

CONTRACT AWARD

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 AWARD NO.: 16DOT7000
DATE AWARDED: 26 January, 2017
RFP DUE DATE: 15 July, 2016
AUTHORIZATION: CGS 13b-34

CONTRACT AWARD

COMMODITY CLASS/SUBCLASS AND DESCRIPTION:

OVERHAUL OF GP40 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 Four Hundred Fifty (450) Days NTP
	TOTAL CONTRACT AWARD VALUE: \$6,775,206.00 (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. 16DOT7000 AND MADE A PART HEREOF</u>	

NAME AND ADDRESS OF CONTRACTOR:

Company Name: National Railway Equipment Co.		CORE Award No.: 16DOT7000AA
Address: 1605 Prospect Circle, Pingree Grove, IL 60140		
Tel. No.: (618) 899-5489	E-Mail: k.roberts@nre.com	Est. Award Amount: \$6,775,206.00
Contact Person: Kraig Roberts	SSN/FEIN No.: 36-3072345	
Certification Type (SBE, MBE, WBE or None): none	Terms: Net 45 Days	
Company E-mail Address and/or Company Web Site: www.nre.com		

AGREEMENT

Between

THE STATE OF CONNECTICUT

Acting by its

DEPARTMENT OF TRANSPORTATION

AND

National Railway Equipment Co.

OVERHAUL OF GP40 LOCOMOTIVES

FOR

THE CONNECTICUT DEPARTMENT OF TRANSPORTATION (CTDOT)

_____, 2017

Agreement Award Date

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This agreement (the "Agreement") is made as of the Effective Date by and between NRE (the "Contractor"), with a principal place of business at 1106 Shawnee St., Mt. Vernon, IL 62884, acting by Kraig Roberts, its Key Account Manager 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.

WHEREAS, the Department is the owner of six (6) GP40-2H 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** is defined in section 15(a) of this Agreement.

(b) **Agents** is defined in section 5(a)(5) of this Agreement.

(c) **Agreement** is defined in the opening paragraph.

(d) **Day(s)** means calendar days, unless otherwise designated.

(e) **Claims** means 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.

(f) **Contractor** is defined in the first paragraph.

(h) **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 and suppliers of goods, materials or supplies.

(i) **Contractor Property** is defined in section 5 of this Agreement.

(j) **Effective Date** means the date that this Agreement has been executed by the parties and approved by the Connecticut Office of the Attorney General.

(k) **Force Majeure** means events that materially affect the performance of any of the terms, covenants or conditions of this Agreement due to causes beyond the control of the party asserting that such an event has occurred, including, without limitation, strikes; boycotts; labor

troubles or disputes; embargoes; shortage of materials; extraordinary weather conditions; riots; rebellion; sabotages; acts of God, acts of the public enemy; floods, insurrection or war; or any other circumstances for which such party is not responsible or which is not in its power to control.
(l) Items is defined in section 5(a).

(m) Perform and Performance mean to perform as set forth in Exhibit A.

(n) Price Schedule means the schedule set forth in Exhibit B.

(o) Records means all working papers and such other information and materials as may have been accumulated by the Contractor in performing 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 is defined in section 5 of this Agreement.

(q) Services means the performance of labor or work, as specified in in this Agreement.

(s) Solicitation means the Request for Proposal (RFP) issued by the Department pursuant to § 13b-34 of the Connecticut General Statutes for the overhaul of locomotives.

(r) State means the State of Connecticut, including the Department and any office, department, board, council, commission, institution or other agency of the State.

(s) Termination means an end to the Agreement prior to the end of its term (or extension term) whether effected pursuant to a right which the Agreement creates or for a breach.

(t) Title is defined in section 5(a)(1) of this Agreement.

2. 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.

3. Description of Services and Additional Terms and Conditions. The Contractor shall perform as set forth in Exhibit A and Exhibit A.1 to this Agreement.

4. Price Schedule, Payment Terms and Billing.

(a) Payment terms under this Agreement are set forth in Exhibit B. 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. 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) 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 additional documentation to demonstrate the accuracy of the invoice or it will correct the invoice. The objection will be considered resolved unless the Department provides additional written objection to be Contractor within thirty (30) Days of receipt of the Contractor's additional documentation or revised invoice.

5. 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 supplies, materials, equipment, parts, 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 the Contractor shall pay such amount to the Department within sixty (60) Days; and
 - (5) they do remise, release and forever discharge the Department, the State, and all State employees, departments, commissions, boards, bureaus, agencies, instrumentalities or political subdivisions and their respective successors, heirs, executors and assigns (collectively "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, the State, and the State 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.
- (c) This section 5 shall survive the expiration or Termination of this Agreement.

6. 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 both parties and, if applicable, approved by the Connecticut Attorney General.

7. 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. 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.

8. Termination. 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.

- (a) 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.
- (b) 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 Contract 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.
- (c) Upon receipt of a written notice of Termination from the Department, the Contractor shall conclude and cease Performance 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.
- (d) 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, 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, deliver to the Department all Records and other information pertaining to its Performance, and remove from State premises, whether leased or owned, all of Contractor's property, equipment, waste material and rubbish related to its Performance, 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, warranties, agreements and rights of the parties under the Agreement shall survive such Termination to the extent not otherwise limited in the Agreement and without each one of them having to be specifically mentioned in the Agreement.
- (h) Termination of the Agreement pursuant to this section shall not be deemed to be a breach of contract by the Department.

9. Cost Modifications.

- (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.
- (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 4(b).

10. 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.

11. 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.

12. Purchase Orders.

- (a) The Agreement, itself, is not an authorization for the Contractor to 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.

13. 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 (1) Claims arising, directly or indirectly, in connection with the Agreement, including the acts of commission or omission (collectively, the "Acts") of the Contractor or Contractor Parties; and (2) liabilities, damages, losses, costs and expenses, including, but not limited to, attorneys' and other professionals' fees, arising, directly or indirectly, in connection with Claims, Acts or the Agreement. 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, the Contractor shall not be responsible for indemnifying, defending or holding the State harmless from any liability arising due to the negligence 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 caused by the Acts of the Contractor or any Contractor Parties. The State shall give the Contractor reasonable notice of any such damages.
- (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 term 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 prior to the Effective Date of the Agreement evidencing that the State is an additional insured. The Contractor shall not begin Performance until the delivery of these three (3) documents to the Department. The Department shall be entitled to recover under the insurance policy even if a body of competent jurisdiction determines that the Department or the State is contributorily negligent.

- (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.

14. Forum and Choice of Law. The parties deem the Agreement to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Agreement to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing herein constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

15. Contractor Guaranties. The Contractor shall:

- (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 applicable permits, licenses and fees 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.

16. Implied Warranties. The Department does not disclaim, exclude or modify the implied warranty of fitness for a particular purpose or the warranty of merchantability.

17. 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.

18. 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.

19. 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) Working Days prior to each such shipping.

20. 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.

21. 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.

22. Americans With Disabilities Act. This section 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.*) ("ADA") during the term of the Agreement. The Contractor represents that it is familiar with the terms of the ADA and understands that failure to comply with the ADA as the same applies to performance under this Agreement, either now or during the term of the Agreement, as it may be amended, will render the Agreement voidable at the option of the Department 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 the ADA, as the same applies to performance under this Agreement.

23. Representations and Warranties.

(a) The Contractor, represents and warrants to the Department for itself and Contractor Parties, that:

(1) If they are entities, they are duly and validly existing under the laws of their respective states of organization and authorized to conduct business in the State of Connecticut in the manner contemplated by the Agreement. Further, as appropriate, they have taken all necessary action to authorize the execution, delivery and Performance of the Contract and have the power and authority to execute, deliver and Perform their obligations under the Agreement;

(2) they 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 § 22a-194a concerning the use of polystyrene foam;

(3) 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;

(4) they are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any governmental entity;

(5) to the best of their 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;

(6) they shall disclose, to the best of their knowledge, to the Department in writing any 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, no later than ten (10) Working Days after becoming aware or after they 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) Working Days in the section of this Agreement concerning Disclosure of Contractor Parties Litigation shall run consecutively with the ten (10) Working Days provided for in this representation and warranty;

(7) their participation in the response to the Solicitation and 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;

(8) 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 bid for the same *Items or Services, and is in all respects fair and without collusion or fraud;*

(9) they are able to Perform under the Agreement using their own resources or the resources of a party who is not a Contractor;

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

- (11) they have paid all applicable workers' compensation second injury fund assessments concerning all previous work done in Connecticut;
- (12) they have a record of compliance with Occupational Health and Safety Administration regulations without any unabated, willful or serious violations;
- (13) they owe no past due unemployment compensation contributions;
- (14) they are not delinquent in the payment of any taxes owed, or, that they have filed a sales tax security bond, and they have, if and as applicable, filed for motor carrier road tax stickers and have paid all outstanding road taxes;
- (15) all of their vehicles used in the Performance of the Agreement have current registrations and, unless such vehicles are no longer in service, they shall not allow any such registrations to lapse;
- (16) 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) Working 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;
- (17) 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;
- (18) if either party Terminates the Agreement, for any reason, they shall relinquish to the Department all Title to the Items delivered, accepted and paid for (except to the extent any invoiced amount is disputed) by the Department;
- (19) with regard to third party products provided with the Items , they shall transfer all licenses which they are permitted to transfer in accordance with the applicable third party license;
- (20) they shall not copyright, register, distribute or claim any rights in or to the Items after the Effective Date of the Agreement without the Department's prior written consent;
- (21) they either own or have 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;
- (22) to the best of their 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;
- (23) to the best of their knowledge after conducting due diligence, the Department's use of any Items shall not infringe or misappropriate any patent, trade secret or other intellectual property right of a third party;
- (24) if they procure any Items , to the extent permitted by the licensor, they shall sub-license such Items and the Department shall be afforded the full benefits of any manufacturer or subcontractor licenses for the use of the Items ; and
- (25) they 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.

(b) The Contractor represents and warrants to the Department that:

(1) 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;

(2) 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;

(3) 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; and

(4) It has not employed or retained any entity or person, other than a bona fide employee working solely for them, to solicit or secure the Agreement and that they have not paid or agreed to pay any entity or person, other than a bona fide employee working solely for them, 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.

24. 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 in the State "motor vehicles," as that term is defined in § 14-1 of the Connecticut General Statutes 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, 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 §§ 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 § 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 motor vehicles having a gross vehicle weight rating of 18,000 pounds or more or motor vehicles otherwise described by the provisions of § 14-163c(a) of the Connecticut General Statutes 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.

25. 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.

26. 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.

27. 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.

28. 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 Contract as if they had been fully set forth in it. The Contract 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.

29. 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 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 Contract 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 relate 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 Connecticut General Statutes §46a-56; 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 Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.
- (g) (1) The Contractor agrees and warrants that in the performance of the Contract 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 Connecticut General Statutes § 46a-56; 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 Connecticut General Statutes § 46a-56; 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.

30. 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 (\$5000.00) for each offense, up to a maximum of twenty per cent (20%) of the value of this Agreement. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each 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.

31. 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 Kraig Roberts

ADDRESS 1605 Prospect Circle
Pingree Grove, IL 60140

Attention: Kraig Roberts

32. Insurance. Before commencing Performance, the Contractor shall obtain and maintain at its own cost and expense for the duration of the Contract, 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.

- (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. Coverage shall include Employer's Liability with minimum limits of \$100,000 each accident, \$500,000 Disease – Policy limit, \$100,000 each employee.

(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.

(g) Owner's and Contractor's Protective Liability:

The Contractor shall provide Owner's and Contractor's protective Liability Insurance for and in the name of the State of Connecticut/CTDOT with a total limit of one million dollars (\$1,000,000.00) per occurrence for all damages arising out of injury to or death of all persons and out of injury to or destruction of property in any one accident or occurrence and, subject to that limit per occurrence, a total (or aggregate) limit of two million dollars (\$2,000,000.00) for all damages arising out of bodily injury to or death of all persons in all accidents or occurrences and out of injury to or destruction of property during the policy period.

33. 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 Contract or as a limitation of the scope of the particular section to which the heading refers.

34. 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.

35. Contractor Changes. The Contractor shall notify the Department in writing no later than ten (10) Days after 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.

36. 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.

37. 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, 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 and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.
- (c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' 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.
- (d) All audits and inspections shall be at the State's expense.
- (e) 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, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.
- (f) 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.
- (g) The Contractor shall incorporate this entire section verbatim into any contract or other agreement that it enters into with any Contractor Party.

38. Background Checks.

- (a) 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.
- (b) 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).
- (c) 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.

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

40. 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.

41. 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.

42. Severability. If any term or provision of the Contract or its application to any person, entity or circumstance shall, to any extent, be held to be invalid or unenforceable, the remainder of the Contract 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 Contract shall be valid and enforced to the fullest extent possible by law.

43. Confidential Information.

(a) 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 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 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.

(b) 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.

(c) 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.

(d) 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.

44. 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, the 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.

45. 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.

46. Summary of State Ethics Laws. Pursuant to the requirements of § 1-101qq of the Connecticut General Statutes, the summary of State ethics laws developed by the State Ethics Commission pursuant to § 1-81b of the Connecticut General Statutes is incorporated by reference into and made a part of the Agreement as if the summary had been fully set forth in the Agreement.

47. 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.

48. 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, cure or use period allowed in this Agreement.

49. 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.

50. 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) or more or a combination or series of such agreements or contracts having a value of one-hundred thousand dollars (\$100,000) 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.

51. Health Insurance Portability and Accountability Act.

- (a) If the Contactor is a Business Associate under the requirements of the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), the Contractor must comply with all terms and conditions of this section of the Agreement. If the Contractor is not a Business Associate under HIPAA, this section of the Agreement does not apply to the Contractor for this Agreement.
- (b) The Contractor is required to safeguard the use, publication and disclosure of information on all applicants for, and all clients who receive, services under the Contract in accordance with all applicable federal and state law regarding confidentiality, which includes but is not limited to HIPAA, more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E; and
- (c) The Department is a "covered entity" as that term is defined in 45 C.F.R. § 160.103; and
- (d) The Contractor, on behalf of the Department, performs functions that involve the use or disclosure of "individually identifiable health information," as that term is defined in 45 C.F.R. § 160.103; and
- (e) The Contractor is a "business associate" of the Department, as that term is defined in 45 C.F.R. § 160.103; and
- (f) The Contractor and the Department agree to the following in order to secure compliance with the HIPAA, the requirements of Subtitle D of the Health Information Technology for Economic and Clinical Health Act (the HITECH Act), (Pub. L. 111-5, sections 13400 to 13423), and more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E.
- (g) Definitions. For the purposes of this section of the Agreement:
 - (1) "Breach" shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(1)).
 - (2) "Business Associate" shall mean the Contractor or Contractor Parties.
 - (3) "Covered Entity" shall mean the Department.
 - (4) "Designated Record Set" shall have the same meaning as the term "designated record set" in 45 C.F.R. § 164.501.

(5) "Electronic Health Record" shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(5)).

(6) "Individual" shall have the same meaning as the term "individual" in 45 C.F.R. § 160.103 and shall include a person who qualifies as a personal representative as defined in 45 C.F.R. § 164.502(g).

(7) "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 C.F.R. part 160 and part 164, subparts A and E.

(8) "Protected Health Information" or "PHI" shall have the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to information created or received by the Business Associate from or on behalf of the Covered Entity.

