilometers per hour
kPa	Kilopascal
LDRS-V	Locomotive Data Recording System - Video
LDVR	Locomotive Digital Video Recorder
MHz	Megahertz
MIL	Military Specification
MIL-HDBK	Military Handbook
mm	millimeter
MNR	Metro North Railroad
mph	Miles per hour
MR	Main Reservoir
MSDS	Material Safety Data Sheets
MU	Multiple Unit (as it pertains to multiple unit car train operation)
MΩ	Mega-Ohm
NEC	North East Corridor
NEMA	National Electrical Manufacturer's Association
NJT	New Jersey Transit
NTP	Notice to Proceed
OBC	On Board Computer
OEM	Original Equipment Manufacturer
P.O.	Post Office
p.m.	Post Meridiem
PCBs	Polychlorinated Biphenyls
PCM	Pulse Code Modulation
PoE	Power Over Ethernet
Psi	Pounds per square inch
PTC	Positive Train Control
PVC	Polyvinyl Chloride
QA	Quality Assurance
Ref. or ref.	Reference
SMI	Safety Maintenance Inspection
TBD	To Be Determined
US&S	United Switch and Signal
UTEX	Unit Trade Exchange (does not apply on new equipment.)
V	Volt
VDC	Volts, Direct Current
VDU	Video Display Unit

DEFINITIONS

Wherever the following terms are used in the Agreement, the intent and meaning shall be interpreted as follows:

- 1 Whenever in the Agreement the words "acceptable", "accepted", "approval", "approved", "authorized", "condemned", "considered necessary", "deemed necessary", "designated", "determined", "directed", "disapproved", "established", "given", "indicated", "insufficient", "ordered", "permitted", "rejected", "required", "reserved", "satisfactory", "specified", "sufficient", "suitable", "suspended", "unacceptable", "unsatisfactory", or words of like import are used, it shall be understood as if such words were followed by the words in writing, "by the Engineer" or "to the Engineer", unless otherwise specifically stated.
- 2 Wherever the word "indicated" is used, it shall be understood to mean "as described in the Specifications" or "as required by the other Contract Documents."
- 3 Wherever the words "provided", "supplied", or "installed" are used in the Specifications in reference to work to be performed by the Contractor, it shall be understood to mean "furnished and delivered completed".
- 4 In the Agreement pronouns of the male gender shall also mean the female gender.

ACCEPTANCE. Reviewed for conformity to Specification and accepted, in writing, by CTDOT.

ACCEPTED EQUIVALENT, EQUIVALENT, OR SUBSTITUTE. Refers to those situations wherein the Contractor, if it desires to offer substitute items, parts, materials, or equipment in lieu of those designated herein, shall obtain approval in writing from the State. The burden of proof that a substitute is, in fact, equivalent shall rest with the Contractor. **AMTRAK.** Shall mean the National Railroad Passenger Corporation.

APTA. American Public Transportation Association

AS BUILT. A term used to describe actual construction.

BUSINESS DAYS. See DAY(S), WORKING

CHANGE ORDER.

a. A Contract Document executed by CTDOT and issued to the Contractor amending the Contract Documents and/or Specifications. The change order establishes the basis for payment and time adjustments of the work affected by the changes.

b. The Document becomes a part of the Contract when executed by the Contractor and CTDOT.

c. A change order may consist of one or more Change Order Requests. (COR's)

CLEAN. To make free of dirt, impurities, pollutants and extraneous matter, following all remanufacturing standards.

CONDITIONAL ACCEPTANCE. Acceptance of locomotive(s) by CTDOT in writing at The Connecticut Commuter Rail Maintenance Facility, New Haven Connecticut after discrepancies listed on the Receiving Report have been corrected and the locomotive(s) is certified for revenue and non-revenue service prior to final acceptance.

CONTRACT or AGREEMENT. The written agreement executed by the State, and the Contractor, setting forth the obligations of such Parties,.

CONTRACT DELIVERABLES REQUIREMENT LIST: A listing of deliverables required by the Contract, in Contract section order, with associated due dates.

