Export Control Classification Number(s) ("ECCN") [or the ITAR U.S. Munitions List Classification(s)] is/are:______."

- If the services under the Contract include the maintenance or servicing of a Product, Contractor shall be responsible for promptly informing Amtrak's Contracting Official of any changes in the ECCN or MCL status of such Product until expiration or termination of the maintenance or serving period for that Product.
- If Contractor is provided, or provided access to, any technology or technical data by or through Amtrak that is restricted under the export control laws or regulations, Contractor shall fully comply with any and all restrictions imposed by Amtrak at no additional cost.
- 50.7 Contractor is fully responsible for compliance with the provisions herein on behalf of itself and its employees, agents and contractors and those of its Subcontractors, at any tier level, and their respective employees, agents and contractors.

51. TRANSACTIONS INVOLVING EMPLOYEES OF AMTRAK

- 51.1 Without giving prior written notice to the Contracting Official, Contractor shall not: (a) employ any employee of Amtrak when Contractor knows or has reason to believe that such person after employment by Contractor, shall also continue to remain in the employ of Amtrak; or (b) utilize as a consultant or otherwise, for compensation, the services of any employee of Amtrak in connection with the performance of the Work under this Contract; or (c) procure any portion of the Work under this Contract, or any materials or services required in connection with the performance of this Contract, from any firm (excluding corporations whose stock is listed on a recognized stock exchange) which Contractor knows or has reason to believe is owned or controlled by employees of Amtrak or in which employees of Amtrak have a substantial interest.
- Contractor shall furnish the Contracting Official with such further information as the Contracting Official may request concerning any proposed transactions of Contractor set forth above.

52. AMERICANS WITH DISABILITIES ACT

The Contractor shall comply with all the applicable requirements of the Americans with Disabilities Act of 1990 and regulations promulgated thereafter, including 49 CFR Parts 27, 37 & 38.

53. COVENANTS AGAINST CONTINGENT FEES

53.1 Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this Contract upon an agreement or understanding

for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by Contractor for the purpose of securing business. For breach or violation of this warranty, Amtrak shall have the right to terminate this Contract without liability or in its discretion to deduct from the Contract Amount, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

54. ETHICAL BUSINESS PRACTICES

- 54.1 Contractor agrees that it shall not give, promise, or offer to any Amtrak employee, agent or representative any cash, gift, entertainment, commission, or kickback, or anything of value.
- Contractor agrees that it shall neither solicit nor accept any cash, gift, entertainment, commission, kickback or anything of value from a Subcontractor or any other person or entity.
- Contractor agrees that it shall not (1) knowingly employ the services of any Amtrak employee or member of an employee's immediate family as a consultant, Subcontractor, or otherwise, in connection with the performance of Services under the Contract, or (2) purchase any material or services required to perform the Contract from any entity owned or controlled (including a substantial financial interest) by any Amtrak employee or member of an employee's immediate family.
- Contractor represents and warrants that (i) it has not committed any violations of any applicable anticorruption laws in connection with the Contract; (ii) it is not aware of any violations of any applicable anti-corruption laws in connection with the Contract; (iii) it will not commit any violations of any applicable anti-corruption laws in connection with the Contract; and (iv) it has in place a compliance program reasonably designed to detect and prevent violations of any anti-corruption laws in connection with the Contract; and (v) the Contractor, its parent, and its affiliates are not subject to any deferred prosecution agreements with any U.S. or foreign government authority. For the avoidance of doubt, applicable anticorruption laws include, but are not limited to, the Foreign Corrupt Practices Act.
- Contractor shall certify that it has performed due diligence reasonably calculated to identify anticorruption risk on any subcontractor or any consultants, representatives, or agents retained in connection with this Contract.
- 54.6 Contractor shall use commercially reasonable efforts to include the provisions of this Article in each subcontract or third-party agreement entered into under this Contract.