(9) "Required by Law" shall have the same meaning as the term "required by law" in 45 C.F.R. § 164.103.

(10) "Secretary" shall mean the Secretary of the Department of Health and Human Services or his designee.

(11) "More stringent" shall have the same meaning as the term "more stringent" in 45 C.F.R. § 160.202.

(12) "This Section of the Contract" refers to the HIPAA Provisions stated herein, in their entirety.

(13) "Security Incident" shall have the same meaning as the term "security incident" in 45 C.F.R. § 164.304.

(14) "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information at 45 C.F.R. part 160 and part 164, subpart A and C.

(15) "Unsecured protected health information" shall have the same meaning as the term as defined in § 13402(h)(1)(A) of HITECH. Act. (42 U.S.C. §17932(h)(1)(A)).

(h) Obligations and Activities of Business Associates.

(1) Business Associate agrees not to use or disclose PHI other than as permitted or required by this Section of the Contract or as Required by Law.

(2) Business Associate agrees to use appropriate safeguards to prevent use or disclosure of PHI other than as provided for in this Section of the Contract.

(3) Business Associate agrees to use administrative, physical and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of electronic protected health information that it creates, receives, maintains, or transmits on behalf of the Covered Entity.

(4) Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of PHI by Business Associate in violation of this Section of the Contract.

(5) Business Associate agrees to report to Covered Entity any use or disclosure of PHI not provided for by this Section of the Contract or any security incident of which it becomes aware.

- (6) Business Associate agrees to insure that any agent, including a subcontractor, to whom it provides PHI received from, or created or received by Business Associate, on behalf of the Covered Entity, agrees to the same restrictions and conditions that apply through this Section of the Contract to Business Associate with respect to such information.
- (7) Business Associate agrees to provide access, at the request of the Covered Entity, and in the time and manner agreed to by the parties, to PHI in a Designated Record Set, to Covered Entity or, as directed by Covered Entity, to an Individual in order to meet the requirements under 45 C.F.R. § 164.524.
- (8) Business Associate agrees to make any amendments to PHI in a Designated Record Set that the Covered Entity directs or agrees to pursuant to 45 C.F.R. § 164.526 at the request of the Covered Entity, and in the time and manner agreed to by the parties.
- (9) Business Associate agrees to make internal practices, books, and records, including policies and procedures and PHI, relating to the use and disclosure of PHI received from, or created or received by, Business Associate on behalf of Covered Entity, available to Covered Entity or to the Secretary in a time and manner agreed to by the parties or designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy Rule.
- (10) Business Associate agrees to document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (11) Business Associate agrees to provide to Covered Entity, in a time and manner agreed to by the parties, information collected in accordance with clause h. (10) of this Section of the Contract, to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder. Business Associate agrees that at the Covered Entity's direction to provide an accounting of disclosures of PHI directly to an individual in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (12) Business Associate agrees to comply with any state or federal law that is more stringent than the Privacy Rule.
- (13) Business Associate agrees to comply with the requirements of the HITECH Act relating to privacy and security that are applicable to the Covered Entity and with the requirements of 45 C.F.R. sections 164.504(e), 164.308, 164.310, 164.312, and 164.316.
- (14) In the event that an individual requests that the Business Associate (a) restrict disclosures of PHI; (b) provide an accounting of disclosures of the individual's PHI; or (c) provide a copy of the individual's PHI in an electronic health record, the Business Associate agrees to notify the covered entity, in writing, within two business days of the request.
- (15) Business Associate agrees that it shall not directly or indirectly receive any remuneration in exchange for PHI of an individual without (1) the written approval of the covered entity, unless receipt of remuneration in exchange for PHI is expressly authorized by this Contract and (2) the valid authorization of the individual, except for the purposes provided under section 13405(d)(2) of the HITECH Act, (42 U.S.C. § 17935(d)(2)) and in any accompanying regulations

(16) Obligations in the Event of a Breach

- (A) The Business Associate agrees that, following the discovery of a breach of unsecured protected health information, it shall notify the Covered Entity of such breach in accordance with the requirements of section 13402 of HITECH (42 U.S.C. § 17932(b) and the provisions of this Section of the Contract.
- (B) Such notification shall be provided by the Business Associate to the Covered Entity without unreasonable delay, and in no case later than 30 days after the breach is discovered by the Business Associate, except as otherwise instructed in writing by a law enforcement official pursuant to section 13402 (g) of HITECH (42 U.S.C. § 17932(g)) . A breach is considered discovered as of the first day on which it is, or reasonably should have been, known to the Business Associate. The notification shall include the identification and last known address, phone number and email address of each individual (or the next of kin of the individual if the individual is deceased) whose unsecured protected health information has been, or is reasonably believed by the Business Associate to have been, accessed, acquired, or disclosed during such breach.
- (C) The Business Associate agrees to include in the notification to the Covered Entity at least the following information:
1. A brief description of what happened, including the date of the breach and the date of the discovery of the breach, if known.
 2. A description of the types of unsecured protected health information that were involved in the breach (such as full name, Social Security number, date of birth, home address, account number, or disability code).
 3. The steps the Business Associate recommends that individuals take to protect themselves from potential harm resulting from the breach.
 4. A detailed description of what the Business Associate is doing to investigate the breach, to mitigate losses, and to protect against any further breaches.
 5. Whether a law enforcement official has advised either verbally or in writing the Business Associate that he or she has determined that notification or notice to individuals or the posting required under section 13402 of the HITECH Act would impede a criminal investigation or cause damage to national security and contact information for said official.
- (D) Business Associate agrees to provide appropriate staffing and have established procedures to ensure that individuals informed by the Covered Entity of a breach by the Business Associate have the opportunity to ask questions and contact the Business Associate for additional information regarding the breach. Such procedures shall include a toll-free telephone number, an e-mail address, a posting on its Web site and a postal address. Business Associate agrees to include in the notification of a breach by the Business Associate to the Covered Entity, a written description of the procedures that have been established to meet these requirements. Costs of such contact procedures will be borne by the Contractor or Contractor Parties.
- (E) Business Associate agrees that, in the event of a breach, it has the burden to demonstrate that it has complied with all notifications requirements set forth above, including evidence demonstrating the necessity of a delay in notification to the Covered Entity.

(i) Permitted Uses and Disclosure by Business Associate.

(1) **General Use and Disclosure Provisions** Except as otherwise limited in this Section of the Contract, Business Associate may use or disclose PHI to perform functions, activities, or services for, or on behalf of, Covered Entity as specified in this Contract, provided that such use or disclosure would not violate the Privacy Rule if done by Covered Entity or the minimum necessary policies and procedures of the Covered Entity.

(2) **Specific Use and Disclosure Provisions.**

(A) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI for the proper management and administration of Business Associate or to carry out the legal responsibilities of Business Associate.

(B) Except as otherwise limited in this Section of the Contract, Business Associate may disclose PHI for the proper management and administration of Business Associate, provided that disclosures are Required by Law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as Required by Law or for the purpose for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.

(C) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI to provide Data Aggregation services to Covered Entity as permitted by 45 C.F.R. § 164.504(e)(2)(i)(B).

(j) **Obligations of Covered Entity.**

(1) Covered Entity shall notify Business Associate of any limitations in its notice of privacy practices of Covered Entity, in accordance with 45 C.F.R. § 164.520, or to the extent that such limitation may affect Business Associate's use or disclosure of PHI.

(2) Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.

(3) Covered Entity shall notify Business Associate of any restriction to the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 C.F.R. § 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of PHI.

(k) **Permissible Requests by Covered Entity.** Covered Entity shall not request Business Associate to use or disclose PHI in any manner that would not be permissible under the Privacy Rule if done by the Covered Entity, except that Business Associate may use and disclose PHI for data aggregation, and management and administrative activities of Business Associate, as permitted under this Section of the Contract.

(l) **Term and Termination.**

(1) **Term.** The Term of this Section of the Contract shall be effective as of the date the Contract is effective and shall terminate when the information collected in accordance with clause h. (10) of this Section of the Contract is provided to the Covered Entity and all of the PHI provided by Covered Entity to Business Associate, or created or received by Business Associate on behalf of Covered Entity, is destroyed or returned to Covered Entity, or, if it is infeasible to return or destroy PHI, protections are extended to such information, in accordance with the termination provisions in this section.

(2) Termination for Cause Upon Covered Entity's knowledge of a material breach by Business Associate, Covered Entity shall either:

- (A) Provide an opportunity for Business Associate to cure the breach or end the violation and terminate the Contract if Business Associate does not cure the breach or end the violation within the time specified by the Covered Entity; or
- (B) Immediately terminate the Contract if Business Associate has breached a material term of this Section of the Contract and cure is not possible; or
- (C) If neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.

(3) Effect of Termination.

- (A) Except as provided in (1)(2) above, upon termination of this Contract, for any reason, Business Associate shall return or destroy all PHI received from Covered Entity, or created or received by Business Associate on behalf of Covered Entity. Business Associate shall also provide the information collected in accordance with clause h. (10) of this Section of the Contract to the Covered Entity within ten business days of the notice of termination. This provision shall apply to PHI that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the PHI.
- (B) In the event that Business Associate determines that returning or destroying the PHI is infeasible, Business Associate shall provide to Covered Entity notification of the conditions that make return or destruction infeasible. Upon documentation by Business Associate that return or destruction of PHI is infeasible, Business Associate shall extend the protections of this Section of the Contract to such PHI and limit further uses and disclosures of PHI to those purposes that make return or destruction infeasible, for as long as Business Associate maintains such PHI. Infeasibility of the return or destruction of PHI includes, but is not limited to, requirements under state or federal law that the Business Associate maintains or preserves the PHI or copies thereof.

(m) Miscellaneous Provisions.

- (1) Regulatory References. A reference in this Section of the Agreement to a section in the Privacy Rule means the section as in effect or as amended.
- (2) Amendment. The Parties agree to take such action as is necessary to amend this Section of the Agreement from time to time as is necessary for Covered Entity to comply with requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.
- (3) Survival. The respective rights and obligations of Business Associate shall survive the termination of this Agreement.
- (4) Effect on Agreement. Except as specifically required to implement the purposes of this Section of the Agreement, all other terms of the Agreement shall remain in force and effect.
- (5) Construction. This Section of the Agreement shall be construed as broadly as necessary to implement and comply with the Privacy Standard. Any ambiguity in this Section of the

Agreement shall be resolved in favor of a meaning that complies, and is consistent with, the Privacy Standard.

(6)Disclaimer. Covered Entity makes no warranty or representation that compliance with this Section of the Agreement will be adequate or satisfactory for Business Associate's own purposes. Covered Entity shall not be liable to Business Associate for any claim, civil or criminal penalty, loss or damage related to or arising from the unauthorized use or disclosure of PHI by Business Associate or any of its officers, directors, employees, contractors or agents, or any third party to whom Business Associate has disclosed PHI contrary to the provisions of this Agreement or applicable law. Business Associate is solely responsible for all decisions made, and actions taken, by Business Associate regarding the safeguarding, use and disclosure of PHI within its possession, custody or control.

(7)Indemnification. The Business Associate shall indemnify and hold the Covered Entity harmless from and against any and all claims, liabilities, judgments, fines, assessments, penalties, awards and any statutory damages that may be imposed or assessed pursuant to HIPAA, as amended or the HITECH Act, including, without limitation, attorney's fees, expert witness fees, costs of investigation, litigation or dispute resolution, and costs awarded thereunder, relating to or arising out of any violation by the Business Associate and its agents, including subcontractors, of any obligation of Business Associate and its agents, including subcontractors, under this Section of the Contract, under HIPAA, the HITECH Act, the Privacy Rule and the Security Rule.

52. Audit Requirements for Recipients of State Financial Assistance. For purposes of this section, the word "contractor" shall be deemed to mean "nonstate entity," as that term is defined in § 4-230 of the Connecticut General Statutes. The contractor shall provide for an annual financial audit acceptable to the Department for any expenditure of state-awarded funds made by the contractor. Such audit shall include management letters and audit recommendations. The State Auditors of Public Accounts shall have access to all records and accounts for the fiscal year(s) in which the award was made. The contractor will comply with federal and state single audit standards as applicable.

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

National Railway Equipment Co.

STATE OF CONNECTICUT
Department Of Transportation

By: 

By: 

Kraig Roberts
Print or Type Name

RICHARD W. ANDRESKI
Print or Type Name

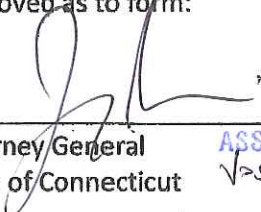
Title: Key Account Manager

Title: BUREAU CHIEF, PUBLIC TRANSPORTATION

Date: 1-31-2017

Date: 2/2/17

Approved as to form:


Attorney General **ASSOC. ATTY. GENERAL**
State of Connecticut Joseph Rubin

Date: 2/7/17

EXHIBIT A

DESCRIPTION OF GOODS AND SERVICES

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 GP40 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 six (6) GP-40-2H Genesis type locomotives, identified by road numbers 6694, 6695, 6696 6697, 6698 and 6699 which were originally manufactured by the Electro-Motive Division of General Motors Corp. and remanufactured by GEC Alstom in 1996.

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 (NTP) 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 the 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, 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 A23), 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" section of these specifications (Section A23), "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 31 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 transmitted via e-mail to Marci Petterson, Supervising Rail Officer, at marci.petterson@ct.gov or as instructed otherwise by CTDOT.

A6. 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.

A7. 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

A8. 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.

A9. 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.

A10. 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.

A11. Management Systems

This Section delineates the requirements for the management systems which shall be sufficiently comprehensive to ensure 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 it 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 to be conducted on a periodic basis to assess the degree of completion of technical effort related to major milestones.
6. All requirements for 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 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

A12. 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 components 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 2007 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.

A13. 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.

A14. 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.

A15. 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 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.

A16. 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 A15., 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 A15., 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 it 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 warranty 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.

A17. Permits

The Contractor shall procure all permits and licenses necessary 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.

A18. 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 Subcontractors 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 that the 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.

A19. Contract Time and Liquidated Damages

Four Hundred Fifty (450) 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 A19., delivery of all locomotives shall have been completed in accordance with the terms of the Contract.
- C. In the event the 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.

A20. 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.

A21. 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 Section 8 of the Contract.
- 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.

A22. 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 judgement, 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 A20., A.

A23. Abandonment or Default by Contractor

- A. CTDOT may, subject to the provisions of Section 8 of the Contract, 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 8 of the Contract, 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 a 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 Section 8 of the Contract, 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 exhibit entitled "Claims and Disputes", Section A26.
 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 Section 8 of the Contract.
- 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 A19., C.
 2. Alternatively, CTDOT may terminate this Contract in whole or in part as provided in Section 8 of the Contract, and in that event the Contractor shall be liable in addition to the excess costs provided in Section A19. above, for such Liquidated Damages accruing until such time as CTDOT may reasonably obtain delivery or performance of similar supplies or services.
 3. 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 the Engineer's 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.

A24. 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 response to CTDOT's Request for 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 A26.
- 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 Status Report shall be updated at least bi-weekly and copies submitted to 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.

A25. 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 A24., "Claim for Delay or Suspension of Work", Section A22. 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.

A26. 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.

A27. 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, 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.

A28. 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 A22).

A29. 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.

A30. Schedule of Joint Inspection and Release for Work

- A. Within thirty (30) days after the NTP, the Contractor shall prepare and ship three (3) 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 to the Contractor's facility and the return of the same to CTDOT at the Connecticut Commuter Rail Maintenance Facility in New Haven.
- C. Within sixty (60) 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.