CONTRACT DOCUMENTS. The Contract and, if applicable, the "Notice to Contractors," "Proposal," "Plans," "Specification," "Notice to Proceed," (Purchase Order), "Performance Bond," "Payment Bond," and all required Insurance Policies, and also any and all "Special Provision," "Supplemental Specifications," made or to be made which reasonably could be required for the completion of the work in an acceptable manner.

CONTRACT OPERATOR. See Service Operator. Used interchangeably.

CONTRACT TIME. The number of days allowed for completion of the Contract.

CONTRACTOR'S DRAWINGS. Items such as general drawings, detail drawings, graphs, diagrams, sketches, calculations, and catalog cuts which are prepared by the Contractor to detail his work.

COST PLUS. A form of contract for construction work in which the Contractor is reimbursed for the costs it incurs in performing the work plus a lump sum or percentage fee.

DAY(S). Unless otherwise designated, days as used in the Contract Documents will be understood to mean calendar days.

DAY(S), WORKING. Those calendar days during which regular business is conducted, excluding Saturdays and Sundays, and all locally observed Federal, State, and Municipal holidays.

DEPARTMENT. General reference to the Connecticut Department of Transportation and its respective officers. May also be referred to as **CTDOT**.

END PRODUCT.

- a. The Contract Item(s) to be delivered to CTDOT in accordance with the Contract Documents.
- b. End Product(s) includes but is not limited to Locomotive Drawings, Specifications, Instruction Books, Education Programs, Spare Parts and Services.

ENGINEER. Commissioner of The Department of Transportation, Bureau Chief of the Bureau of Public Transportation acting directly or through a representative duly authorized.

FIRST ARTICLE ACCEPTANCE. The physical examination, acceptance, and commercial testing of, and acceptance by CTDOT of an initial part, major assembly, subassembly, system, subsystem, apparatus, or material, manufactured or assembled by either the Contractor or Subcontractors. Although the exercise of First Article Acceptance shall be at CTDOT option, the Contractor shall assume that CTDOT shall subject all of the above to First Article examination and acceptance.

FINAL ACCEPTANCE. Final acceptance is provided when all of the open items associated with Conditional Acceptance have been closed to the satisfaction of CTDOT. Final acceptance paperwork is filled out and signed by both the Contractor and CTDOT's Representative.

INSPECTION. The careful examination, measurement and testing of materials, tools, gauges, fixtures apparatus, or other devices and services to ensure conformance with the specification and Contract requirements.

INSPECTOR. An authorized representative of the Engineer, assigned to make any and all necessary inspections of the work performed and materials furnished by the Contractor.

INTERFACE. The points where two or more physical subsystems or systems meet to transfer energy or information.

LIKE NEW. Equivalent, in terms of warranty and projected service life, to new.

LOCOMOTIVE. The base locomotive or locomotives to be overhauled.

MANUFACTURER. Shall mean the original manufacturer supplying materials, components, or apparatus whatsoever for installation on the Locomotives. The word "Supplier" to have the same meaning.

MASTER PROGRAM SCHEDULE. Schedule containing key project milestones and events.

MILESTONES. An event or group of events which designates the completion of predetermined number of activities in the remanufacturing process.

NET 45. Payment made by CTDOT within forty-five (45) days after receipt of a properly completed invoice from the Contractor.

NEW. Component manufactured from raw material and has not been fabricated from salvaged, reconstructed or repaired material and has never known service.

NOTICE. Shall mean a written notice.

NOTICE TO PROCEED. A notice to the Contractor of the date on which he is to proceed with the Contract work, equivalent to the State's Purchase Order. The State's Purchase Order is issued by the Connecticut Department of Transportation.

PARTY, PARTIES. Organizations entering into the Contract.

PAYMENT BOND. The approved form of security furnished by the Contractor and his surety as a guaranty of good faith on the part of the Contractor to pay all debts pertaining to materials, rental of

equipment, and labor used or employed in the execution of the Contract.