55. CONFLICT OF INTEREST

- 55.1 Contractor hereby affirmatively represents that it shall not have a Conflict of Interest in performing the Services for Amtrak pursuant to this Contract. Contractor agrees not to (a) engage in activities, or (b) initiate or maintain relationships with persons or entities where such activities or relationships create a conflict of interest. Contractor shall use its best efforts to identify and prevent potential Subcontractor conflicts of interest. Contractor shall inform Amtrak of any activity or relationship that Contractor has reason to believe may create a conflict of interest. Without limiting the generality of the foregoing, Contractor shall not, and shall not knowingly permit any Subcontractor to, enter into any contract, subcontract, or other arrangement in excess of \$50,000 (other than for personal employment) related to this Contract or the Work if any of its officers or directors or any members of the immediate family or one of the foregoing has any material interest in the contract, subcontractor arrangement, unless the other party (or parties) to such contract or subcontractor arrangement is the lowest qualified bidder on a publicly advertised, sealed-bid basis and written records of the entire transaction are kept by the Contractor and made available to Amtrak and FRA upon request.
- Contractor represents that it is not a party to any existing agreement which would prevent Contractor from entering into and performing this Contract.

56. GRATUITIES

- Amtrak may, by written notice to the Contractor, terminate the right of the Contractor to proceed under this Contract if it is found, after notice and hearing, by Amtrak, that gratuities (in the form of anything of value, including but not limited to cash, entertainment, gifts) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of Amtrak with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such contract, provided, that the existence of the facts upon which Amtrak makes such findings shall be in issue and may be reviewed in any competent court.
- In the event of a breach under Article 56.1, in addition to its right to terminate, Amtrak shall be entitled (i) to pursue the same remedies against the Contractor as it could pursue in the event of a breach of contract by the Contractor, and (ii) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by Amtrak) which shall not be less than three or more than ten times the cost incurred by the Contractor in providing any such gratuities to any such office or employee.
- In accordance with Section 65.1 hereof, the rights and remedies of Amtrak provided in this Article shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

57. OFFICIALS NOT TO BENEFIT

- No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this Contract, or to any benefit that may arise there-from; but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.
- The Contractor warrants that no director, officer, employee or agent of Amtrak is a director, officer, employee or agent of the Contractor, and that to the knowledge and belief of the Contractor, no director, officer, employee, or agent of Amtrak owns any stock or has a substantial interest in the Contractor.

58. NON-WAIVER

No waiver by Amtrak of any breach on the part of Contractor of any of Contractor's obligations herein contained shall constitute a waiver of any subsequent breach of the same or any other of such obligations, and no payment made hereunder shall be deemed to constitute an acceptance or approval of any defective or unsatisfactory material or workmanship, or a waiver of Amtrak's right to reject the same later. As provided in Section 65.1 hereof, the remedies of Amtrak under this Article are cumulative, and in addition to those provided by law.

59. INSURANCE

59.1 Subject to the provisions of Article 60, Contractor shall procure and maintain. at its own cost and expense, during the entire period of performance under the Contract, including the Three-Year Warranty Period for the final Trainset (or any extension thereof), the types of insurance specified below. All insurance shall be placed with insurance carriers reasonably acceptable to Amtrak and authorized to do business in the jurisdiction(s) where Work is to be performed. Amtrak shall have the right to review and approve all insurance certificates applicable to the Work. However, Amtrak's acceptance, acquiescence or failure to object to Contractor's submitted insurance certificates shall in no way relieve Contractor from responsibility for obtaining insurance policies complying with the terms of this Contract. Contractor shall furnish Amtrak with a certificate or certificates of insurance giving evidence of the required insurance prior to the issuance of a NTP or commencement of any portion of the Work pursuant to this Contract and upon renewal of any required insurance thereafter. In no event shall Work be performed until the required certificates of insurance have been furnished. If the insurance provided is not in compliance with the requirements listed below, Amtrak shall have the right to stop Work until proper evidence of all required insurance is provided. Contractor shall have no right to an adjustment of the Contract Time or the Contract Amount based on Amtrak's exercise of such right, and any delay in the completion of any portion of the Work caused by Amtrak's exercise of such right to stop Work shall be an unexcused delay. Contractor's insurance shall provide coverage for each

Subcontractor working on its behalf for covered claims caused in whole or part by the Subcontractor. Contractor shall provide thirty (30) days prior written notice to Amtrak in the event coverage is changed or the policy is canceled or not renewed. Unless otherwise specifically provided to the contrary, all insurance coverages specified herein shall name Amtrak and the Financing Parties as additional insureds (collectively, "Additional Insured Parties") using ISO CG 20 10 04 13 and CG 20 37 04 13 or their equivalent, and shall provide that Additional Insured Parties are additional insureds with respect to covered "liability caused in whole or in part arising out of" the Work, shall be primary and noncontributory to any other insurance available to Additional Insured Parties and their respective employees and agents, and shall include waivers of subrogation rights against Additional Insured Parties and their respective employees and agents. Except as otherwise expressly provided herein, Contractor's insurance obligations under this Article shall not be construed to limit Amtrak's rights whether in warranty, contract or any other applicable legal theory which may arise under provisions of the Contract or at law or in equity.