A31. 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 A23.
- 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 A26.
- 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 as 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.

A32. 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.

A33. 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.
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 A33., 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 A33., 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 A33., 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 A33., C. above,
2. Correct deficiencies in accordance with A33., C. above, or
3. Prepare and furnish data and reports in accordance with A33., 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.

A34. 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 the Contractor's 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 attached Agency Contract Document" (CTDOT 50-A), Section 32 "Insurance").
- B. The six (6) GP-40 locomotives shall be delivered to CTDOT within a maximum of Four Hundred Fifty (450) days from the NTP. Locomotives may be delivered earlier than scheduled.

A35. 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 A39.)
 2. Warranty commences to run on all parts upon Conditional Acceptance into revenue service except for those parts requiring corrective action.

A36. Final Acceptance of Locomotives

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

A37. 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.

A38. 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 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 A39 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.

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A39. 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	1	1	Negotiation Complete, Award of Contract
2	1	2	Bonds and Insurance
3	2	4	Joint Specification Review, Complete CDRL List Review
4	1	5	Preliminary program Schedule, Inspection and Test Procedure Submission Schedule
5	2	7	Contractors Program Management Plan for Incorporation into CDOT's PMP
6	2	9	Submission and Acceptance of Quality Assurance Program
7	6 x 1%	15	Joint inspection – each unit
8	3	18	Preliminary System Overhaul Plan, Preliminary Manual Outlines
9	5	23	Subcontractor List and Purchase Order Copies
10	5	28	Submission and Acceptance of Test Plan
11	5	33	Submission of Recommended Spare Parts List
12	6	39	Shipment of First Unit to Contractor
13	8	47	Shipment of Units 2-6 to Contractor
14-19	6 x 7%	89	Conditional acceptance – <u>per unit</u>
20	11	100	Final acceptance of ALL Locomotives

A40. 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 work to be performed under the Contract by the State Labor Department or the U.S. Department of Labor, and in accordance with the rates provided in the Contractor's response to CTDOT's Request for Proposals. CTDOT shall also pay the Contractor the certified overhead rates provided in the Contractor's response to CTDOT's Request for Proposals. 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.

A41. 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.

A42. 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 A18., 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.

A43. Retainage

- A. Upon the completion of all work, 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.

A44. 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.

A45. 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.

A46. 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.

A47. 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 CTDOT prior to commencement of Work:
 1. The Contractor shall submit 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. The drawing submittal forms designated in all categories above shall be signed by the Engineer, in a rubber stamped block to be applied by CTDOT, with one copy being returned to the Contractor.
 - f. Drawings designated in categories (2), and (3) above shall be promptly revised and resubmitted by the Contractor.
 - g. Construction on the various areas of the locomotive(s) shall not commence until 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".
 - h. Contractor shall submit drawings for review in the order in which he intends to undertake work on the locomotive(s).
 - i. 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.
 - j. However, the Contractor shall submit drawings showing physically related areas of the locomotive(s) as simultaneously as possible.
 - k. 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.

A48. 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 A15., 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, other than 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.16 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.

A49. 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 that the equipment is first put into revenue service operation.
 - 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 rail car.
- 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 retrofit work for a period of two (2) years from the date of completion.
 - 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.
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 by telephone or utilizing Contractor's paging equipment if necessary. 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 is reminded 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 Service Operator 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.

A50. 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.

A5.1. Purchase Orders and Payments

Purchase Orders

Questions concerning purchase orders are to be directed to CTDOT's Processing Unit at 860-594-2345.

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.

A5. 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, Division of Purchasing & Materials Management of 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
Div. of Purchasing & Materials Management
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546
Attn: Mary Matuszak, Fiscal Administrative Supervisor
mary.matuszak@ct.gov

A53. 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.

A54. 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.

A55. 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.

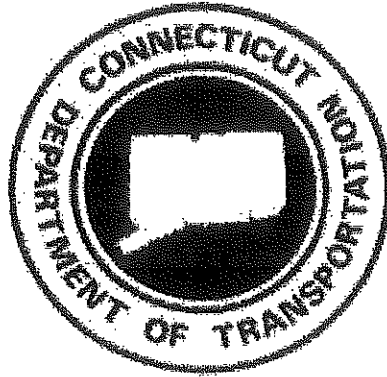
A56. Standards

- 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. 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.
- C. The Contractor may propose, subject to CTDOT's approval, alternates for CTDOT's acceptance in accordance with the requirements of this exhibit.
- D. 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.

EXHIBIT A.1

TECHNICAL SPECIFICATIONS

Exhibit A.1



Connecticut DOT
GP40 Overhaul
Technical Specification

January, 2017

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1 SCOPE AND RESPONSIBILITIES (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

- A. Each locomotive incorporates:
 - 1. EMD turbocharged 16-645E3B 3200 hp prime mover.
 - 2. AR10A/D14 main generator.
 - 3. Head End Power (HEP) independent diesel engine alternator capable of 425 KW output at 480 VAC 60 Hz.
 - 4. 18 kW auxiliary generator
 - 5. 3-cylinder Gardner Denver water-cooled air compressor
 - 6. EMD D78 DC traction motors.
- B. The locomotives presently MU with CTDOT's existing P40 locomotives and 1700 series control trailer cars.
- C. This capability shall be maintained after completion of the overhaul.

2.1.2 Clearance

- A. The overhauled locomotive when delivered back to CTDOT shall not exceed the original locomotive clearances of the remanufacture program in 1996.
- B. The maximum height of the locomotives as delivered back to CTDOT shall be 15' 1" above TOR with new wheels and ready to run.

2.1.3 Locomotive Noise Emission

- A. The locomotives shall meet the following requirements. The Contractor shall present documentation that confirms that these design requirements have been met [CDRL 2-001]:
 - 1. The locomotives shall be overhauled to achieve the lowest possible external noise levels.
 - 2. The Contractor shall detail all actions being taken to ensure that external noise levels are minimized.
 - 3. The locomotives shall not exceed the noise levels specified in this specification and 49 CFR 210 and 40 CFR 201.
- B. 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 overhauled locomotive.
 3. 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.
- C. 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 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 acceptable to CTDOT.

2.1.5 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 delivered under this Contract.

2.1.6 Environment And Wayside Conditions

- A. The locomotives shall be able to operate in the following ambient conditions:

Table 2-1 – Temperatures

	Normal		Peak	
Maximum:	98°F	37°C	104° F	40°C
Minimum:	0°F	-18°C	-18°F	-28°C

- B. 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 engines to traction and HEP at ambient temperatures of up to 111 deg. F.

2.1.7 Wind Velocity

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

2.1.8 Relative Humidity

20% to 100% (Non-Condensing).

2.1.9 Snow

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

2.1.10 Rain Fall

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

2.1.11 Freezing Rain

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

2.1.12 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)

2.1.13 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.

2.1.14 Electromagnetic Interference

- A. The locomotives and their components shall not be adversely affected by any electromagnetic 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:
 - 1. Audio frequencies for overlay track circuits and highway crossing approach circuits.
 - 2. Audio frequencies for highway crossing island circuits and electrical lock circuits.
 - 3. Signal power.

2.1.15 Electromagnetic Compatibility

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

2.1.16 Operating Performance

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

2.2 WEIGHT REQUIREMENTS

The locomotives shall comply with as-delivered weight limits.

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

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 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].

3.2 CAR BODY REPAIRS

- A. The Contractor's welding inspector shall visually inspect, and dye penetrant inspect where needed, 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].
- B. Damage to the locomotive carbody exterior which 1) interferes with equipment function, 2) affects the weather tightness of the carbody, or 3) reduces the structural integrity, shall be repaired. Superficial damage, small dents and scratches need not be repaired. Severe rust conditions of battery box, compartment doors, at base of the short hood, at the base of the long hood, at sand box doors and cab doors and windows shall specifically be addressed.
- C. Any carbody structure whose cross section has been reduced by more than 10% by corrosion or damage shall be renewed.
- D. The Contractor shall present any additional repairs not detailed in this specification to CTDOT for approval.

- E. All long hood doors shall be free to move as intended and shall fit properly in their frames. All latches and locks shall function properly and smoothly. Hinges shall be properly fastened and shall not bind or allow door sag. All weather-stripped doors shall be watertight. Missing screws and hardware shall be replaced. Elastomeric parts such as weather-stripping shall be replaced.
- F. The Contractor shall clean, inspect and re-qualify sand boxes.
- G. The Contractor shall design and perform an engine sump modification to correct spillage and assure all leakage, spillage, etc. is captured and carried into the retention tank.
- H. The Contractor shall inspect and repair the walkways and handrails to restore their function, performance and appearance to "like new".
- I. The Contractor shall inspect and repair all steps to restore their function, performance and appearance to "like new".
- J. The Contractor shall inspect and repair all doors and latches to restore their function, performance and appearance to "like new".
- K. The Contractor shall inspect and repair all carbody lighting to restore their function, performance and appearance to "like new".
- L. All car number boards shall be inspected and re-qualified. The weather stripping shall be replaced.

3.3 CENTRAL AIR COMPARTMENT

- A. The Contractor shall thoroughly clean and inspect and repair any damaged areas in the Inertial Filter Compartment.
- B. The Contractor shall thoroughly clean and inspect the inertial air filters to function "like new". Renew these if necessary.
- C. The Contractor shall rebuild the Inertial blower assembly in accordance with EMD specifications.

3.4 VENTILATION EQUIPMENT

The Contractor shall:

- A. Thoroughly clean and inspect the traction motor blower assemblies. Rebuild the motors and balance the impellers in accordance with EMD specifications to restore "like new" functionality and performance.
- B. Thoroughly clean and inspect the generator blower assembly. Rebuild the motor and balance the impeller in accordance with EMD specifications to restore "like new" functionality and performance.

3.5 HANDBRAKE

- A. The Contractor shall rebuild the handbrake according to OEM specifications.

3.6 MOUNTS, STRUCTURAL SUPPORTS, and ATTACHMENT POINTS

The Contractor shall:

- A. Inspect all mounts, structural supports and attachment points for damage and repair as necessary in order to restore original design strength, function and performance.
- B. Renew all resilient cab mounts.

3.7 ELECTRICAL PROVISIONS

The Contractor shall:

- A. Inspect all conduit and conduit clamps; renew any that are broken or split and rectore all seals.
- B. Inspect all junction boxes; replacing any loose or missing covers and renew all seals. Ensure that all mounting hardware is intact and functions as intended.

3.8 COOLING AND DYNAMIC BRAKE FANS

- A. Contractor shall prepare for CTDOT approval a long hood roof design modification to limit the height of the dynamic brake and cooling fans to meet the requirements of above Section 2.1.2.B [CDRL 3-005].
- B. It is CTDOT's expectation that replacement low profile fans may be utilized to meet the height limit, but alternative design changes to the long hood to reduce the height to 15'1" may be proposed by the Contractor.

3.9 PAINT

- A. The interior of the long hood, the entire exterior of the locomotive, the underframe and the trucks shall be thoroughly cleaned by the Contractor utilizing suitable materials and prepared by the Contractor for the application of paint as defined in the following:
 1. The exterior of each locomotive, from the side sills and anticlimbers up and including the side sills and anticlimbers shall be completely painted in accordance with the CTDOT specified locomotive exterior paint scheme, including logos, locomotive numbering and other exterior lettering or signage. The Contractor shall utilize DuPont Imron polyurethane paint, or approved equivalent, of approved colors. Painting materials shall be applied according to manufacturer's recommendation including cleaning and base material preparation.
 2. All exterior painted surfaces shall have a three-coat paint application consisting of one primer and two finish coats. A final clear coat shall be applied to all exterior surfaces (except trucks) with three layers of paint.
 3. Snowplow, end plates at both ends of the locomotive and portions of the underframe or underframe-mounted equipment shall be given two coats of rust preventive paint.
 4. The interior of the long hood, including the engine, shall be painted using the Contractor's standard paint.

5. The interior of the battery enclosure shall be given one coat of an approved acid resistant paint.
 6. Lettering, numbering and logos shall be applied to the exterior and interior as applicable and with the approval of CTDOT. Breakers, switches and gauges shall be clearly identified. All FRA required stenciling shall be provided by the Contractor. Raised letter identification tags shall be applied at all external air and electrical receptacles and hoses.
 7. An anti-skid coating shall be applied to the hood roof around the exhaust stack and dynamic brake grid blower and to the top surface of the short hood.
- B. The Contractor shall submit color samples and manufacturer's specifications of recommended paints and primers to CTDOT for review and approval [CDRL 3-006].
- C. 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 3-007].

3.10 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	Report of Structural Welding Inspection	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 3-005	Long Hood Cooling Fan Modification Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 3-006	Paint Color Samples	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 3-007	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

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

- A. Front draft gear assembly, coupler carrier assembly, wear plate and coupler assembly shall be inspected and re-qualified by the Contractor. Rear draft gear assembly, coupler carrier assembly, wear plate and coupler assembly shall be replaced by the Contractor with new.
- B. New or overhauled draft gear and coupler assemblies must comply with all of the requirements in 49 CFR 229.6.

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 receptacles, Clements National 84B102702P3 or equal. All existing HEP receptacles shall be cleaned, inspected, tested, and re-qualified.
- 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.
- 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.

4.1.2.2 27 Point Communication Trainline

- A. 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.

- B. Unless otherwise noted, all original functions within the locomotive will be retained.
- C. The interior and backsides of receptacles shall be inspected by the Contractor for corrosion and re-qualified.

4.1.2.3 27 Point MU Trainline

- A. 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.
- B. Unless otherwise noted, all original functions within the locomotive will be retained.
- C. The interior and backsides of receptacles shall be inspected by the Contractor for corrosion and re-qualified.

4.1.3 Trainline Wiring and Cabling

- A. All wires and cables, both high and low voltage, shall be inspected by the Contractor at all points. Any wires or cables that are worn, damaged, shows signs of overheating have cracked insulation, or are otherwise beyond their useful service life shall be renewed by the Contractor according to OEM specifications.
- B. Defective wires and cables shall be replaced by the Contractor using stranded copper conductors of the same size with "EXANE" insulation or an approved equivalent with the exception of traction motor leads which are permitted to be Hypalon.
- C. All wiring shall be supported to prevent the imposition of undue strain on the terminals. Sufficient extra wire shall be provided at all terminal points to prevent strain and allow three renewals if required. The extra wire and any spares shall be neatly dressed back into the wire bundles.

4.1.3.1 Connectors

- A. The Contractor shall inspect all wire and cable connectors and renew any damaged terminal ends. All new connectors shall be properly installed and secured using appropriate tooling. Electrical connections shall be firmly seated at terminal lugs and securely fastened in order to prevent damage due to vibration. All connection points shall be free of corrosion.

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

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].

5.2 CAB – All of the following shall be completed by the Contractor.

5.2.1 Flooring

Trap doors and trap door hardware shall be cleaned and re-qualified. Cab flooring shall be requalified and replaced as required. Cab flooring material shall meet CFR 238 Smoke and Flame Requirements.

5.2.2 Glazing, Doors and Windows

All cab glazing shall be renewed in kind and heated lights shall be reconnected and tested for proper operation. Cab doors and hardware shall be repaired. Window sash including track and latches shall be renewed and new weather-stripping shall be installed.