PERFORMANCE BOND. The approved form of surety furnished by the Contractor and his surety as a guaranty on the part of the Contractor to complete all work contained herein to the satisfaction of the State.

PROCUREMENT (WORK).

a. The furnishing of all equipment, items, materials, parts, systems, data, design, services, incidentals, labor, and management and performance of the Contractual requirements defined in the Contract Documents, including changes thereto, in order to produce and deliver the purchased End Product(s).

b. As used herein, the terms Work and Procurement are synonymous.

PROJECT. The total scope of work as described in detail throughout all of the Contract Documents.

PROJECT MANAGEMENT PLAN: The Contractor's method of managing the work.

PROJECT MANAGER: CTDOT representative responsible for the day to day management and oversight of the project.

PURCHASE ORDER. Equivalent to the Notice To Proceed, a notice to the Contractor of the date on which he is to proceed with the Contract work.

QUALIFY. As used in the Agreement shall be the determination that an assembly, sub-assembly, or any part thereof is satisfactory for continued service under the Contractor's warranty, or that the item is suitable for repair or overhaul to restore it to warrantable service, or that the item must be replaced with a new (or warrantable rebuilt) part.

QUALITY ASSURANCE (QA) / QUALITY CONTROL (QC) PROGRAM. The Contractor's method of confirming the workmanship and materials used in the repair/overhaul of the locomotives are in conformance with the specification.

RECEIVING REPORT. A report that is completed upon delivery of a locomotive detailing damage to the locomotive during transit.

RECONDITION. Disassemble and clean sufficient for complete inspection, qualify for reuse and return to "like new" condition following OEM's maintenance instructions. Restore shall have the same meaning herein. Recondition also includes installation.

REFERENCE. Where reference is made in the Contract Documents to publications or standards issued by associations or societies, the intent shall be to specify the current edition of such publications or standards in effect on the date of the Contract Advertisement, notwithstanding any reference to a particular date.

RELIABILITY. The probability of performing a specified function, without failure and within design parameters, for the period of time intended under actual operating conditions.

REMANUFACTURE. An original part, component, or locomotive that has been disassembled, qualified (mechanically, dimensionally, and nondestructively) and tested with all wear surfaces and material restored to limits established by latest OEM and/or CTDOT standards. All parts that are condemned by OEM and/or CTDOT standards shall be renewed. Remanufacture also includes the installation.

RENEW. Replace with new only, no seconds or reused material permitted. Item shall be latest type, design, or revision that is applicable in the context of "like new" warranty requirements. Replace shall have the same meaning herein unless otherwise specified. Renew also includes installation.

REPRESENTATIVE. Shall mean anyone duly authorized by CTDOT to act in this capacity and as so defined elsewhere.

REPAIR. The restoration of damage to a sound, usable condition, that will conform to Federal standards, making the locomotive usable for service.

RESTORE. Disassemble and clean sufficient for complete inspection, qualify for reuse and return to "like new" condition following OEM's maintenance instructions. Recondition shall have the same meaning herein. Restore also includes installation.

SERVICE, as in SERVICE USE. The operation of the Locomotives under normal conditions in consists with occupied passenger coaches.

SERVICE OPERATOR. The company that operates the Service by contract with CTDOT.

SHOP DRAWINGS. Items, such as drawings, calculations, and catalog cuts, which are prepared by the

Contractor to supplement or detail Contract Drawings or Specifications, or are prepared at Contractor's option to detail its work; or which the Contractor is required to submit to the Engineer for review, information, or record, including electrical schematics and wiring diagrams, fabrication, erection, layout, assembly, installation, tests, maintenance, and repair drawings.

SLIP, WHEEL. Condition that occurs when the driving wheel of a locomotive rotates at a speed faster than that of the train itself decreasing the locomotive's tractive effort.

SPECIFICATION. The general, commercial, technical and special requirements, including work scope.

STANDARDS AND SPECIFICATIONS. When industry, government, association, or the Contractor's own standards or specifications are referred to, the latest issue shall be used.