- Workers' Compensation Insurance. A policy complying with the requirements of the statutes of the jurisdictions in which the Work shall be performed, covering all employees of Contractor. Employers' Liability coverage with limits of liability of not less than \$1,000,000 for each accident or illness shall be included. Contractor shall require all Subcontractors who perform work on Amtrak property to meet the insurance requirements of this Section 59.2 and shall provide Amtrak with a Subcontractor certificate of insurance meeting these requirements. Additional Insured Parties shall not be named as additional insureds under this policy but the policy shall include a waiver of subrogation against the Additional Insured Parties and their respective employees and agents.
- Commercial General Liability Insurance. A policy issued to and covering liability arising out of the Work to be performed by Contractor and Subcontractors under the terms of the Contract. Products/Completed Operations Liability, Independent Contractors Liability, Contractual Liability (with railroad exclusions deleted), and Personal Injury/ Advertising Liability coverages are to be included. The policy shall contain a cross liability endorsement allowing claims and suits between insureds, shall not have any exclusion for liability relating to railroad operations, and shall not require mediation or arbitration of any disputes. Coverage under this policy shall have combined single limits for bodily injury (including disease or death) and property damage (including loss of use) of not less than \$300,000,000 per occurrence and \$600,000,000 in the aggregate.
- Automobile Liability Insurance. A policy issued to and covering the liability of Contractor arising out of the use of all owned, non-owned, hired, rented or leased vehicles which bear, or are required to bear, license plates according to the laws of the jurisdiction in which they are to be operated, and which are not

covered under Contractor's Commercial General Liability Insurance. Coverage under this policy shall have combined single limits of liability of not less than \$2,000,000 per occurrence and in the annual aggregate. Contractor shall require all Subcontractors who perform work on Amtrak property to meet the insurance requirements of this Section 59.4 and shall provide Amtrak with a Subcontractor certificate of insurance meeting these requirements.

Subcontractors' design and testing work activities within fifty (50) feet vertically or horizontally of railroad tracks, Contractor shall procure and maintain Railroad Protective Liability Insurance, written on the AAR-AASHTO (ISO/RIMA) occurrence based form (a claims made form is not acceptable), in the name of Amtrak (National Railroad Passenger Corporation) and other railroads and commuter agencies operating over tracks that are used in design and testing work. The policy shall have limits of liability of not less than \$10,000,000 per occurrence and \$20,000,000 in the aggregate. If equivalent or broader wording is not contained in the policy form, the following endorsement must be included:

It is agreed that "Physical Damage to Property" means direct and accidental loss of or damage to all property owned by Amtrak and/or all property in the care, custody and control of Amtrak.

In addition, Endorsement CG 28 31 - Pollution Exclusion Amendment, must be included.

- Professional Liability Insurance A policy issued to and covering the liability of Contractor or Design Subcontractor for engineering and design errors and omissions in the performance of this Contract. Contractor or Design Subcontractor shall maintain such coverage during the term of this Contract and for at least three (3) years following completion and acceptance of the Project. This insurance shall have limits of liability of not less than \$10,000,000 per occurrence and in the annual aggregate. The deductible amount shall not exceed \$250,000. The Additional Insured Parties shall not be named as additional insureds under this policy.
- Property Insurance. A policy or policies issued to the Contractor covering Contractor's production facilities, Contractor equipment used in the manufacturing and testing the Trainsets, and each Trainset, including all work in process and all component parts not yet installed and spare parts, during the design, manufacture, conveyance (including all inland and ocean transport and loading and unloading through a Stock Throughput Policy or Cargo Policy), storage and testing of each Trainset until the issuance by Amtrak of a Certificate of Conditional Acceptance or Certificate of Acceptance ("Acceptance") as defined in Section 8.3 of this Contract. The coverage territory shall be worldwide and insurance shall provide coverage on an all-risk basis, including the risks of earth movement, windstorm, storm surge and flood, and provide coverage for business interruption and extra expense for the Contractor and