5.2.3 Mirrors/Wind Deflectors

Mirrors and wind deflectors located on either side of the cab shall be replaced with new. The design and construction shall be subject to CTDOT's approval should it not be the same as the current type.

5.2.4 Windshield Wipers

The air operated wipers provided on all windshields shall be re-qualified. New wiper blades shall be installed.

5.2.5 Radio and Communications

5.2.5.1 Communications Equipment

The PA/IC system and interface with the coaches shall be inspected and re-qualified.

5.2.5.2 Cab Radio

- A. The current radio shall be removed.
- B. All wiring and connectors shall be re-qualified.
- C. A CTDOT approved multi-channel, programmable narrow band (12.4 kHz) 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.

5.2.6 Seats

Cab seats will be overhauled. Seat cushions and arm rests shall be reupholstered with new foam material and new covering. All seat cushion and covering shall meet CFR 238 Smoke and Flame Requirements. Seat frames shall be removed, cleaned, inspected, and re-qualified.

- A. The seat cushion and upholstery shall meet the following requirements:

1. Cab seat and arm rest cushion fill material shall be low-smoke flexible foam constructed of inherently fire-retardant materials. The thickness shall be approved during design review as required by Exhibit A. The material shall have a polymerized or vulcanized homogeneous (free from foreign material), cellular structure with a porous surface and open cells. The cells shall be interconnecting and uniform in size. Cellular material may be molded in one piece or may be assembled by laminating to achieve the required thickness. Laminated cushions shall be bonded together. Cushion material shall be properly cured to prevent any objectionable odor.
2. Flexible foam shall meet the following physical property criteria when tested without upholstery material:
 - a. Tensile Strength – 5.0 lbf/in² (34.5 kPa) minimum when tested to ASTM D 3574 Test E
 - b. Elongation – 70% minimum when tested according to ASTM D 3574 Test E
 - c. Compression Set at 50% – 15% maximum when tested according to ASTM D 1055
 - d. Flex Tests (Suffix H) – Thickness loss 5% maximum when tested according to ASTM D 1055
 - e. Tear Strength – 2.0 lbf/in² (13.8 kPa) minimum when tested according to ASTM D 3574
3. Fabrics used for cab seat upholstery shall be made of woven, transportation grade fabrics of a 90% wool and 10% nylon blend. The maximum fabric shrinkage shall be 2% in either the warp or fill direction.
4. Seat and arm rest upholstery material shall be subjected to the physical tests of textile products required by the latest revision of the following ASTM methods, and the results shall not be less than the following values:

Table 5-1

Test No.	Description	Criteria
D 3776	Fabric Weight	16.5 oz./sq. yd. Without back coating
D 3775	Fabric Count	Warp – (ends) 16
		Fill – (picks) 23

Test No.	Description	Criteria
D 5034	Breaking Strength and Elongation	Warp – 150 lbs. (668 N)
		Fill – 200 lbs. (890 N)
D 2261	Tear Strength (Tongue)	Warp – 70 lbs. (311 N)
		Fill – 70 lbs. (311 N)
D 1683	Seam Strength	8 to 10 stitches per inch
		Warp – 100 lb. (445 N)
		Fill – 100 lb. (445 N)
D 3597	Color Fastness	Water – Class 4 min.
		Solvent – Class 4 min.
		Crocking – Class 4 min.
		Light – Class 4 min.
D 3884	Rotary Platform Double Head Abrasion Test*	700 cycles – no breaks
D 3597	Wyzenbeck Abrasion Test*	15,000 dbl. rubs – no breaks
D 4966	Martindale Abrasion Test*	25,000 cycles – no breaks

B. Thoroughly clean the cab interior and inspect and re-qualify the following:

1. Cab interior walls and ceiling
2. Cab heaters
3. Cab lights

C. Replace foam on the interior of high voltage cabinet

D. Any new materials installed in the cab must be in compliance with the requirements of 49 CFR 238.

5.2.7 Control Stand

The control stand and its components shall be inspected and refurbished as follows:

- A. The master controller shall be functionally tested and re-qualified.
- B. Brake equipment shall be tested in accordance with Section 15 and re-qualified.
- C. Ammeter, gages, switches, indicator lights and other controls shall be inspected and restored to full functionality.
- D. Any ID tags or labels which are illegible shall be replaced.
- E. Modifications to accommodate new ATC or AESS equipment shall be made.

5.2.8 HVAC

The current roof mounted HVAC unit shall be removed. The Contractor shall install a new HVAC system that must comply with the clearance requirements of Section 2. If the proposed HVAC unit is to be mounted on the roof of the locomotive, the Contractor shall provide CTDOT

the proposed HVAC unit and associated roof structure modifications in a Cab Roof HVAC Design and Installation Plan [CDRL 5-002].

The Contractor may propose an alternative solution to the roof mounted HVAC system as part of reducing the overall height of the locomotive to meet the requirements of Section 2.1.2.B. for CTDOT's approval. The alternative plan shall also include the Contractors method of restoring the roof structure to its original configuration while maintaining structural integrity and water tightness.

Watertightness shall be verified by a test to be proposed by the Contractor and approved by CTDOT [CDRL-5-003].

Installation design drawings, including ducting, grilles, electrical controls and wiring shall be furnished by the Contractor for CTDOT approval.

Maintenance and repair instructions, electrical schematics and replacement parts lists for the system shall also be furnished.

The unit cooling capacity shall be sized to meet all CTDOT operating conditions.

5.2.9 Cab Forward and Interior Facing Camera and LDRS-V System

- A. The locomotive shall be equipped with a forward facing and interior facing video camera system to capture and store the video and audio of the environment in front of the locomotive and the video within the interior of the cab. All recorded data shall be stored in a FRA crash hardened memory module. The system shall be in accordance with Section 12.2.3.

5.3 ELECTRICAL CONTROL CABINETS

- A. The Contractor shall thoroughly clean and inspect all electrical control cabinets and repair any damage (including that are due to corrosion, rust, water damage, etc.) in order to restore good operating condition.
- B. All door latches shall be inspected and repaired as necessary by the Contractor.
- C. All weather stripping and or insulation shall be replaced with new by the Contractor.
- D. All missing or damaged signage shall be replaced with new by the Contractor.

5.4 ELECTRICAL CONTROL DEVICES

- A. Contractor shall thoroughly inspect all electrical control devices; contactors, resistors, circuit breakers, compacitors, relays, indicator lights, buss bars, current transformers, diodes, etc.) looking for signs of overheating, arcing or other signs of damage, making repairs as necessary.

5.5 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 5-2

CDRL	Description	Due
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CTDOT
GP40 Overhaul Technical Specification

CDRL	Description	Due
CDRL 5-001	Cab and Locomotive Controls Overhaul Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 5-002	Cab Roof HVAC Design and Installation Plan	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 5-003	Cab Roof and HVAC Watertightness Test	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

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/ALTERNATOR

The AR10-D14 Main Generator/Alternator package shall be reconditioned by the Contractor as follows:

- A. Perform megger and Hi-Pot testing in accordance with IEEE Std. 16 to verify insulation integrity, and repair if required.
- B. Clean and inspect the airbox.
- C. Clean and inspect the slip rings and replace brushes.
- D. If any unit fails to meet OEM standards following the inspections and testing as defined in A, B and C, the Contractor shall UTEX the unit with the OEM and a change order will be requested.

6.3 AUXILIARY GENERATOR

- A. The auxiliary generator shall be rebuilt by the Contractor in accordance with OEM specifications.

6.4 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 the 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. Contractor shall submit to CTDOT a detailed description of the equipment and functional operation of the AESS system he/she proposes to install for CTDOT approval [CDRL 6-002].
- C. Contractor shall provide revised locomotive electrical schematics for the AESS as installed [CDRL 6-003].

- D. Training in the operation of the AESS, at times, locations, and in form and substance satisfactory to CTDOT, shall be provided to maintenance personnel by the Contractor [CDRL 6-004].

6.5 KIM HOT START SYSTEM

The locomotives are currently equipped with a Kim Hot Start system. All controls, heaters, circulator pumps, electrical wiring and plumbing associated with the Kim Hot Start shall be removed by the Contractor.

6.6 DYNAMIC BRAKE SYSTEM

- A. Dynamic brake resistor grids shall be thoroughly cleaned, inspected and rebuilt by the Contractor in accordance with OEM specifications.
- B. The dynamic brake grid blower assemblies shall be rebuilt by the Contractor in accordance with OEM specifications.

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
CDRL 6-002	Automatic Engine Start Stop System Equipment and Functional Description	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 6-003	Revised locomotive electrical schematics for the AESS as installed	TBD By Contractor and set forth in the Contract Deliverables Requirement List
CDRL 6-004	Training in the operation of the AESS	TBD By Contractor and set forth in the Contract Deliverables Requirement List

End of Section

7 BATTERIES

7.1 GENERAL SCOPE OF WORK

The battery system work to be performed shall be confirmed by the Contractor and presented to CTDOT for review and approval in Battery and Battery Box Overhaul Plan [CDRL 7-001].

7.1.1 Batteries

The Contractor shall be responsible for the following:

- A. The unitized battery shall be replaced with new.
- B. The new battery shall be minimum 530 A.H. capacity with an 8 hour discharge rate.
- C. Batteries shall be lead-acid type.

7.1.2 Battery Boxes

The Contractor shall be responsible for the following:

- A. Battery boxes shall be repaired. Sheet or plate steel that is corroded shall be replaced. All hinges and latching hardware shall be replaced.
- B. Battery boxes shall be equipped with a corrosion resistant grating floor as well as a corrosion resistant drain pan. Drain pan edges shall be sealed to prevent intrusion of fluids between the pans and the locomotive structure.

7.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 7-1

CDRL	Description	Due
CDRL 7-001	Battery and Battery Box Overhaul Program	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

- A. 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].
- B. Wheels, Axles and Journal Bearings – the Contractor shall be responsible for the following:
 - 1. Wheels shall be replaced with new AAR Type E-40, Class B wheels, in accordance with AAR Specification M-107, latest issue as required. Wheels shall also have AAR 1B narrow flange contour, with tread taper of 1:40.
 - 2. Axles shall be cleaned, inspected and re-qualified to meet OEM standards.
 - 3. New Timken journal roller bearings, or approved equivalent, shall be used.
- C. Traction Motors
 - 1. All traction motors shall be cleaned, inspected and re-qualified by the Contractor to meet OEM standards.
- D. Traction Motor Combos – the Contractor shall be responsible for the following:
 - 1. Remove and thoroughly clean and inspect the traction motor combo assemblies.
 - 2. Rebuild all combo assemblies in accordance to OEM standards and specifications. If any condemning defects are found, notify CTDOT and hold the material for further instructions.
 - 3. Renew all rubber traction motor blower ducts.
 - 4. Renew all consumables as required.
- E. Suspension Elements – the Contractor shall be responsible for the following:
 - 1. Clean, inspect and re-qualify all primary and secondary truck springs. Replace with new as required. Clean, inspect and re-qualify to meet OEM performance standards all secondary suspension spring seats. Replace with new as required.
 - 2. Install new lateral, yaw and vertical shocks.
 - 3. Leaf springs shall be inspected for broken, corroded, or worn leaves and mounting hardware. Replace with new as required.
 - 4. All shock absorbers and yaw dampers shall be replaced.
 - 5. All elastomeric components shall be replaced.
- F. Truck Frame – the Contractor shall be responsible for the following:
 - 1. All components shall be removed from truck frames. Frames shall be completely cleaned and repainted prior to build-up process.

2. Magnetic particle inspection of trucks after thorough cleaning shall be required. This inspection should pay particular attention to the welds and cross ties.
3. Replace nose supports and all pins and rubber bushings in trucks.
4. Trucks shall be trammed and rebuilt to OEM specifications. Side bearing pads shall be inspected for wear and replaced if necessary.
5. The center casting and center pin shall be cleaned, inspected and re-qualified to meet OEM standards.

G. Journal Boxes

1. Journal boxes shall be inspected by the Contractor for wear and cracking, and repaired or replaced and re-qualified to meet OEM performance standards.

H. Liners and \Wear Surfaces

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

I. Tread Brakes and Rigging

1. Tread brakes shall be removed and rebuilt to OEM specifications by the Contractor, 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.

J. Truck Mounted Air Piping -- the Contractor shall be responsible for the following:

1. Remove all truck mounted air lines. Install new truck piping, replace all pipe brackets.
2. Replace all air hoses running from tread brake units to truck piping with new hoses.
3. Replace all truck hoses and fittings.

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 SYSTEMS

9.1 GENERAL SCOPE OF WORK

- A. A signed FRA cab card shall be provided 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 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 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. The Contractor shall remove the air compressors and UTEX the units with the OEM. The UTEX air compressors shall be remanufactured and tested in accordance with the manufacturer's guidelines, EMD M.I. 1144, latest issue, and re-installed.
- B. The Contractor shall remove the air dryer assemblies and UTEX the units with the OEM. The UTEX air dryers shall be remanufactured and tested in accordance with the manufacturer's guidelines and re-installed.

9.1.3 Air Tanks and Piping

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

9.1.4 Main Reservoir

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 by the Contractor with new. 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.

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.

9.1.5 Warning Devices – The Contractor shall be responsible for the following:

9.1.5.1 Horn

- A. The horn shall be tested with a calibrated sound level meter to ensure that the horn meets FRA requirements. The horn shall be rebuilt to OEM specifications if it fails the decibel test.
- B. In order to meet the requirements of above Section 2.1.2.B, horns shall be relocated to the side of the long hood or other location where they will meet the sound level requirements of 49 CFR 229.129.

9.1.5.2 Bell

The bell shall be removed and re-qualified. The bell shall be re-installed using new mounting rubbers and tested.

9.1.6 Sanding – The Contractor shall be responsible for the following:

9.1.6.1 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.

9.1.6.2 Sand Box

- A. Inspect all sand boxes; ensure that they are not leaking nor blocked by wet sand. Repair if found to be defective.

9.1.6.3 Sand Fill Covers

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

9.1.7 Electrical System

- A. Electrical wiring for the brake system shall be inspected for nicks, cuts chafing and exposure to excessive oil.
- B. Damaged wires shall be replaced and tested with a procedure approved by CTDOT.

9.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 9-1

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

End of Section

10 MAIN ENGINE, ENGINE COOLING, AND FUEL SYSTEM

10.1 GENERAL

- A. 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].
- B. Engine disassembly and reassembly, overhauling/re-qualification of engine components, all necessary repair work and testing must be in accordance with EMD published procedures unless otherwise directed.
- C. Unless otherwise specified, only genuine EMD parts, components and subassemblies shall be used in reassembling the engine, including UTEX components and parts used in rebuilding subassemblies.
- D. Component cleanliness must be maintained throughout the overhaul and test cycle.

10.2 CRANKCASE AND OIL PAN

The Contractor shall be responsible for the following:

- A. Perform a water pressure test of the cooling system before engine disassembly. Repair points of leakage found prior to reassembly of the engine.
- B. After disassembly of the engine, thoroughly clean crankcase, oil pan and air boxes.
- C. Inspect the engine for structural cracks, especially in known suspect welds or other locations, and for abnormal wear and other defects. Magnetic particle inspection, or other CTDOT approved method, shall be utilized.
 - 1. If any abnormal wear or defects are found that would significantly affect the performance or life of the engine, agreement must be reached with CTDOT on a course of action before further work is performed.
- D. Inspect all exposed studs and tapped holes.
 - 1. Damaged studs shall be replaced.
 - 2. Tapped holes shall be re-qualified by means of thread gauges, with special attention given to exhaust deck holes.
 - 3. Damaged holes shall be repaired through installation of keylocking thread repair inserts with the exception of lifting shackle holes, which must be weld repaired.