SUBCONTRACTOR. Any supplier of services, materials, components, or apparatus to the Contractor.

SUPPLIER (VENDOR). The persons, firm, or corporations who furnish materials to the Contractor.

SURETY. The corporate body which is bound with and for the Contractor, who is primarily liable to the State, and which engages to be responsible for the Contractor for his payment of all debts covering all materials and labor used or employed in the execution of the Contract, and for his acceptable performance of the work for which he has Contracted.

TIGHT (used as a suffix). Apparatus is designated as water tight, dust tight, etc., when so constructed that the enclosing case and seal will prevent entry of the stated foreign material.

TRAM, (TRAMMED). A condition of ideal truck geometry in which the axles are perfectly parallel and the wheels longitudinally in perfect alignment. The centers of the journal bearings represent the corners of a perfect rectangle. Tram is checked measuring the diagonal and longitudinal distances between reference points on the pedestal feet.

UPGRADE. To raise and improve the quality, classification and usefulness.

VENDOR – (SEE SUPPLIER).

WARRANTY BOND. Bonds equal to twenty-five percent (25%) of the amount of each locomotive to protect against faulty materials or workmanship for two years from the date of final acceptance of each locomotive.

WORK. (Repair/Overhaul). Any and all labor, supervision, services, materials, machinery, equipment, tools, supplies, and facilities called for by the Contract and necessary to the completion thereof.

WORK SCOPE.

- a. Specifications pertaining generally to the method and manner of performing the work and/or the qualities and quantities of equipment and materials and End Products(s) to be furnished under the Contract.
- b. The technical specifications may include provisions adopted and issued by CTDOT or may include other standards incorporated in the Contract Documents by reference.

EXHIBIT B

PRICE SCHEDULE

PROPOSAL SCHEDULE
(EXHIBIT B)

MARY K. MONTGOMERY
Fiscal Administration Supervisor
Telephone Number:
(800) 633-2342

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

RFP NO.: 16DOT7001		P40
DELIVERY:		
TERMS:	CASH DISCOUNT:	%
PROPOSER NAME:		DAYS
National Railroad Passenger Corporation (Amtrak)		
SSN OR FEIN: #		52-0910053

PRICE SCHEDULE

IMPORTANT!
RETURN ORIGINAL AND ONE COPY

Payment terms are net 45 days. Any Deviation may result in RFP rejection.
Proposal prices shall include all transportation charges for state agency.

Page 1 of 3

Section	QTY.	DESCRIPTION OF EQUIPMENT (UNIT PRICE WRITTEN IN WORDS)	Labor	Material	Total	DELIVERED UNIT PRICE	TOTAL BASE PROPOSAL PRICE
3	12	Locomotive Body and Structure AT: Three Hundred Ninety Three Thousand Three Hundred Thirty Six Dollars each	\$189,405	185,104	374,509	\$393,336	\$4,720,028
4	12	Coupler, Draft Gear and Trainline Connection Overhaul AT: Fifty Four Thousand Six Hundred Eighty Eight Dollars each	\$15,880	21,093	42,973	\$54,688	\$656,257
5	12	Cab and Locomotive Controls AT: Two Hundred Sixty Thousand Four Hundred Ninety Five Dollars each	\$22,423	221,035	244,458	\$260,405	\$3,125,937
6	12	Main and Auxiliary Generator, Propulsion and Dynamic Braking Systems AT: Two Hundred One Thousand Five Hundred Sixty Eight Dollars each	\$13,051	173,718	186,769	\$201,563	\$2,418,820
7	12	Batteries attach Work Scope AT: Two Hundred Fifty Four Thousand Eight Hundred Forty Four Dollars each	\$15,953	221,973	238,926	\$254,844	\$3,058,125
8	12	Truck and Suspension AT: Six Hundred Eighty Two Thousand Five Hundred Eighty Three Dollars each	\$11,617	646,065	657,681	\$682,583	\$8,190,992

PROPOSAL SCHEDULE
(EXHIBIT B)