contingent business interruption and contingent extra expense, including all supplier and contractor relationships required to fulfill this Contract. Such coverages shall have limits on a per occurrence basis, adequate to cover the full replacement value of the production facilities, including test tracks and equipment with respect to property damage. The property policy should have limits of sixteen million dollars (\$16,000,000) for business interruption and extra expense and contingent business interruption and contingent extra expense. If Contractor is using a Stock Throughput or Cargo Policy, the business interruption and extra expense and contingent business interruption and contingent extra expense requirement is waived for these policies. The proceeds from such insurance shall be used exclusively to restore damaged Contractor property and to reimburse the Contractor for business interruption and extra expense for an event impacting the fulfillment of the Contractor's obligations in this Contract. In no instance shall the Additional Insured Parties be responsible for loss or damage to Contractor's or Subcontractor's property or equipment including the Trainsets prior to Acceptance. In addition, Contractor shall require all Subcontractors who perform work on Amtrak property to procure and maintain property insurance for the replacement value of Subcontractor tools and equipment brought onto Amtrak property and shall provide Amtrak with a Subcontractor certificate of insurance meeting this requirement. The property insurance required under this Section 59.7 shall include a waiver of subrogation in favor of the Additional Insured Parties. This insurance shall name the Additional Insured Parties as loss payees as their interest may appear.

- Valuable Papers and Records Insurance. A policy covering loss or damage to valuable papers including blueprints, reports, surveys, designs or specifications in connection with this Contract, on an all risk basis, in an amount no less than 100% of the replacement cost of such property. This insurance shall name the Additional Insured Parties as loss payees as their interest may appear, and contain a waiver of subrogation against the Additional Insured Parties.
- 599 <u>Claims Made Insurance</u>. If any liability insurance specified above, other than Railroad Protective Liability insurance, is written on a claims-made basis, then in addition to the coverage requirements above, such policy shall provide that:
 - (a) The retroactive date shall coincide with or precede Contractor's start of work (including renewal policies or replacement policies).
 - (b) The policy shall allow for the reporting of circumstances or incidents that might give rise to future claims.

In addition, if any liability insurance specified above, other than Railroad Protective Liability insurance, is written on a claims-made basis, Contractor shall use its best efforts to maintain for at least six (6) years following completion and acceptance of the Project, the insurance covering liability, resulting from the Work or the obligations assumed in the Contract, with

endorsements naming the Additional Insured Parties as additional insureds and continuing the waiver of subrogation against the Additional Insured Parties. Further, if such insurance is canceled for any reason, Contractor shall purchase an extended reporting provision that shall continue for at least six (6) years after

completion and acceptance of the Project to report claims arising from Work performed in connection with the Contract.

60. GENERAL REQUIREMENTS - INSURANCE

- All insurance coverage procured by Contractor shall be provided by insurance companies reasonably acceptable to Amtrak and the Financing Parties and having policyholder ratings not lower than "A" and financial ratings not lower than "VIII" in the Best's Insurance Guide, latest edition in effect as of the date of the Contract, and subsequently in effect at the time of renewal of any policies required by the Contract.
- If Contractor fails to maintain the insurance required by the Contract, without the written consent of Amtrak, then Contractor shall pay all costs incurred by Amtrak, including, but not limited to, reasonable attorneys' fees.
- Upon issuance of a NTP, contractor shall allow Amtrak's property risk control consultant to inspect Contractor's production facility in Hornell during business hours and upon reasonable notice thereof, provided that such consultant has executed an appropriate non-disclosure agreement with Contractor.

61. PROTECTION OF PERSONS AND PROPERTY

- 61.1 Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.
- Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:
 - (a) All employees involved in the Work and all other persons who may be affected thereby;
 - (b) All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site or under the care or custody of Subcontractors; and
 - (c) Other property at the Work site(s) or adjacent thereto, including but not limited to trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- Contractor shall comply with all applicable laws, ordinances, rules, regulations, and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety rules and notifying owners and users of adjacent utilities.