10.3 ENGINE LOWER END

The Contractor shall be responsible for the following:

- A. Crankshaft shall be dimensionally inspected at the crankpin journals.
 - 1. Hand polishing of crankpin journals is acceptable for removing light etching and dirt marks.

2. Replacement of the crankshaft shall be done only with the specific agreement of CTDOT
- B. Inspect all piston cooling tubes (P-pipes) for condition and alignment and correct discrepancies.
- C. Qualify and recondition cylinder test valves.
 1. Apply new EMD "CRV" seals.
 2. Needle valves shall be free of pitting and shall successfully seal combustion pressure when hand tight.
- D. Inspect and qualify all airbox and crankcase handhold covers and apply new seals for reinstallation.

10.4 POWER ASSEMBLIES AND RELATED COMPONENTS

The Contractor shall be responsible for the following:

- A. The power assemblies shall be overhauled, unit exchanged with EMD or replaced with new.
 1. The complete power assemblies shall be built up using OEM standard parts defined in the EPA certificate of compliance to meet the requirements of the EPA's tier 0+ exhaust emissions standards, defined in 40 CFR 1033:
 2. Completed power assemblies shall be hydrostatically pressure tested.
 3. Power assemblies shall be installed utilizing plate-type crabs and new liner seals, head to liner gaskets, head seat rings and lower liner inserts.
- B. Camshafts shall be thoroughly cleaned and inspected.
 1. Segments will be replaced only upon specific approval of CTDOT.
 2. Camshaft bearing shells must be replaced with new.
- C. The injectors shall be replaced with new injectors certified for Tier 0+ performance.
- D. Injector control linkage shall be reconditioned, utilizing new bearings.
 1. Spring-loaded adjusting links shall be installed at each injector.
- E. All connecting rod bearings shall be replaced with new.
- F. Valve bridges shall be reconditioned, with new lash adjusters.
- G. Rocker arm assemblies shall be inspected and qualified for reuse.

10.5 HEAD FRAMES AND TOP DECK COVERS

The Contractor shall be responsible for the following:

- A. Head frames shall be inspected for damage and distortion, and re-qualified.
- B. Top deck covers shall be inspected and re-qualified.
 1. Latches shall be replaced.

2. New seals shall be applied.

10.6 EXHAUST SYSTEM

The Contractor shall be responsible for the following:

- A. Exhaust manifold chambers, heat shields and expansion joints shall be removed, cleaned, inspected, repaired and reinstalled with new gaskets.
 1. Non-repairable exhaust chambers and heat shields will be replaced only upon specific approval of CTDOT.
 2. Cracked expansion joints must be replaced with new.
- B. If foreign material is found in the exhaust manifold or screen trap box, the turbo screen shall be replaced with a UTEX component.
 1. If cracks are found, it shall be replaced with a "Starburst" design screen.

10.7 ACCESSORY DRIVE END OF ENGINE

The Contractor shall be responsible for the following:

- A. External lube oil and water elbows shall be cleaned, inspected, and reused.
- B. All fuel oil manifolds and piping shall be thoroughly cleaned and inspected.
 1. Crushed or damaged piping shall be replaced.
- C. The fuel filtration system shall be reconditioned.
 1. On the accessory rack:
 - a. Clean the fuel suction strainer and housing.
 - b. Clean the primary filter canister and install a new filter element.
 2. On the engine, apply new spin-on filter elements.
- D. Remove and rebuild or replace the Dual Delta P engine protector and reapply using new fittings and hoses.
- E. UTEX water pumps.
- F. UTEX governor.
- G. Visually inspect accessory end drive train gearing for defects and excessive wear once water pumps are removed and measure gear backlash where possible.
 1. Advise CTDOT of conditions found before proceeding to reassemble the engine.
- H. Remove and rebuild the following pumps to OEM standards and specifications:
 1. Main lube oil and piston cooling pump.
 2. Scavenging oil pump.
 3. Fuel pump and motor.

10.8 CAMSHAFT DRIVE END OF ENGINE

The Contractor shall be responsible for the following:

- A. Inspect all gears in the camshaft drive train visually, with a tooth profile gage, and by magnafluxing for evidence of overheating, galling, cracks or teeth worn beyond profile limits.
 - 1. Replace defective gears with new upon CTDOT approval.
- B. The turbocharger shall be replaced with a new turbocharger certified for Tier 0+ performance.
- C. Replace after cooler cores with new ones meeting Tier 0+ requirements.
- D. Inspect after cooler ducts and repair minor damage. Replace cracked ducts only with the specific approval of CTDOT.
- E. Clean and inspect the lube oil separator, screen and eductor tube assembly.
 - 1. Examine flanges at elbow and cover assembly for bolt head seat wear and renew if indented or worn.
 - 2. Install new high-pressure flexible hose between eductor tube and air box.
- F. Remove, inspect and recondition auxiliary generator drive assembly.
- G. Inspect and qualify cam drive housing.
- H. Remove and rebuild or replace the turbocharger lube oil (soak back) pump and motor assembly.

10.9 LUBE OIL SYSTEM

The Contractor shall be responsible for the following:

- A. Rebuild all lube oil pumps according to EMD specifications or renew if necessary.
- B. Clean, qualify and, if necessary, repair the lube oil strainer assembly.
- C. On the accessory rack, thoroughly clean the Michiana tank and install new filters.
- D. The lube oil strainer and housing shall be cleaned.
- E. All fuel and lube oil filters shall be new, including turbocharger filter.
- F. Rebuild the turbo lube oil pump and motor according to EMD specifications or renew if necessary.
- G. Rebuild all pressure relief valves, check valves, pressure switches, temperature sensors and gauges or renew if necessary.

10.10 TURBOCHARGER

- A. The Contractor shall thoroughly clean and inspect the turbocharger, including the turbine and compressor blades and any other components that may cause a rotor imbalance. If no defects are found, the turbocharger shall be rebuilt in accordance with EMD specifications. If defects are found, the Contractor shall notify CTDOT and wait for further instructions.

10.11 ENGINE REASSEMBLY

The Contractor shall be responsible for the following:

- A. Reassembly of the engine must be in accordance with OEM recommended bolt torques, clearances and tolerances per Section T1.01A.8.
 1. The Contractor shall provide all ancillary components commonly replaced in a top deck overhaul, such as threaded fasteners, pins, bushings, gaskets, etc.
 - a. All new gaskets, seals, O-rings, bushings, and miscellaneous hardware shall be used.
 - b. RTV silicone sealant shall not be used to substitute for properly fitted seals or gaskets, or used randomly in the engine without specific approval from CTDOT.
- B. Electrical and electronic components and wiring that have been disconnected/reconnected, handled, or moved during overhaul shall be inspected and qualified.
 1. Necessary replacement material shall be new.
 2. Butt splices shall not be utilized without specific approval of CTDOT.
 - a. Prior to use of a butt splice, the Contractor shall submit a sample butt splice and workmanship standard for review and approval by CTDOT.
- C. The integrity of the reconnected locomotive fuel, lube oil and coolant systems must be verified prior to startup.
- D. Perform pressure tests of fuel, lube oil and cooling systems of the engine and correct all leaks and deficiencies prior to startup.
- E. Take and record lead readings in each cylinder.
- F. Contractor's documentation of the engine build-up process shall include removed and installed serial numbers of the following components as applicable, as a minimum:
 - a. Engine
 - b. Turbocharger
 - c. Governor
 - d. Main oil pump
 - e. Scavenging oil pump
 - f. Water pumps
 - g. Camshafts
 - h. Accessory and camshaft drive end gears.
 - i. Cylinder heads
 - j. Pistons
 - k. Piston pins
 - l. Carriers

- m. Connecting rods
 - n. Liners
 - o. Injectors
 - p. Crankshaft (If done, indicate vendor that remanufactured or supplied new crankshaft.)
1. A UTEX or new power assembly need not be dismantled in order to verify the serial numbers.

10.12 FUEL SYSTEM

The Contractor shall be responsible for the following:

A. Fuel Tank

1. The fuel tank shall be inspected for damage and leaks and repaired where defects are found. The tank shall be re-qualified to meet OEM performance standards by the Contractor. 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.
2. All fuel sight glasses shall be removed and replaced.
3. Remove fuel suction and return line assembly and inspect for cracks or other signs of deterioration. Ensure that low fuel level shut off valve is in place and functioning properly.

B. Ecology Tank

1. The ecology tank shall be drained and flushed out.
2. The ecology tank shall be inspected for damage and repaired or replaced and re-qualified to meet OEM performance standards.

C. Fuel Fill

1. On locomotives equipped with Houston type fuel fills, the fuel fill equipment shall be removed and replaced with Snyder fuel fill equipment to include electric shut-off sensors.
2. On locomotives that do have Snyder fuel fill equipment, the existing fuel fill equipment shall be inspected, repaired if damaged and re-qualified in a manner approved by CTDOT.

H. All fuel and lube oil filters shall be new, including turbocharger filter.

10.13 COOLING SYSTEM

The Contractor shall be responsible for the following:

A. Radiator Cores

1. Remove all radiator cores from the locomotive and remove all header tanks in order to inspect the cores.

2. Inspect the header inlet screens for damage and repair as necessary. Renew all header gaskets.
3. All test methods and repair procedures shall be submitted in advance for review and approval by CTDOT.
4. Check for mechanically-bonded cores for the presence of corrosion, scaling and plugged tubes. Cores without plugged tubes shall be flushed and pressure tested in accordance with OEM instructions. Report all findings, pressure test results and recommendations to CTDOT for disposition, then rebuild or renew the cores as instructed. Any new cores installed must be of the mechanically-bonded type.

B. Radiator Fans

1. Unless the cooling fans and motors are being replaced with new low profile units to comply with Section 2.1.2.B. all fans and motors shall be rebuilt according to EMD Maintenance Instructions.

C. Radiator Hatches

1. Replace any damaged hatches and replace all gaskets and mounting hardware.

D. Radiator Screens and Shutter Assemblies

1. All screens and shutter assemblies shall be cleaned, inspected and reconditioned according to EMD Maintenance Instructions.
2. All shutter air cylinders shall be rebuilt to OEM instructions, magnet valves and cut out cocks shall be renewed.

E. System Piping and Hardware

1. All water piping shall be cleaned, inspected and renewed as required.
2. All seals, gaskets and related hardware shall be replaced with new.

F. Water Pumps

1. Both water pumps shall be rebuilt in accordance with OEM specifications, or renewed if necessary.

G. Water Expansion Tank

1. Clean and test the water tank for leaks and other defects. Make repairs as necessary and renew all valves.
2. Renew the water tank pressure cap, water level sight glass and all of the seals, gaskets and all valves associated with the water tank.

H. Immersion Pump and Motor

1. Rebuild the immersion pump and motor in accordance with OEM specifications or renew if necessary.

I. Immersion Heater

1. Renew the immersion heater and all related gaskets, seals and hardware.

J. Gauges and Sensors

1. Renew and calibrate the air pressure gauge, temperature sensor, water temperature gauge, and all temperature switches. Engine protective devices such as the low water detector and water pressure sensor shall be rebuilt or renewed as necessary during the engine rebuild.

10.14 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

End of Section

11 HEAD END POWER

11.1 GENERAL SCOPE OF WORK

The Contractor shall remove and replace existing HEP Units including all wiring, control cabinets, piping, radiators and unsalvageable brackets. The Contractor shall install a UTEX 425 kW Cummins QSX15 HEP Diesel Engine that meets Tier 2 emission standards with Marathon 571RSL4863 480 VAC Alternator or a CTDOT approved equivalent.

11.2 ENGINE/GENERATOR

The above reference HEP Package shall be configured to deliver wye-connected 3-phase AC current to the HEP trainlines with the following characteristics:

1. Generate sinusoidal 480 VAC, 3 phase, 60 Hz electric power for heating, lighting, and other power needs of connected passenger cars.
2. Railroad rated to continuously deliver 425 kW at 0.8 to 1.0 power factor of 480 volt, 60 Hz, 3 phase electric power to the HEP trainlines.
3. 480 VAC, controlled within the limits:
 - a. Stability: $\pm 1\%$ maximum voltage variation at any constant load.
 - b. Regulation: $\pm 1\%$ maximum voltage variation under steady state operation from no load to full load.
 - c. Transient: instantaneous 10% maximum voltage dip or rise on application of full rated load or removal of full rated load.
 - d. Transient: one (1) second maximum voltage recovery time from conditions in "c." above.
4. 60 Hz frequency, controlled within the limits:
 - a. Stability: $\pm 1\%$ maximum frequency variation at any constant load.
 - b. Regulation: $\pm 1\%$ maximum frequency variation between steady state and full load steady state.
 - c. Transient: 7.5% maximum frequency dip upon application of full rated load
 - d. Transient: 1.5% maximum frequency overshoot upon removal of full rated load.
5. Transient: four (4) second maximum recovery time.
6. Total harmonic distortion shall be limited to $\pm 5\%$.

It shall also be capable of delivering 10% of overload (468 kW) continuously for a minimum of 15 minutes.

The control system for HEP power shall utilize the existing 480 VAC power distribution trainline.

Drawings detailing design, construction, and installation of the head-end power system shall be submitted for review and acceptance by the Engineer prior to manufacture of the system.

A blower-driven inertial filtration system shall be provided by the Contractor to supply the head-end power compartment and electrical cabinets with clean air for ventilation and for diesel engine air intake.

The engine shall be certified to meet EPA Tier 2 exhaust emission standards under 40 CFR 89.

The engine shall operate on the same fuel as the prime mover engine and shall draw fuel directly from the locomotive's single fuel tank.

A check valve shall be installed by the Contractor in the fuel suction line from the locomotive tank to the HEP engine in a location which is readily accessible for repair or replacement.

An adequate cooling system utilizing biodegradable antifreeze coolant solution, mechanically bonded radiators and suitable roof mounted removable cooling fans shall be provided by the Contractor.

An exhaust system with all stainless steel components, appropriate thermal blanketing to prevent personnel contact and arranged to prevent exhaust gases from entering either engine air intake shall be provided by the Contractor.

Adequate safeties shall be included by the Contractor to prevent damage to the engine. Expected safeties would include high temperature, low water, and low oil pressure.

The alternator shall be a rugged and service-proven brushless design with Class F or better insulation, capable of continuous operation at full rated HEP load.

The diesel engine/alternator set shall be mounted by the Contractor on the existing steel sub-base and shall be physically interchangeable with the units installed in all other locomotives constructed under this specification.

Provision shall be made for collection, retention, and drainage of any liquids that may originate from the engine/alternator unit by means of a drip tray which will drain into a suitable retention tank requiring drainage not more often than every 92 days.

The diesel engine shall have suitable protection against damage from incidences such as high temperature, low water or low oil pressure. Proposed HEP engine safeties shall be submitted to the Engineer for review and acceptance.

11.3 CONTROL AND DISTRIBUTION SYSTEM

The head-end power distribution system shall be capable of the following modes of operation:

1. To distribute onboard generated 480 VAC power through the trainline.
2. To transmit 480 VAC power from a coupled locomotive or wayside power source from one end of the locomotive to the other end through any or all of the trainlines.