Mary K. Mouszke
Fiscal Administrative Supervisor
Telephone Number:
(860) 594-2262

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

RFP NO.:
16DOT7001

P40

PRICE SCHEDULE

DELIVERY:

TERMS: CASH DISCOUNT:
% Days

PROPOSER NAME:

National Railroad Passenger Corporation (Amtrak)

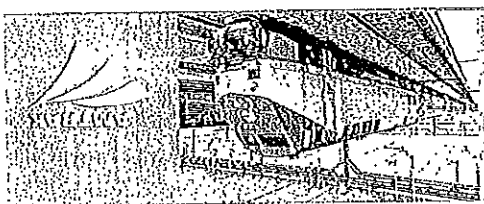
SSIN OR FEIN: # S2-0910053

IMPORTANT!
RETURN ORIGINAL AND ONE COPY

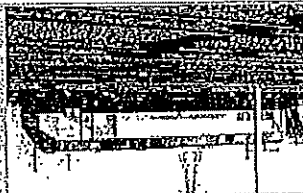
Payment terms are net 45 days. Any Deviation may result in RFP rejection.
Proposal prices shall include all transportation charges FOB state agency.

Page 2 of 3

9	12	Air Supply and Friction Brake Systems AT: Ninety Thousand Six Hundred Seventy Five Dollars each	\$7,901	70,303	78,204	\$90,675	\$1,084,096
10	12	Main Engine, Engine Cooling and Fuel System AT: Eight Hundred Eighteen Thousand One Hundred Thirty Three Dollars each	\$42,923	747,462	750,385	\$818,133	\$9,817,599
11	12	Head and Power AT: Sixty Three Thousand One Hundred Eighty Five Dollars each	\$3,050	48,241	51,292	\$63,185	\$758,217
12	12	Operational Safety Systems AT: Three Hundred Twenty Eight Thousand One Hundred Forty Nine Dollars each	\$20,347	299,345	310,682	\$328,149	\$3,937,794
13	12	Materials and Workmanship AT: Twenty Thousand Four Hundred Ninety Five Dollars each	\$9,498		9,498	\$20,495	\$245,959
14	12	Quality Assurance AT: Eighteen Thousand Three Hundred Sixty Three Dollars each	\$7,412		7,412	\$18,363	\$220,362
15	12	Inspection and Testing AT: Thirty Eight Thousand Three Hundred Eighty Dollars each	\$27,018		27,018	\$38,390	\$460,685



CDOT RFP No. 16DOT/001
Amtrak Proprietary and Confidential



PROPOSAL SCHEDULE
EXHIBIT B1

Mary A. Morrison
Fiscal Administrator Supervisor
Telephone Number:
(860) 594-2342

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

RFP NO.:
16DOT/001 P40

PRICE SCHEDULE

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Page 3 of 3

16	12	Technical Documents and Training	\$946	102	1,015	\$11,103	\$133,235
		AT: Eleven Thousand One Hundred Three Dollars each					
17	12	Shipment and Acceptance	\$6,489		6,489	\$17,421	\$209,052
		AT: Seventeen Thousand Four Hundred Twenty One Dollars each					
		GRAND TOTAL	\$397,881	\$2,629,441	\$3,027,322	\$3,253,428	\$39,041,139

PROPOSAL SCHEDULE
(EXHIBIT B)

Mary K. Maruszak
Fiscal Administrative Supervisor
Telephone Number:
(860) 594-2342

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PRICE SCHEDULE

IMPORTANT!
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Payment terms are net 45 days. Any Deviation may result in RFP rejection.
Proposal prices shall include all transportation charges FOB state agency.