- Use or storage of explosive or other hazardous material shall not be permitted without the written approval of the Contracting Official. If use or storage of such materials is approved, Contractor shall exercise the utmost care in such use or storage and shall carry on such activities under the supervision of properly qualified personnel.
- All damage or loss to any property referred to in this Article caused in whole or in part by Contractor, its Subcontractors, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable shall be remedied by Contractor.
- Contractor shall designate a responsible member of his organization at the site(s) whose duty shall be the prevention of accidents. This person shall be Contractor's superintendent unless otherwise designated in writing by Contractor to the COTR.
- 61.7 Contractor shall not load or permit any part of the Work to be loaded so as to endanger personnel and/or property.
- When working in and around Amtrak property, all personnel employed by Contractor or its Subcontractors shall abide by the applicable safety policies and procedures for the respective property.
- Contractor shall notify Amtrak to arrange for permission to enter upon Amtrak and railroad property. Twenty-one (21) days prior notice must be given to Amtrak for property access when Amtrak protection personnel are required. Prior to entering Amtrak's property, Contractor and its Subcontractors may be required to execute Amtrak's then current Permit to Enter.
- 61.10 Contractor, his employees and Subcontractors shall attend all required safety seminars as directed by Amtrak.
- 61.11 Contractor must comply with all Amtrak safety rules and operating rules.

62. GOVERNING LAW

The Contract shall be governed by and construed in accordance with the laws of the District of Columbia, excluding that portion of District of Columbia law relating to the application of laws of another jurisdiction. Subject to the Claims and Disputes section hereof, each party agrees that all legal proceedings in connection with any dispute arising under or relating to the Contract shall be brought in the United States District Court for the District of Columbia. Contractor hereby accepts the jurisdiction of the United States District Court for the District of Columbia and agrees to accept service of process as if it were personally served within the District of Columbia.

63. COMPLIANCE WITH LAW

- All Work shall comply with all Applicable Laws that bear on the performance of the Work (including without limitation all building codes, zoning and other Laws that bear, or would bear but for any exemption from such Laws enjoyed by Amtrak, on the Work), except as otherwise expressly specified in the Contract or directed by the Contracting Official. If Contractor observes that any of the Contract terms are at variance therewith in any respect, he shall promptly notify the COTR in writing, and any necessary changes shall be made by appropriate Contract Modification, provided that no Contract Modification shall extend the Contract Time or increase the Contract Amount if it is based on a law enacted at the time of Contract execution. Contractor shall be deemed to have had notice of all laws enacted at the time of Contract execution, regardless if the effective date is after Contract execution. Contractor shall be deemed to have included in the Contract Amount the cost of making all Work comply with all laws enacted at the time of Contract execution.
- In the event any governmental requirements are removed, relaxed or changed in any way after the execution of the Contract so as to make Contractor's performance less expensive or less difficult, Amtrak shall have the option to either require Contractor to perform pursuant to the more rigorous requirements, or to receive a reduction in the cost of the items of material or equipment affected for all savings by reason of such change.
- Contractor shall defend, indemnify and hold harmless Amtrak, its directors, officers, agents, servants and employees from any loss, cost, damage or expense incurred by them arising from, occasioned by or in any manner connected with Contractor's failure to perform the Work in compliance with any applicable laws, ordinances, rules, regulations or orders.

64. WRITTEN NOTICE

Any written notice required of the parties under the provisions of the Contract shall be deemed to have been duly served upon receipt if delivered in person to the individual or representative or officer of the relevant party for whom it was intended, or upon mailing if sent by registered or certified mail to the business address designated in the Contract.

65. RIGHTS AND REMEDIES

Each of Amtrak's rights and remedies hereunder shall be cumulative, in addition to, and not a limitation of, any duties, obligations, rights and/or remedies provided at law, in equity, or otherwise. Amtrak's failure to exercise any of its rights under the Contract shall not constitute a waiver of any past, present or future right or remedy. No action or failure to act by Amtrak or any of its representative(s), including the Contracting Official, shall constitute approval of, waiver of, or acquiescence to, a breach by Contractor unless

specifically agreed in writing. Waiver by Amtrak of any breach by Contractor shall not constitute a waiver of any other breach of the same or any other provision of the Contract. Acceptance of any Supplies of services, or payment therefore, shall not operate as a waiver of any breach.

All representations, warranties, guarantees, licenses, indemnifications, agreements to hold Amtrak harmless, and other obligations created by the Contract which by their terms are intended to be fulfilled in whole or in part after termination or completion of the Work or which can, under the particular circumstances at issue, reasonably be fulfilled only after termination or completion of the Work, shall survive termination of the Contract. Contractor shall cause a parallel survival clause to be inserted in all subcontracts.