The main line breakers between the power source and the 3 phase bus shall be sized to trip open whenever the demand load becomes excessive for the unit or other HEP components, and when an over or under frequency, or over or under voltage condition occurs.

The control system shall be designed to prevent closure of the line breaker and application of power to trainlines if the trainlines are already externally energized from another source of 3 phase power.

The control system shall also prevent closure of breakers and application of power if the series-control trainline loop is not electrically complete.

Loop circuit configuration shall be compatible with that installed on the CTDOT's coaches.

The control system shall function to immediately open breakers and remove power from trainlines upon interruption of the series control trainline loop continuity.

The continuity trainline loop shall be configured for single bus operation only.

Protective devices shall be provided by the Contractor to open the main contactor and isolate the power source to prevent injury or damage to personnel and equipment:

- The protective devices shall also lock out the main contactor, energize appropriate indicating lights, and sound an audible alarm in the cab.
- The lock out shall be manually reset to reconnect the head end power source after a protective device has functioned.

The power source shall be equipped with the following protective devices having indicating lights mounted on the door of its control panel:

- Over/Under Frequency Protection.
- Over/Under Voltage Protection.
- Over-Current Protection.
- Ground Fault Protection shall be provided by a ground relay and associated circuits, including a test switch to manually check the operation of the relay and circuit breaker.
 - The ground fault protection system shall include circuitry to:
 - Sense a single phase to ground condition, and operate a train line alarm which shall sound for sixty (60) seconds every fifteen (15) minutes.
 - Sense a multiple phase to ground condition, and trip immediately.

11.4 CONTROL COMPONENTS

11.4.1 General

- All relays and contactors used in the control systems shall be demonstrated successful in operation in North American passenger locomotive service.
- Circuit Protection:
 - All circuits shall be properly protected by heavy duty, locomotive service proven, ambient temperature compensated thermal magnetic circuit breakers.
 - Fuses shall not be used.
 - If the power source is a diesel engine/alternator, the control system shall provide for a remote shutdown of the engine independent from the locomotive engine stop

and emergency fuel cutoff buttons.

- o Emergency shutdown of the HEP engine shall be accomplished by actuating any one of the emergency fuel cut-off switches.

11.4.2 Local Control Panel

- A control panel shall be installed by the Contractor in a convenient location. Location shall be presented to CTDOT for review and approval.

The control panel shall contain as a minimum the following devices:

Table 11-1 – Local Control Panel

Device	Cap Color
Phase light indicating power on phases 1 and 2, and power on phases 2 and 3	White
Circuit breaker/Contactor closed light	Red
Power source failure light	Red
Train line complete light	Green
Ground fault light	Red
Circuit breaker/Contactor open oil-tight push button	Red
Train line setup switch (3 position rotary)	
Inertial filter motor failure light	Red

11.4.3 Head End Power Control Cabinets

- The existing HEP control cabinet shall be removed by the Contractor and replaced with a companion Cummings Control cabinet or a CTDOT approved equivalent.
- Cabinets shall be new and shall contain the majority of the control equipment of the head-end power system.
- The cabinets shall be of sturdy construction with all welded seams and full length hinges on all doors.
- The cabinets shall be properly primed and painted with two (2) coats suede gray enamel.
- Cabinets shall be made to conform to NEMA standard type 4, oil and water tight.
- Cabinets and contained equipment shall be protected from road vibrations by suitable shock mounts and shall be ventilated by fan-driven air.

11.5 WAYSIDE POWER SUPPLY/LAYOVER PROTECTION

- It shall be possible to supply wayside power to a locomotive and car consist from a single source of wayside power.
- It shall be possible to supply power at either end of the locomotive using the HEP trainline receptacles.
- The locomotive internal circuitry shall also ensure that it is impossible for head end locomotive power supply to be applied to HEP trainlines if wayside power is applied and

vice-versa.

11.6 MAINTENANCE

- The HEP power source shall be designed in such a way as to be removed easily from the locomotive as a unit.
- Easily dis-connectable and re-connectable fittings shall be used wherever possible, and shall be applied to all main power connections and all power source auxiliary systems to allow ready removal of roof hatch.
- All required rails, bars, and other removal equipment shall be supplied.
- Maintenance of the HEP unit shall be required no more often than every 92 days.

End of Section

12 OPERATIONAL SAFETY SYSTEMS

12.1 GENERAL

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

12.2 CAB SIGNAL / ACSES SYSTEM

- A. The Contractor shall remove and return all of the existing US&S cab signal system components to CTDOT for future disposition. The replacement ATC system 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. The PHW ATC Electronics will be housed in shared enclosure with the PHW ACSES OBC and 220 MHz Data Radio. The ATC/ACSES electronics enclosure will be mounted in the space in the short hood.
- B. The PHW system will provide for new track receivers, a new Rev 11 ADU/speedometer, axle generator and all the necessary ACSES, air brake and directional/propulsion interfaces.
- C. All of the existing ACSES equipment (OBC, antenna, CTV boxes, etc.) shall be returned to PHW for requalification and upgrade to ACSES II. All of the ACSES under floor equipment will be reinstalled in its existing locations. The existing ACSES Pressure switch manifold assembly will be removed and discarded. A new PHW modular pressure switch manifold will be installed.
- D. The entire cab signal/ATC/ACSES system, when fully integrated, shall be compliant with Amtrak's Revision 11 FRA PTC '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.
- E. The Cab Signal and ACSES Systems shall be linked to the Wabtec TTXREC-M5 Event recorder and all events shall be stored in the LDRS-V FRA crash hardened memory module as described in Sections 12.2.2 and 12.2.3.

12.2.1 Alerter

A new alerter system shall be installed by the Contractor as an integral component of the Event Recorded System described in Section 12.2.2.

12.2.2 Event Recorder

The Contractor shall install a new Wabtec standard TTX-REC-M5 Event recorder. At a minimum, all existing signals shall be recorded. In order to be in compliance with 49CFR229.135, any additional signals related to PTC equipment shall also be recorded.

The Event Recorder shall be synchronized with the LDRS-V Recorder and Camera system specified in Section 12.2.3.

12.2.3 Forward Facing and Interior facing Camera System

The Contractor shall install a new video and audio system to include a forward facing color camera and an external microphone. The camera and the microphone shall each be installed in a location to be approved by CTDOT. The system shall also include the installation of a wide angle color camera installed in the cab. A Wabtec LDRS-V shall be installed to record and store data in the internal FRA crash hardened memory module. The LDRS-V will be mounted in the short hood compartment with the ATC and ACSES Train Control Equipment. The LDRS-V shall interface to the new Event Recorder system specified in Section 12.2.2.

To the extent possible, the Forward LDRS-V camera and recording system shall use the same components, interfaces, software, and system architecture as that which is being installed on CTDOT's General Electric P40 locomotives and Mafersa Cab Car fleet.

12.3 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 12-1

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

End of Section

13 MATERIALS AND WORKMANSHIP

The Contractor is responsible for the following:

13.1 GENERAL SCOPE OF WORK

- A. This section is applicable to all parts of the locomotive.
- B. All materials and skillful workmanship shall be equal to or better than accepted industry standards.
 - 1. Substitution – Substitution of materials other than those designated shall be submitted 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 in the construction 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.
- C. Interior Cleaning – Fabrics and other non-metallic materials used for interior appointments shall not be affected by industrial compounds used for cleaning such materials.
- D. Cleaning During Locomotive Overhaul
 - 1. During locomotive construction, adequate care shall be taken 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, adequate precautions shall be taken to prevent metallic or other waste or debris from causing future problems.
 - 3. A list of recommended cleaning agents shall be provided to CTDOT for all materials exposed to normal cleaning operations. This information shall also be included in the maintenance documentation for the locomotive [CDRL 13-001].
- E. Before delivery of the locomotive, a final clean up shall be made 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.
- F. Unit Exchange (UTEX)
 - 1. Unless otherwise stated, UTEX is to be with EMD.
 - a. Alternate suppliers may be proposed and are subject to approval by CTDOT

2. UTEX procedures shall be provided to CTDOT for approval prior to UTEX of equipment.

13.2 RUBBER

Window and Door Sealing – Rubber shall be compounded to preclude discoloration or staining of neighboring areas, particularly from water drainage.

13.3 GLASS

Front windshield shall conform to FRA 49 CFR part 223, type 1 requirements. Side glazing shall conform to FRA 49 CFR part 223, type 2 requirements.

13.4 WIRE AND CABLE

- A. All new wire and cable installed by the Contractor shall be in accordance with the recommendations of AAR RP-585 and APTA RP-009-98.
- B. All conductors 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.

13.5 WIRING

- A. Contractor's practice in installation of wiring shall be in accordance with APTA RP-E-002-98 and IEEE Std. 16-2004.
- B. Grounding – All electrical circuits shall be completely insulated from locomotive structure.
- C. 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. Wires with a voltage differential of 50 Volts or more shall not share the same terminal block.
- D. 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.
- E. Underframe Wiring – All underframe wiring shall be run in conduit. Cable of adequate physical strength may be cleated in place using cleats made of synthetic material at frequent intervals without conduit or raceways or equipment enclosures. Cabling and wiring shall not interfere with access to any underframe equipment.
- F. All wiring harness will be adequately secured and protected from chafing.
- G. All wires with a voltage difference of 50 Volts or more shall be placed in separate conduits and/or harnesses.
- H. No more than four terminations per stud (or per a tier of a stud, if using an AAR termination stack configuration) shall be permitted.

13.6 CONDUITS, JUNCTION BOXES AND FITTINGS

Conduits, junction boxes and fittings shall be assembled to the Contractor's and OEM standards subject to the approval of CTDOT. Any newly installed conduit and junction boxes within the cab and hoods of the locomotive shall meet a minimum IP65 rating.

13.7 WELDING AND BRAZING

- A. General – The Contractor shall be responsible for the quality of its own welding and brazing and that 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.
- 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.
- D. Structural – All structural welding practices not specifically covered in other sections of this Specification shall be 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.
- E. 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.
- F. Welder Qualification – Welders employed 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.

13.8 PIPING AND TUBING

13.8.1 Air Brake Piping Materials

Locomotive body air piping shall conform to the requirements of Sections 16, 17 and 18 of AAR Standard S-529. Procedures for cleaning air brake piping before welding, after welding, and before valves are installed, shall conform to the AAR Standard S-402 Specification for the Welding of Air Brake Pipe and Fittings for Railroad Cars.

13.8.2 Joints and Fittings

Flare fittings shall be used at removable equipment, other than air brake equipment. Removable air brake equipment shall be installed with the air brake manufacturer's standard fittings.

13.8.3 Water and Oil Piping Materials

All piping material shall be in accordance with accepted industry standards.

13.8.4 Fuel Piping

- A. Piping penetrations into the tank shall be through threaded couplings welded to the tank wall.
- B. Fuel piping shall be Schedule 80 seamless wrought steel pipe conforming to ANSI B36.10, properly secured to prevent abrasion, breakage and suction leaks.
 - 1. Protective shielding utilized for the piping system shall be easily removed if necessary to perform maintenance and component replacement.
- C. Vent piping shall be arranged to prevent spillage if the locomotive is on highly super-elevated track or in the event of derailment or overturn.

13.9 PRESSURE VESSELS

- A. All pressure vessels 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. Test reports shall be furnished for each pressure vessel, and each pressure vessel shall be stamped to document the test [CDRL 13-002].

13.10 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 SCOPE OF WORK

This Specification defines the requirements for an inspection system to be maintained by the Contractor. The Contractor's inspection system shall be capable of providing evidence that supplies and/or services meet the quality requirements of the Contract.

14.2 APPLICATION

- A. The requirements of this Specification 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

The Contractor shall be responsible for the conduct of all the inspections required to demonstrate full conformance of the work to Contract requirements. The Contractor shall use its own or any other inspection facility and service. The Contractor shall provide an inspection system capable of producing objective evidence that finished work meets the quality requirements of the Contract. 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. Inspection necessary to demonstrate conformance to Contract requirements, wherever performed, shall hereinafter to be referred to as "last point" inspection. Nothing in the foregoing or in any other provision of this Exhibit A.1 is intended to contradict or limit the CTDOT inspection rights set forth in Exhibit A or in this Exhibit A.1.

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 Manual and Inspection Plan

The Contractor's Quality Assurance Manual, with such exceptions as may be noted below, shall be the controlling document for the manufacture of the locomotives. A copy shall be supplied to CTDOT for review and approval [CDRL 14-001].

14.3.4 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 request.

14.3.5 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.

14.3.6 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.

14.3.7 Purchasing

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

14.3.8 Incoming Material Inspection

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

14.3.9 Fabrication, Manufacturing and Assembly Inspection

- A. The Contractor shall, as a minimum, perform all required last point 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 last point 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.

14.3.10 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.

14.3.11 Welding

The Contractor's facilities and welders shall be certified in accordance with the requirements of the latest revision of AWS D1.1 and D1.3. All welding must be performed using procedures approved by CTDOT. The Contractor shall make Welder Certifications available to CTDOT upon request.

14.3.12 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.

14.3.13 Material Control

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

14.3.14 Accommodation, Facilities and Assistance

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. 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.

14.4 EVALUATION AND INSPECTION

- 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 the CTDOT.
- B. The Contractor's operations required by this section shall be subject to:
- C. Review at unscheduled intervals, of the effectiveness of the Contractor's Inspection System.
- D. Inspection after receipt of the work, to determine compliance with Contract requirements.

14.5 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 14-1

CDRL	Description	Due
CDRL 14-001	Contractor's Quality Assurance Manual	15 days after NTP
CDRL 14-002	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 GENERAL SCOPE OF WORK

- 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. In addition to tests which are performed in place on the locomotives as described in the following subsections, First Article Inspections (FAIs), including tests, shall be conducted by the Contractor on the following equipment at the manufacturer's or supplier's facilities:
 1. Cab Signal/ATC/ACSES equipment
 2. Cab HVAC equipment
- C. The Contractor shall provide a schedule for these FAIs within 90 days of notice to proceed [CDRL 15-001].
- D. The Contractor shall submit a detailed plan for the FAI no later than 30 days in advance of the date the FAI is to be held, for CTDOT review and approval [CDRL 15-002].
- E. A full report of the FAI proceedings, including results of testing, shall be prepared by the Contractor. Any residual discrepancies and issues shall be identified along with proposed steps for correcting and resolving them [CDRL 15-003].
- F. All issues shall be resolved and corrections made before the FAI equipment is shipped to the Contractor's shop and installed in a locomotive.

15.2 TEST PROCEDURES

- A. Unless otherwise specified, the Contractor's standard test procedures for this model locomotive shall apply. A list of test procedures to be used shall be submitted for CTDOT's approval four months after the Notice to Proceed. Test results shall be submitted to CTDOT for review and acceptance [CDRL 15-004].
- B. All test data shall be subject to CTDOT's review and comment, and shall become the property of CTDOT upon satisfactory completion of tests. If the 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 this locomotive shall be retested.
- C. The Contractor shall, approximately 30 days prior to production testing of the locomotive, submit to CTDOT for review and comment, detailed test procedures which shall satisfy the requirement of this section [CDRL 15-005].
- D. The Contractor shall advise CTDOT five working days in advance of the time and place of each test. If representatives are not available at time of tests, tests will proceed to maintain construction sequence and timing.

15.3 TEST REQUIREMENTS

15.3.1 Tests at Overhaul Shop

The following tests shall be performed by the Contractor on the locomotives and their components at the Contractor's facilities:

15.3.1.1 Engine (Prime Mover) Testing

Engine testing shall be performed in accordance with Section 15.4 on all locomotives.