Page 3 of 5

RFP NO.: 16DOT7001 P40	
DELIVERY:	
TERMS:	CASH DISCOUNT: 0%
PROPOSER NAME:	
National Railroad Passenger Corporation (Amtrak)	
SSN OR FEIN: # 52-0910053	

CERTIFIED RATES FOR COST-PLUS WORK (SEE SECTION A.41):

SHOP LABOR TYPE (ABBREVIATION)	DESCRIPTION OF CERTIFIED PAYROLL RATES	CERTIFIED PAYROLL RATE (Note 1)	CERTIFIED OVERHEAD RATE (%) (Note 2)	ADMINISTRATIVE FEE \$ OR % PER INSTANCE	CONTRACTOR'S PROFIT (%)
AB106	Supervisor	\$38.24	170.67%	6.97%	9.00%
ES156	Electrical Loco Technician	\$36.83	170.67%	6.97%	9.00%
ES100	Electrician	\$32.07	170.67%	6.97%	9.00%
M2117	Machinist Inspector	\$32.07	170.67%	6.97%	9.00%
M2113	Machinist Welder	\$32.07	170.67%	6.97%	9.00%
CI160	Boilermaker Technician	\$33.43	170.67%	6.97%	9.00%
CI158	Boilermaker	\$32.07	170.67%	6.97%	9.00%
DA114	Pipefitter, Layout, Welder	\$32.07	170.67%	6.97%	9.00%
CB114	Carman Welder	\$32.07	170.67%	6.97%	9.00%
PS108	Laborer Large Crane Operator	\$29.55	170.67%	6.97%	9.00%

(Continue on additional sheets if additional lines are needed.)

All cost-plus work must be approved by CTDOT prior to the work being performed. Any material costs or shipping costs for cost-plus work must be backed up with original documentation (detailed invoices) from suppliers and transportation providers. If detailed invoices or sufficient documentation are not provided, those costs will not be reimbursed. Cost plus documentation and invoicing should be provided to CTDOT on a monthly basis.

Note 1: Certified Payroll Rates are average wage rates from the period January 2017 to July 2020. Annual wage rate detail is attached in Appendix A

Note 2: Certified Overhead Rates are applicable to straight-time wages

PROPOSAL SCHEDULE
(EXHIBIT B)

Mary K Maraszak
Fiscal Administrative Supervisor
Telephone Number:
(860) 594-2342

STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

PRICE SCHEDULE

IMPORTANT!
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Page 4 of 5

RFP NO.: 16DOT7001		P40	
DELIVERY:			
TERMS:	CASH DISCOUNT:	QDays	
	0%		
PROPOSER NAME:			
National Railroad Passenger Corporation (Amtrak)			
SSN OR FEIN: #		52-0910053	

UNIT COSTS FOR SPARE PARTS		TOTAL UNIT COST
ITEM	DESCRIPTION	
1.	Contact - Part #8867977P1	\$48.80
2.	Marker Light (Red) - Part #41C620625P1	\$731.38
3.	Contact - Part #8867977P2	\$13.86
4.	Contact Tip - Part #9960190G7	\$294.70
5.	Upper Nose w/Hardware Only - Part #84A214006P8	\$9,516.35
6.	O-Ring, Lube Oil Filter - Part #41B547886P1	\$41.87
7.	Lamp, Incandescent 200w/30v - Part #200PAR 30V	\$321.18
8.	Lamp - Part #25A15-RS	\$122.30
9.	Tip, Contact - Part #6712788P1	\$117.30
10.	Sand Nozzle, Current Style - Part #41C625615P1	\$77.00
11.	Brush, Carbon, Electrical, GR R320 - Part #84A203180P1	\$467.80
12.	Lamp, 70w - Part #41C299973P2	\$303.96
13.	Key, Brake Shoe 13" Long - Part #41A210602P2	\$368.48
14.	Lower Nose Piece w/Mounting Hardware - Part #64A214006P5	\$6,307.16
15.	Lamp - Part #GE30RS11-DC-75V	\$32.14
16.	Outline, Sight Glass - Part #84A212669P1	\$789.44
17.	Ladder, Fireman Side - Part #84C611240G1	\$1,516.30
18.	Ladder, Engineer Side - Part #84C611240G2	\$1,516.30
19.	Carbon Brush - Part #84C603599P1	\$286.26
20.	Shoe, Locomotive Brake - Part #41B511452P23	\$368.48

PROPOSAL SCHEDULE
(EXHIBIT B)

Mary K Miturszak
Fiscal Administrative Supervisor
Telephone Number:
(860) 594-2342

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PRICE SCHEDULE

IMPORTANT!
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Payment terms are net 45 days. Any Deviation may result in RFP rejection.
Proposal prices shall include all transportation charges FOB state agency.