66. AMTRAK/CONTRACTOR RELATIONSHIP

- The Contracting parties are not employer and employee, and nothing herein shall be construed as creating such relationship between Amtrak and Contractor. Contractor may adopt such arrangements as it may desire, subject to the provisions of the Contract, with regard to the details of the Work and Contractor's personnel or workers, provided however, that the Work shall be done by Contractor in such manner as shall be consistent with the achievement of the result contracted for within the time herein agreed upon.
- It is further understood and agreed that, in no event shall Amtrak be required to make deductions from compensation or report earnings of employees of Contractor under any Social Security Act, or any other state or Federal statute, purporting to levy a tax on payrolls or the compensation of employees; and Contractor hereby agrees to indemnify and save Amtrak harmless from any and all liability, cost, or expense under such law, growing out of performance under the Contract.

67. PRODUCT SAFETY NOTIFICATIONS

- 67.1 Contractor shall comply with the Occupational Safety and Health Administration's Hazard Communication Regulations 29 CFR 1910.1200 and 29 CFR 1926.59 by providing or making readily available at the worksite, material safety data sheets for all chemicals, compressed gases, products containing hazardous materials, and products that may release hazardous substances (welding rods, solder, insulation materials, transite panels, gaskets, stock metal, etc.) during routine application.
- Contractor shall notify Amtrak immediately by telephone (followed by written confirmation within twenty-four hours) (facsimile acceptable) whenever Contractor becomes aware that any component of the Supplies may contain a defect in design or construction which could in any way (a) become harmful to persons or property, or (b) create or present a risk to the health or safety of the

public or to the environment, either by itself or when used by Amtrak within the scope of its intended purpose.

68. LABOR DISPUTES

Whenever an actual or potential labor dispute delays or threatens to delay the timely performance of the Contract, Contractor shall notify Amtrak immediately and furnish all relevant information. Contractor shall include the substance of this provision in all subcontracts hereunder.

69. RESERVED

70. CREDIT CARD INFORMATION

- 70.1 If in performance of this Contract, Contractor will store, process, transmit, or have access to payment account data belonging to Amtrak or entrusted to Amtrak by its business partners, customers, vendors, contractors or employees, Contractor shall (1) comply with the Payment Card Industry's Data Security Standard ("PCI-DSS"), as forth https://www.pcisecuritystandards.org/ and as may be updated from time to time by the PCI Security Standards Council, and (2) within thirty (30) days of each anniversary of this Contract, certify in writing (to Amtrak's Contracting Official) Contractor's compliance with PCI-DSS in all aspects of Contractor's performance of this Contract or, alternatively, the basis for Contractor's exemption from PCI-DSS compliance.
- If any software, Supplies, goods, or equipment (collectively "Goods") provided by Contractor pursuant to this Contract will store, process, transmit, or otherwise have access to credit card account numbers received from Amtrak or Amtrak's customers, such Goods shall comply with the Payment Card Industry's Payment Application Data Security Standard ("PA-DSS"), as set forth at https://www.pcisecuritystandards.org/ and as may be updated from time to time by the PCI Security Standards Council.
- 703 Contractor acknowledges that it is responsible for compliance with PCI-DSS and PA-DSS, as applicable to Contractor's performance of this Contract.

71. SEPARATE CONTRACTS

- 71.1 If appropriate, Contractor shall afford other Amtrak Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate its Work with theirs.
- 712 If any part of Contractor's Work is dependent in any way on the work of any other separate contractor, Contractor shall take all reasonable steps to become aware of any defects in the work of such other contractors that renders or would

render such work unsuitable for proper execution of Contractor's Work. Contractor shall inspect the critical items of any such contractor's work before relying on or incorporating such work into Contractor's Work. If Contractor reasonably believes that another contractor's work is deficient or otherwise unsuitable for its intended purpose, Contractor shall notify Amtrak, in writing, immediately upon such discovery. Contractor shall waive his right to any claims regarding the unsuitability of such other contractor's work if Contractor fails to timely notify Amtrak of any defects in such other contractor's work that Contractor discovered or reasonably should have discovered.