15.3.1.2 Cooling System Test

A full load test shall be performed on all locomotives to verify that the cooling fans in the new long hood configuration will sustain the full 3195 HP output of the main engine at an ambient temperature of 111°F and the dynamic brake fan will enable the grids to dissipate full power for 5 minutes under self-load. The cooling system shall exhibit no leaks.

15.3.1.3 Sound Level Test

15.3.1.3.1 Stationary Locomotive Exterior Sound Level

A test of the first locomotive shall be performed to verify that the exterior noise level of the locomotive as modified meets the requirements of 49 CFR 210.31 and 40 CFR 201.11.

15.3.1.3.2 Horn Test

A test of the horns in their new location on the locomotive shall be performed to verify that they meet the sound level requirements of 49 CFR 229.129.

15.3.1.4 Clearance Measurements

15.3.1.4.1 Outline Diagram

The first locomotive shall be accurately measured with no variable supplies and a static clearance outline diagram prepared for CTDOT acceptance. The actual diameter of the locomotive wheels shall be measured and an adjustment made to all height measurements to new wheel condition on the diagram.

15.3.1.4.2 Maximum Height

The maximum height of each locomotive shall be measured to verify that it will not exceed 15'1" under new wheel, no variable supplies condition.

15.3.1.5 Watertightness Test

Each locomotive shall be tested for water-tightness in accordance with Contractor's test procedures.

15.3.1.6 Brake Tests

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

15.3.1.6.1 Air Brake Tests

A static functional brake test shall be performed to verify that the locomotive's brakes are in compliance with 49 CFR 229 regulations.

15.3.1.6.2 Blended Brake Test

On each locomotive, the blended air/dynamic brakes shall be functionally tested to verify that the current settings, control calibration, etc., meet the original design performance requirements.

15.3.1.7 AESS Test

A full functional test of the AESS system shall be performed on every locomotive. This test shall verify 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.

15.3.1.8 Locomotive Sequence Tests

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. A detailed procedure for this test shall be provided for CTDOT approval.

15.3.1.9 Cab Air Conditioning Functional Test

The cab air conditioning system shall be functionally tested on every locomotive. The operation of the thermostatic control system shall be demonstrated by test and shall be in accordance with specified settings. Controls shall be checked and adjusted for temperature distribution and proper volume of air conditioning.

15.3.1.10 Weighing

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 maximum allowable weight differential between trucks is 2,700 lbs with the locomotive in a ready-to-run condition.

15.3.1.11 Cab Signal/ATC/ACSES Test

A complete static functional test of the cab signal/ATC/ACSES system installed in the locomotive shall be performed on every locomotive. The test shall exercise all the features of the system to the maximum extent possible without being on Northeast Corridor track with its attendant wayside signal equipment.

15.3.2 Tests at CTDOT

Subsequent to the procedures defined in Section 15.3.1, the following tests shall be performed on each locomotive:

- A. A functional checkout of the locomotive coupled to a consist of 4 CTDOT trailer cars and a cab car. The Contractor's procedure shall test all air and electrical trainline control functions from both the locomotive and the cab car.
- B. A non-revenue road test to verify the performance of the overhauled engine and other modified systems of the locomotive in over-the-road service, including the cab signal/ATC/ACSES equipment installed by the Contractor. The Contractor shall work in cooperation with CTDOT and the Contract Operator to define the time, territory, speeds and procedural steps to be followed in the performance of this test.

15.3.3 Written Reports

Written reports of all tests performed on the locomotives and their components shall be submitted to CTDOT for acceptance [CDRL 15-006]. Tests required by the Specification which are performed on all locomotives or all components shall be included in the Locomotive History Book.

15.3.4 Other Tests

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.

15.3.5 Locomotive Acceptance

Official final acceptance of the locomotive by CTDOT shall be performed in accordance with Section 17 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.

15.4 ENGINE TESTING

- A. The completed engine shall be charged with lubricating oil and coolant and prepared for continuous full load running.
 - 1. The testing of the engine shall be conducted by the Contractor and include as a minimum:
 - a. Prelubrication of the engine, with inspection for proper oil flow at all bearings and rockers.
 - b. A check of turbo lube pump operation by observing oil flow at the camshaft gear train.
 - c. A break-in period of operation which includes:
 - i. Bearing checks, injector and valve lash settings and squaring of injectors.
 - ii. A period of full load operation.
 - iii. Re-torquing of top deck and lower end nuts and bolts.

- iv. A second period of full load operation.
- v. An overspeed test.
- d. A record of the test shall be provided, including as a minimum the following data:
 - i. Torque
 - ii. RPM
 - iii. Horsepower
 - iv. Throttle position
 - v. Governor setting
 - vi. Overspeed trip setting
 - vii. Ambient temperature
 - viii. Water temperature—inlet and outlet
 - ix. Water temperature of engine—left bank and right bank
 - x. Water pressure
 - xi. Fuel supply pressure
 - xii. Fuel return pressure
 - xiii. Main oil pump pressure
 - xiv. Piston oil pump pressure
 - xv. Oil pressure at governor
 - xvi. Auxiliary drive oil pressure
 - xvii. Turbo lube oil (soak back) pump pressure
 - xviii. Lube oil temperature—in and out
 - xix. Air Box pressure
 - xx. Crankcase vacuum
 - xxi. Stack temperature at each cylinder
 - xxii. Bearing temperatures—main and connecting rod
 - xxiii. Condition of fuel sight glass.

B. After successful load testing the engine shall be painted by the Contractor.

- 1. Paint applied shall be heat resistant suede gray suitable for the application.
- 2. Critical areas such as sight glasses, flywheel and original badge plates shall be masked and free of overspray.
- 3. The Contractor shall attach its rebuilders badge plate in proximity to the existing EMD and GEC Alstom plates. The plate shall show the Contractor's name, shop location, I.D. number and date of completion.

- C. The engine shall then be given a load box test by the Contractor at full load of minimum 2 hour duration, and also a 10-step load sequence test. For both tests, the Contractor shall record and submit to CTDOT the same data as specified in Section 15.4.A.1.c.
1. Following the test, all lube oil filters shall be replaced by the Contractor.
 2. A lube oil sample shall be taken by the Contractor for analysis and results provided to CTDOT prior to shipment of the locomotive.
 3. The engine room and main generator compartment shall be cleaned by the Contractor after completion of testing.
 4. The main engine cooling system shall be completely drained by the Contractor prior to shipment, such that no freeze damage will occur in cold weather.
- D. The Contractor shall submit its proposed procedures and documentation for both the break-in procedure and load testing [CDRL 15-007].

15.5 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 15-1

CDRL	Description	Due
CDRL 15-001	First Article Inspection Schedule	Within 90 days of NTP
CDRL 15-002	First Article Inspection Plan	30 Days Prior to FAI
CDRL 15-003	Report of First Article Inspection Proceedings	Within 10 Days of FAI
CDRL 15-004	List of Test Procedures	Within 4 Months of NTP
CDRL 15-005	Test Procedures	30 Days Prior to Testing
CDRL 15-006	Test Reports	10 Days after Testing
CDRL 15-007	Main Engine Break-In and Load Testing Procedure	TBD By Contractor and set forth in the Contract Deliverables Requirement List

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, 4 sets of advance drawings, for review and comment by CTDOT [CDRL 16-001].
- C. Reproducible “as built” drawings shall be provided by the Contractor within 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 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 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 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 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].

16.2 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 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 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 90 calendar days from the Notice to Proceed [CDRL 16-011].

16.5 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 16-1

CDRL	Description	Due
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CTDOT
GP40 Overhaul Technical Specification

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 SHIPMENT AND ACCEPTANCE

17.1.1 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. Locomotives shall be shipped without sand, water, and fuel; however the prime mover and HEP diesel engine and air compressor shall have a full complement of lube oil.
- D. Spare parts and material shall be shipped at the Contractors expense to The Connecticut Commuter Rail Maintenance Facility, Hallock Ave., New Haven, CT 06519.
 1. Capital spare parts may be purchased from the Contractor at CTDOT's discretion. Should CTDOT choose to purchase such capital spare parts, the shipment of the associated parts shall commence within ten (10) months of the date that the option is exercised

17.1.2 Certificate Of In-Plant Inspection & Release For Shipment

- A. A certificate of in-plant inspection and release for shipment shall be prepared by the onsite Engineer or inspector 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 this time the Contractor shall have compiled for review by CTDOT representative(s) the documentation of all tests, inspections, serial numbers, weights, and other matters required by this Exhibit A.1.
- D. The Contractor shall allocate at least one (1) full working day, which shall be a weekday during daylight hours, for the CTDOT representatives 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 totally meets the requirements of the Specification and is fully operational.
- E. The Contractor shall place in the card holder in the cab of the locomotive the following original completed, signed and dated document:

1. 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, 229.29 and 229.31.
- F. Upon successful completion of inspection and review, a Certificate of In-Plant Inspection and Release for Shipment will be issued by CTDOT to accompany the shipment of the locomotive(s).

17.1.3 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.

17.1.4 Conditional Acceptance Inspection (All Locomotives)

17.1.4.1 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 start the locomotive, verify all systems are operational and successfully perform a terminal train air brake test and cab signal departure test as part of the preparation of the locomotive.

17.1.4.2 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 15.3.2.B.
- B. Following successful completion of the non-revenue road tests, a Certificate of Conditional Acceptance will be prepared and signed by CTDOT. 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 working days from the Receiving Inspection to begin conditional acceptance testing, and a maximum of five working days from Receiving Inspection to furnish Conditional Acceptance provided the tested locomotive meets the requirements of this Exhibit A.1. If multiple locomotives arrive simultaneously in New Haven, two extra test days will be allocated per additional locomotive.

17.1.5 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 Exhibit A.1) test reports showing that the required tests and inspections have been successfully completed with results satisfactory to CTDOT.
 - 3. Documentation is complete, as applicable to historic record keeping of work performed (car history books) in compliance to the Contract.
 - 4. The locomotive completes 5 revenue service round trips without requiring any unscheduled maintenance of equipment overhauled or newly installed by the Contractor.
- B. A Certificate of Final Acceptance will be executed by CTDOT for each locomotive that meets the requirements set forth in this Exhibit A.1 and the Agreement [CDRL 17-001].

17.2 CONTRACT DELIVERABLE REQUIREMENTS LIST

Table 17-1

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

End of Section

Exhibit A.2

ABBREVIATIONS AND COMMONLY USED TERMS

EXHIBIT A.2

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
AC	Alternating Current
ACSES	Advanced Civil Speed Enforcement System
ADU	Aspect Display Unit
AESS	Automatic Engine Stop Start
A.H.	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
ATS	Automatic Train Stop
AWG	American Wire Gage
AWS	American Welding Society
C	Celsius
C/S	Cab Signal
CAD	Computer Aided Drafting
CCR	Connecticut Commuter Rail
CCW	Counter Clockwise
CDRL	Contract Deliverable Requirement List
CFR	Code of Federal Regulations
COR	Change Order Request
CPM	Critical Path Method
CRV	Compression Relief Valve
CTDOT	Connecticut Department of Transportation and designated agents
CTV	Compatibilite Television Vital (French)
CuFt.	Cubic Feet
CW	Clockwise
Cyl	Cylinder
dB	Decibel
dBA or dB(A)	A-weighted Decibel
DBE	Disadvantaged Business Enterprise
DC	Direct Current
DST	Daylight Savings Time

EMD	Electromotive Division
EPA	Environmental Protection Agency
etc.	Etcetera
F	Fahrenheit
FAI	First Article Inspection
FCC	Federal Communications Commission
FOB	Free on Board
FRA	Federal Railroad Administration
FSR	Field Service Report
ft.	feet
FTA	Federal Transit Administration
FTLD	Front Trainline Disconnect
GE	General Electric
GPM	Gallons per Minute
HEP	Head End Power
HP	Horsepower
HVAC	Heating, Ventilation and Air Conditioning
Hz	Hertz
I.D.	Identification
IEEE	Institute of Electrical and Electronic Engineers
in.	inch
kHz	kilohertz
km	kilometer
kmph	Kilometers per hour
kw	Kilowatt
lbf	Pounds force
LDRS-V	Locomotive Data Recording System - Video
LED	Light Emitting Diode
lb.	pound
MBE	Minority Business Enterprise
MI	Mechanical Inspection
mm	millimeter
MNR	Metro North Railroad
mph	Miles per hour
mphps	Miles per hour per second
MR	Main Reservoir
MU	Multiple Unit
NEC	Northeast Corridor
NEMA	National Electrical Manufacturer's Association

NFPA	National Fire Protection Association
NRPC	National Railroad Passenger Corporation (Amtrak)
NTP	Notice to Proceed
NTSB	National Transportation Safety Board
OBC	On Board Computer
OEM	Original Equipment Manufacturer
oz./sq. yd.	Ounces per square yard
PA/IC	Public Address/Intercom
PC	Personal Computer
PCS	Propulsion Control System
P.O.	Post Office
p.m.	Post Meridiem
Psi	Pounds per square inch
RFP	Request For Proposals
rpm	Revolution per Minute
rms	Root Mean Square
RTV	Room Temperature Vulcanization Silicone
SBE	Small Business Enterprise
TOR	Top Of Rail
TBD	To Be Determined
TDV	Thermostatic Drain Valve
TLC	Trainline Complete
TLCL	Trainline complete left
TLCR	Trainline complete right
TLV	Trainline Voltage
UL	Underwriters Laboratories
US	United States
US&S	United Switch and Signal
UTEX	Unit Trade Exchange (does not apply on new equipment.)
V	Volt
VAC	Volts Alternating Current

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 PRESS. American Public Transportation Association Passenger Rail Equipment Safety Standards

AS BUILT. A term used to describe actual construction.

BASIC or MANUFACTURER'S STANDARD. Shall mean the component or part standard to be acceptable as part of the line-produced Locomotive.

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.

COLLUSION. A secret agreement, conspiracy, or a secret understanding between two or more persons prejudicial to another.

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 Inspection 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 REQUIRMENT 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.

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. 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)

Fiscal Admin. Svcs.,
Mary K. Motuszek
Telephone Number:
(860) 594-2342

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

RFP NO.:
16DOT7000 GP40.

DELIVERY:
see delivery schedule
TERMS: CASH DISCOUNT:
NET 45 % Days

PROPOSER NAME:
National Railway Equipment Co.
Federal DOT ID #:

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 FOB state agency.