Page 5 of 5

RFP NO.: 16DOT7001 P40	
DELIVERY:	
TERMS:	CASH DISCOUNT: 0% ODays
PROPOSER NAME: National Railroad Passenger Corporation (Amtrak)	
SSN OR FEIN: # 52-0910053	

UNIT COSTS FOR SPARE PARTS			TOTAL UNIT COST
ITEM	DESCRIPTION		
21.	Traction Motor, Amtrak (w/P368 SKF Bearing) - Part # GE752AH50R**		\$89,982.92
22.	Air Cleaner, Inertial - Part #41E901373G2		\$1,008.15
23.	Filter, Diesel Engine, Lube Oil - Part #3X10688		\$249.20
24.	Fuel Filter - Part #132X1905		\$103.88
25.	Filter Air - Part #84A207699P2		\$49.16
26.	Filter, Fiberglass, Air Intake, Fiberglass Bag 92 Day - Part #84A204576P1		\$350.96
27.	Filter, Air Condition, Large Marked for 184 Day Interval Change - Part #84C613451P1		\$129.98
28.	Filter, Air Condition, Small Marked for 92 Day Interval Change - Part #84C613451P2		\$62.88
29.	Element, Air Filter - Part #41C625459P1		\$279.20
30.			\$
31.			\$
32.			\$
33.			\$
34.			\$
35.			\$
36.			\$
37.			\$
38.			\$
39.			\$
40.			\$

EXHIBIT C

SEEC FORM



Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations

This notice is provided under the authority of Connecticut General Statutes §9-612(G)(2), as amended by P.A. 10-1, and is for the purpose of informing state contractors and prospective state contractors of the following law (*italicized words are defined on the reverse side of this page.*

CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS

No *state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor*, with regard to a *state contract or state contract solicitation* with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) 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, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee (which includes town committees).

In addition, no holder or principal of a holder of a valid prequalification certificate, shall make a contribution to (i) an exploratory committee or candidate committee established by a candidate for nomination or election to the office of State senator or State representative, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

On and after January 1, 2011, no state contractor, prospective state contractor, principal of a state contractor or principal of a prospective state contractor, with regard to a state contract or state contract solicitation with or from a state agency in the executive branch or a quasi-public agency or a holder, or principal of a holder of a valid prequalification certificate, shall **knowingly solicit** contributions from the state contractor's or prospective state contractor's employees or from a *subcontractor or principals of the subcontractor* on behalf of (i) 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, (ii) a political committee authorized to make contributions or expenditures to or for the benefit of such candidates, or (iii) a party committee.

DUTY TO INFORM

State contractors and prospective state contractors are required to inform their principals of the above prohibitions, as applicable, and the possible penalties and other consequences of any violation thereof.

PENALTIES FOR VIOLATIONS

Contributions or solicitations of contributions made in violation of the above prohibitions may result in the following civil and criminal penalties:

Civil Penalties – Up to \$2,000 or twice the amount of the prohibited contribution, whichever is greater, against a principal or a contractor. Any state contractor or prospective state contractor which fails to make reasonable efforts to comply with the provisions requiring notice to its principals of these prohibitions and possible consequences of their violations may also be subject to civil penalties of up to \$2,000 or twice the amount of the prohibited contributions made by their principals.

Criminal penalties – Any knowing and willful violation of the prohibition is a Class D felony, which may subject the violator to imprisonment of not more than 5 years, or not more than \$5,000 in fines, or both.

CONTRACT CONSEQUENCES

In the case of a state contractor, contributions made or solicited in violation of the above prohibitions may result in the contract being voided.