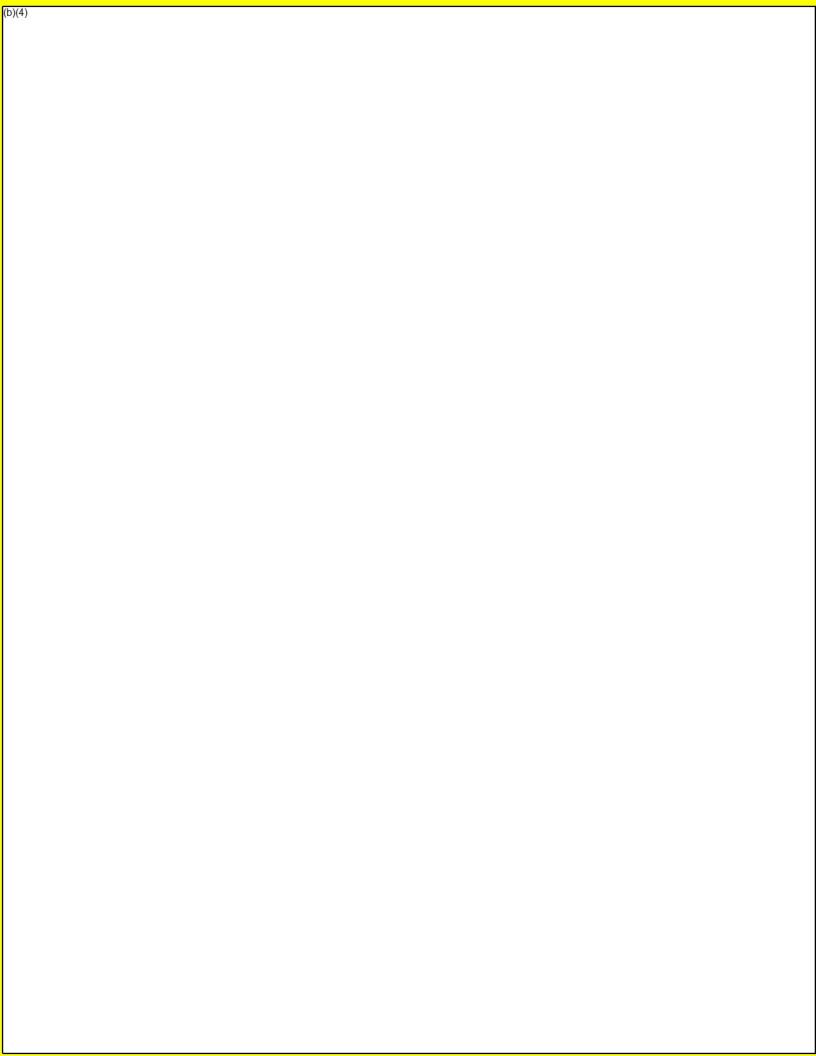
Should Contractor or any Subcontractor cause damage to the work or property of any separate Amtrak contractor, Contractor shall, upon due notice, make all reasonable efforts to settle with such other contractor(s). If such separate contractor(s) sues Amtrak or initiates an arbitration proceeding on account of any damage alleged to have been so sustained, Amtrak shall notify Contractor, who shall defend such proceedings at its expense, and if any judgment or award against Amtrak arises there-from, Contractor shall pay or satisfy it and shall reimburse Amtrak for all attorneys' fees and court or arbitration costs which Amtrak incurred.