FIXED PRICE WORK ITEM #	QTY	DESCRIPTION UNIT PRICE WRITTEN IN WORDS	LABOR	MATERIAL	TOTAL	DELIVERED UNIT PRICE	TOTAL BASE PROPOSAL PRICE
1	6	SCOPE AND RESPONSIBILITY AT: Dollars each	N/A	N/A	N/A	N/A	N/A
2	6	GENERAL REQUIREMENTS AT: Dollars each	\$ N/A	\$ N/A	\$ N/A	\$ N/A	\$ N/A
3	6	LOCOMOTIVE BODY AND STRUCTURE AT: Dollars each	\$61,200	\$12,274	\$73,474	\$74,837	\$449,022
4	6	COUPLER, DRAFT GEAR AND TRAINLINE CONNECTION AT: Dollars each	\$15,420	\$6,219	\$21,639	\$22,330	\$133,980
5	6	CAB AND LOCOMOTIVE CONTROLS AT: Dollars each	\$93,420	\$40,271	\$133,691	\$138,165	\$828,993
6	6	MAIN AND AUXILIARY GENERATOR, PROPULSION AND DYNAMIC BRAKING SYSTEMS AT: Dollars each	\$19,440	\$18,172	\$37,612	\$39,631	\$237,786
7	6	MISCELLANEOUS ELECTRICAL SYSTEMS AT: Dollars each	\$8,880	\$6,586	\$15,466	\$16,198	\$97,186
8	6	TRUCK AND SUSPENSION AT: Dollars each	\$22,800	\$52,670	\$75,470	\$81,322	\$487,933
9	6	AIR SUPPLY AND FRICTION BRAKE SYSTEM AT: Dollars each	\$33,420	\$20,465	\$53,885	\$56,158	\$336,948

PROPOSAL SCHEDULE
(EXHIBIT B)

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

RFP NO.: GP40
16DOT7000

Fiscal Admin. Supp.:
Mary K. Matuzsak
Telephone Number:
(860) 594-2342

PRICE SCHEDULE

IMPORTANT!
RETURN ORIGINAL AND ONE COPY

DELIVERY: see delivery schedule

TERMS: CASH DISCOUNT:

NET 45 % Days

PROPOSER NAME:

National Railway Equipment Co.
Federal DOT ID #:

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

10	6	MAIN ENGINE, MAIN ENGINE COOLING AND FUEL SYSTEM AT: Dollars each	\$82,800	\$183,448	\$266,248	\$275,383	\$1,652,298
11	6	HEAD END POWER AT: Dollars each	\$92,040	\$90,051	\$182,091	\$192,097	\$1,152,580
12	6	OPERATIONAL SAFETY SYSTEMS AT: Dollars each	\$21,840	\$23,778	\$45,618	\$48,260	\$289,560
13	6	MATERIALS AND WORKMANSHIP AT: Dollars each	\$3,420	N/A	\$3,420	\$3,420	\$20,520
14	6	QUALITY ASSURANCE REQUIREMENTS AT: Dollars each	\$N/A	N/A	\$N/A	\$N/A	\$N/A
15	6	INSPECTION AND TESTING AT: Dollars each	\$33,600	N/A	\$33,600	\$33,600	\$201,600
16	6	TECHNICAL DOCUMENTS AND TRAINING AT: Dollars each	\$111,000	\$N/A	\$111,000	\$111,000	\$666,000
17	6	SHIPMENT AND ACCEPTANCE AT: Dollars each	\$36,800	N/A	\$36,800	\$36,800	\$220,800
		GRAND TOTAL	\$604,080	\$453,934	\$1,058,014	\$1,129,201	\$6,775,206

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

RFP NO.:
16DOT7000

GP40

DELIVERY:
TERMS: Net 45
CASH DISCOUNT: %
PROPOSER NAME:
Kraig Roberts
Federal DOT ID #:

PRICE SCHEDULE
IMPORTANT!
RETURN ORIGINAL AND ONE COPY

Fiscal Admin. Supv.:
Mary K. Manuszak
Telephone Number:
(860) 594-2342

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

CERTIFIED RATES FOR COST-PLUS WORK (See Section A.40):

SHOP LABOR TYPE (ABBREVIATION)	DESCRIPTION OF CERTIFIED PAYROLL RATES	CERTIFIED PAYROLL RATE	CERTIFIED OVERHEAD RATE (%)	ADMINISTRATIVE FEE \$ OR % PER INSTANCE	CONTRACTOR'S PROFIT (%)
STD	Laborer/Mechanic/Electrician	\$ 21.82	275%	N/A	10%
		\$	%		%
		\$	%		%
		\$	%		%
		\$	%		%
		\$	%		%
		\$	%		%
		\$	%		%
		\$	%		%
		\$	%		%

(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 extra 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. Time and Material documentation and invoicing should be provided to CTDOT on a monthly basis.

STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

RFP NO.:
16DOT7000 GP40

Fiscal Adm. Supv.:
Mary E. Matoszak
Telephone Number:
(860) 594-2342

PRICE SCHEDULE

IMPORTANT!
RETURN ORIGINAL AND ONE COPY

DELIVERY:

TERMS: CASH DISCOUNT: %

Days

PROPOSER NAME:

Federal DOT ID #:

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

Page 4 OF 5

SPARE PARTS UNIT COSTS (Section #8. Of DOTRFP-22):

ITEM	DESCRIPTION	TOTAL UNIT COST**
1.	Pricing supplied upon receipt of requested parts list	\$
2.		\$
3.		\$
4.		\$
5.		\$
6.		\$
7.		\$
8.		\$
9.		\$
10.		\$
11.		\$
12.		\$
13.		\$
14.		\$
15.		\$
16.		\$
17.		\$
18.		\$
19.		\$
20.		\$

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

RFP NO.: 16DOT7000 GP40

PROPOSAL SCHEDULE
(EXHIBIT B)

Fiscal Admin. Supv.:
Mary K. Matlack
Telephone Number:
(860) 594-2342

DELIVERY:

PRICE SCHEDULE

IMPORTANT!
RETURN ORIGINAL AND ONE COPY

TERMS: CASH DISCOUNT: %

Days

PROPOSER NAME:

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

Federal DOT ID #:

Page 5 OF 5

TOTAL UNIT COST**

DESCRIPTION

21. Pricing supplied upon receipt of requested parts list

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

\$

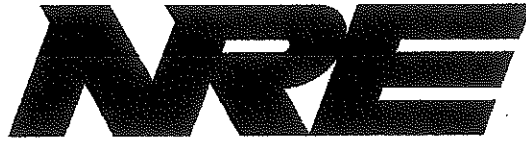
\$

\$

\$

\$

\$



QTY	PART NUMBER	DESCRIPTION	UNIT PRICE	Loco 2 Year	EXTENDED PRICE
2	8424968	VALVE ASY,A/C, DISCHARGE LOW PRESSURE	\$ 144.87	2	\$ 289.74
1	8424969	VALVE ASY A/C, DISCHARGE HIGH PRESSURE	\$ 138.68	1	\$ 138.68
2	9319947	VALVE ASY,A/C,SUCTION LOW PRESSURE	\$ 139.66	2	\$ 279.32
1	9319946	VALVE ASY,A/C,SUCTION HIGH PRESSURE	\$ 134.00	1	\$ 134.00
4	40028341	POWER PACK-FORK	\$ 3,835.37	4	\$ 15,341.48
		CORE FEE	\$ 550.00	4	\$ 2,200.00
4	40028340	POWER PACK-BLADE	\$ 3,544.54	4	\$ 14,178.16
		CORE FEE	\$ 550.00	4	\$ 2,200.00
2	8310077	VALVE ASY, SAFETY	\$ 71.05	2	\$ 142.10
8	8343161	OIL SEAL,FILTER SOAK BLACK	\$ 0.53	8	\$ 4.24
1	40004234-R	WATER PUMP,LEFT	\$ 795.00	1	\$ 795.00
		CORE FEE	\$ 250.00	1	\$ 250.00
1	40004235-R	WATER PUMP,RIGHT	\$ 795.00	1	\$ 795.00
		CORE FEE	\$ 250.00	1	\$ 250.00
1	8262903R	OIL PUMP SCAV	\$ 1,605.78	1	\$ 1,605.78
		CORE FEE	\$ 450.00	1	\$ 450.00
1	9330012-R	OIL PUMP PRESSURE	\$ 1,605.78	1	\$ 1,605.78
		CORE FEE	\$ 450.00	1	\$ 450.00
1	9538379	GLASS ,WATER GAUGE	\$ 9.01	1	\$ 9.01



QTY	PART NUMBER	DESCRIPTION	UNIT PRICE	Loco 2 Year	EXTENDED PRICE
32	8028103	PIN	\$ 2.01	32	\$ 64.32
100	148147	RETAINER SPRING,CLIP	\$ 0.26	100	\$ 26.00
6	9557789	BEARING,SUPPORT	\$ 945.71	6	\$ 5,674.26
1	9540306	GEAR CASE,LOWER HALF	\$ 283.09	1	\$ 283.09
1	9540598	GEAR CASE,UPPER HALF	\$ 283.09	1	\$ 283.09
1	8326203	CAP ASY,GREASE FILLER	\$ 52.00	1	\$ 52.00
6	9535375	SEAL ASY,GEAR HUB AND SUPPORT BEARING	\$ 51.09	6	\$ 306.54
6	40012790	SEAL ASY,PINION	\$ 5.78	6	\$ 34.68
6	9535376	SEAL ASY, WHEEL HUB	\$ 54.57	6	\$ 327.42
1	TRAC_D78-R	TRACTION MOTOR	\$ 11,500.00	1	\$ 11,500.00
	CORE THD78	***CORE FEE****	\$ 4,000.00	1	\$ 4,000.00
		IF CORE NOT RETURNED	\$ 1,500.00	1	\$ 1,500.00
1	WBO/LOW BASE SINGLE ENDED CRANKSHAFT GEAR DRIVEN OIL PUMP	AIR COMPRESSOR	\$ 11,428.57	1	\$ 11,428.57
		CORE FEE	\$ 2,500.00	1	\$ 2,500.00
10	8060582	FUSE, STARTING	\$ 36.18	10	\$ 361.80
1	680-0004-000	AXLE GENERATOR DRIVE SHAFT	\$ 132.57	1	\$ 132.57
1	908-0001-000	AXLE GENERATOR	\$ 1,473.43	1	\$ 1,473.43



QTY	PART NUMBER	DESCRIPTION	UNIT PRICE	Loco 2 Year	EXTENDED PRICE
1	580-0076-000	NCOMPASS BOARD	\$ 5,539.07	1	\$ 5,539.07
1	057-0003-000	AXLE GENERATOR CABLE	\$ 175.00	1	\$ 175.00
2	775-0001-000	TEMPERATURE SENSOR	\$ 834.66	2	\$ 1,669.31
2	057-0001-000	TEMPERATURE SENSOR CABLE	\$ 172.22	2	\$ 344.44
2	775-0003-000	2000 AMP CURRENT TRANSDUCER	\$ 300.09	2	\$ 600.17
2	775-0007-000	200 AMP CURRENT TRANSDUCER	\$ 246.86	2	\$ 493.71
2	057-0005-000	CURRENT TRANSDUCER CABLE	\$ 88.00	2	\$ 176.00
2	775-0004-000	VOLTAGE SENSOR PANEL	\$ 658.94	2	\$ 1,317.89
4	775-0005-000	PRESSURE SENSOR	\$ 372.22	4	\$ 1,488.88
4	057-0002-000	PRESSURE SENSOR CABLE	\$ 72.00	4	\$ 288.00
3	580-0074-000	DSP BOARD	\$ 2,453.71	3	\$ 7,361.13
2	580-0066-000	POWER SUPPLY BOARD	\$ 2,809.00	2	\$ 5,618.00
2	580-0003-000	I/O BOARD	\$ 1,390.14	2	\$ 2,780.29
2	905-0003-000	CT PANEL	\$ 988.72	2	\$ 1,977.44
2	902-0001-000	NVISION DISPLAY	\$ 1,236.67	2	\$ 2,473.34
	5250002403	THERMOSTAT	\$ 39.26	1	\$ 39.26
	5250002404	GASKET,EXHAUST MANIFOLD	\$ 13.63	4	\$ 54.52
	5250002405	SEAL,THERMOSTAT	\$ 13.92	1	\$ 13.92
	5250002406	GASKET,EXHAUST MANIFOLD	\$ 14.08	1	\$ 14.08



QTY	PART NUMBER	DESCRIPTION	UNIT PRICE	Loco 2 Year	EXTENDED PRICE
	5250002407	GASKET,THM HOUSING COVER	\$ 18.74	1	\$ 18.74
	5250002408	GASKET,OIL DRAIN	\$ 2.88	2	\$ 2.88
	5250002409	GASKET,THERMOSTAT HOUSING	\$ 17.46	1	\$ 17.46
	5250002410	THERMOSTAT	\$ 67.85	1	\$ 67.85
	5250002411	SEAL,RECTANGULAR RING	\$ 14.27	2	\$ 28.54
	5250002412	GASKET,VALVE COVER	\$ 45.38	1	\$ 45.38
	5250002413	SEAL,CAMSHAFT COVER	\$ 5.74	1	\$ 5.74
	5250002414	CAP,FILLER	\$ 25.49	1	\$ 25.49
	5250002415	GASKET,TURBOCHARGER	\$ 19.82	1	\$ 19.82
	5250002416	TENSIONER,BELT	\$ 167.36	1	\$ 167.36
	5250002417	HOSE,PLAIN	\$ 51.35	1	\$ 51.35
	5250002418	TENSIONER,BELT	\$ 170.05	1	\$ 170.05
	5250002419	SEAL,RECTANGULAR RING	\$ 5.31	6	\$ 31.86
	5250002420	SEAL,RECTANGULAR RING	\$ 1.65	6	\$ 8.25
	5250002421	SEAL,RECTANGULAR RING	\$ 8.27	1	\$ 8.27
	5250002422	COVER,GEAR	\$ 130.78	1	\$ 130.78
	5250002423	BELT,V RIBBED	\$ 47.97	1	\$ 47.97
	5250002424	BELT,V RIBBED	\$ 38.88	1	\$ 38.88
	5250002425	HOSE,FLEXIBLE	\$ 43.44	1	\$ 43.44



QTY	PART NUMBER	DESCRIPTION	UNIT PRICE	Loco 2 Year	EXTENDED PRICE
	5250002426	HOSE,FLEXIBLE	\$ 63.95	1	\$ 63.95
	5250002427	HOSE,FLEXIBLE	\$ 144.19	1	\$ 144.19
	5250002428	HOSE,FLEXIBLE	\$ 94.77	1	\$ 94.77
	5250002429	HOSE,FLEXIBLE	\$ 52.27	1	\$ 52.27
	5250002430	DIPSTICK	\$ 68.87	1	\$ 68.87
	5250002431	HOSE,FLEXIBLE	\$ 57.73	1	\$ 57.73
	5250002432	HOSE,FLEXIBLE	\$ 58.03	1	\$ 58.03
	5250002433	HOSE,FLEXIBLE	\$ 41.21	1	\$ 41.21
	5250002434	HOSE,FLEXIBLE	\$ 128.80	1	\$ 128.80
	5250002435	FILTER,LUBRICATING OIL	\$ 39.12	4	\$ 156.48
	5250002436	RESISTOR,CORROSION	\$ 45.99	1	\$ 45.99
	5250002437	PUMP,WATER	\$ 414.41	1	\$ 414.41
	WATERPUMPCORE	CHARGED IF CORE NOT RTND	\$ 366.10	1	\$ 366.10
	5250002438	TUBE,OIL GAUGE	w/5250002439	1	\$68.87
	5250002439	DIPSTICK	w/5250002438	1	
	5250002440	CLEANER,AIR	\$ 541.73	1	\$ 541.73
	5250002441	FILTER,FUEL	\$ 105.54	1	\$ 105.54
	5250002442	GASKET,TURBOCHARGER		1	

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QTY	PART NUMBER	DESCRIPTION	UNIT PRICE	Loco 2 Year	EXTENDED PRICE
	5750001064	MOTOR,STARTING	\$ 1,265.09	1	\$ 1,265.09
	STARTER CORE	***CORE FEE***	\$ 539.00	1	\$ 539.00
					\$ 118,633.65

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 the 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.