In the case of a prospective state contractor, contributions made or solicited in violation of the above prohibitions shall result in the contract described in the state contract solicitation not being awarded to the prospective state contractor, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

The State shall not award any other state contract to anyone found in violation of the above prohibitions for a period of one year after the election for which such contribution is made or solicited, unless the State Elections Enforcement Commission determines that mitigating circumstances exist concerning such violation.

Additional information may be found on the website of the State Elections Enforcement Commission, www.ct.gov/seec. Click on the link to "Lobbyist/Contractor Limitations."



DEFINITIONS

"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 December thirty-first of the year in which such contract terminates. "State contractor" does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative 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.

"Prospective state contractor" means a person, business entity or nonprofit organization that (i) submits a response to a state contract 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 contract has been entered into, or (ii) holds a valid prequalification certificate issued by the Commissioner of Administrative Services under section 4a-100.

"Prospective state contractor" does not include a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or an employee in the executive or legislative 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.

"Principal of a state contractor or prospective state contractor" means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a state contractor or prospective state contractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a state contractor or prospective state contractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a state contractor or prospective state contractor, which is not a business entity, or if a state contractor or prospective state contractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any state contractor or prospective state contractor who has *managerial or discretionary responsibilities with respect to a state contract*, (v) the spouse or a *dependent child* who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the state contractor or prospective state contractor.

"State contract" means an agreement or contract with the state or any state agency or any quasi-public agency, let through a procurement process or otherwise, having a value of fifty thousand dollars or more, or a combination or series of such agreements or contracts having a value of one hundred thousand dollars or more in a calendar year, for (i) the rendition of services, (ii) the furnishing of any goods, material, supplies, equipment or any items of any kind, (iii) the construction, alteration or repair of any public building or public work, (iv) the acquisition, sale or lease of any land or building, (v) a licensing arrangement, or (vi) a grant, loan or loan guarantee. "State contract" does not include any agreement or contract with the state, any state agency or any quasi-public agency that is exclusively federally funded, an education loan, a loan to an individual for other than commercial purposes or any agreement or contract between the state or any state agency and the United States Department of the Navy or the United States Department of Defense.

"State contract solicitation" means a request by a state agency or quasi-public agency, in whatever form issued, including, but not limited to, an invitation to bid, request for proposals, request for information or request for quotes, inviting bids, quotes or other types of submittals, through a competitive procurement process or another process authorized by law waiving competitive procurement.

"Managerial or discretionary responsibilities with respect to a state contract" means having direct, extensive and substantive responsibilities with respect to the negotiation of the state contract and not peripheral, clerical or ministerial responsibilities.

"Dependent child" means a child residing in an individual's household who may legally be claimed as a dependent on the federal income tax of such individual.

"Solicit" means (A) requesting that a contribution be made, (B) participating in any fund-raising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

"Subcontractor" means any person, business entity or nonprofit organization that contracts to perform part or all of the obligations of a state contractor's state contract. Such person, business entity or nonprofit organization shall be deemed to be a subcontractor until December thirty first of the year in which the subcontract terminates. "Subcontractor" does not include (i) a municipality or any other political subdivision of the state, including any entities or associations duly created by the municipality or political subdivision exclusively amongst themselves to further any purpose authorized by statute or charter, or (ii) an employee in the executive or legislative 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.

"Principal of a subcontractor" means (i) any individual who is a member of the board of directors of, or has an ownership interest of five per cent or more in, a subcontractor, which is a business entity, except for an individual who is a member of the board of directors of a nonprofit organization, (ii) an individual who is employed by a subcontractor, which is a business entity, as president, treasurer or executive vice president, (iii) an individual who is the chief executive officer of a subcontractor, which is not a business entity, or if a subcontractor has no such officer, then the officer who duly possesses comparable powers and duties, (iv) an officer or an employee of any subcontractor who has managerial or discretionary responsibilities with respect to a subcontract with a state contractor, (v) the spouse or a dependent child who is eighteen years of age or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the subcontractor.