72. COMMENCEMENT OF STATUTORY LIMITATION PERIOD

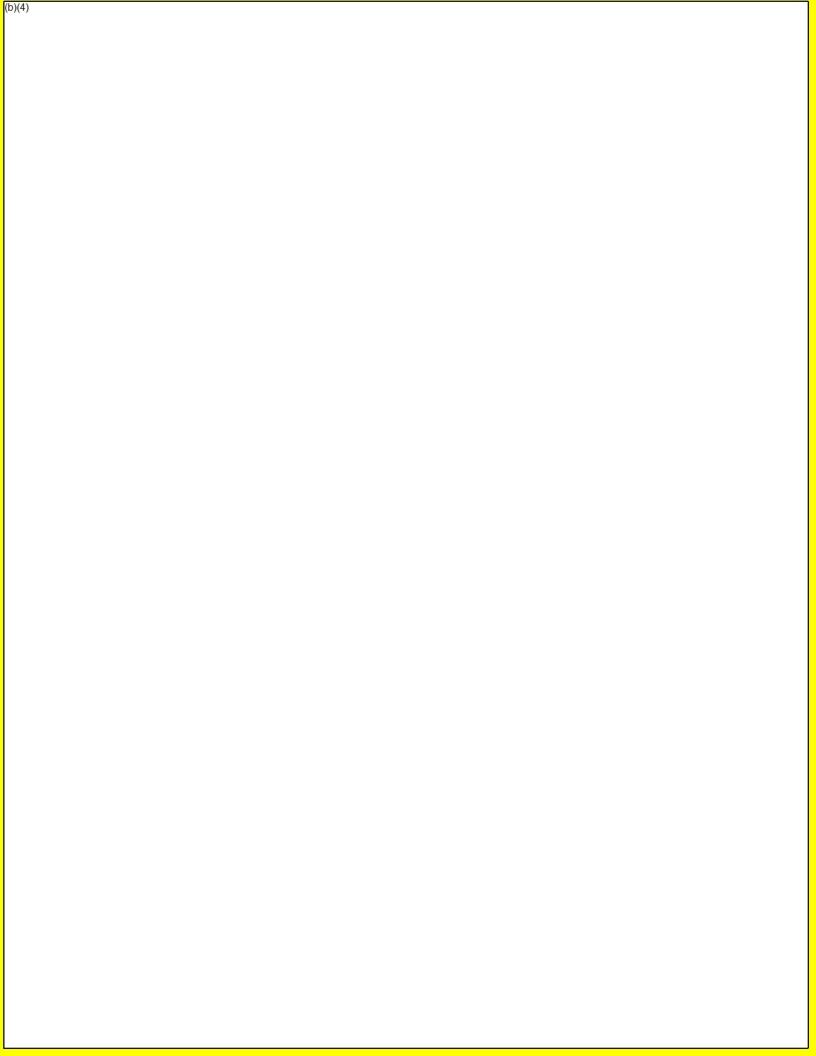
Claims by Contractor shall not be brought after the earliest of (a) Final Payment; (b) one year after the date of final completion of the project; or (c) one year after the date of Contractor's last substantial Work.

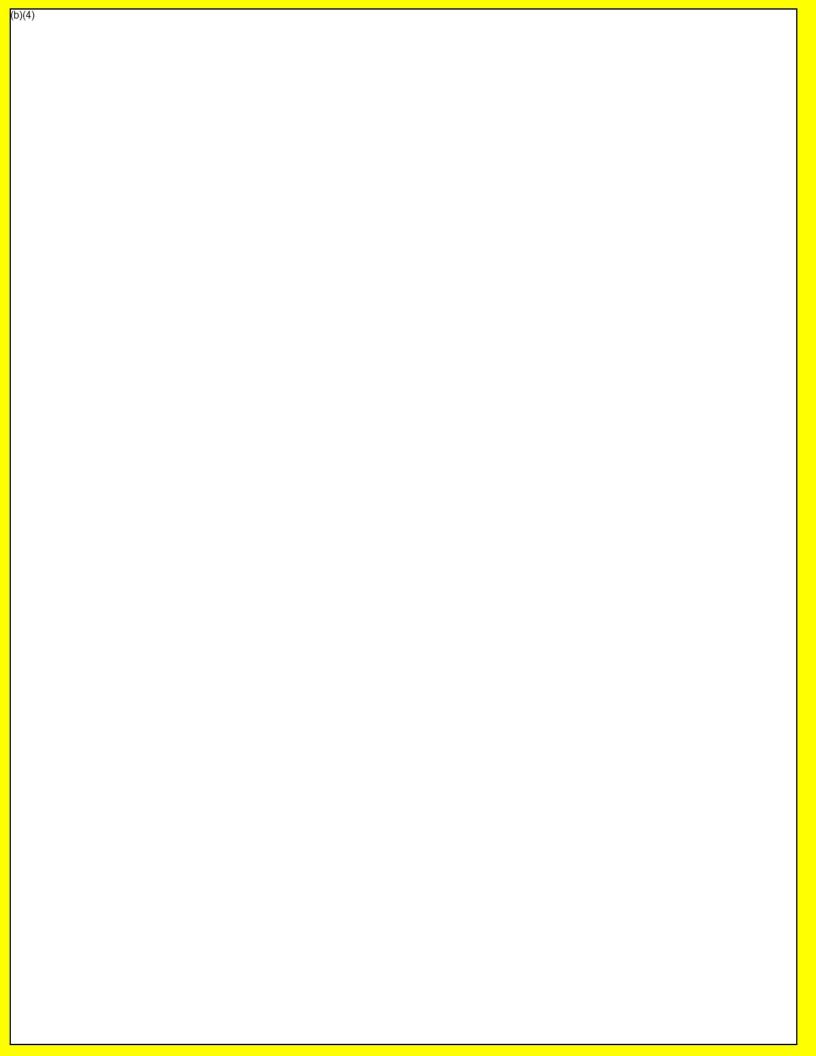


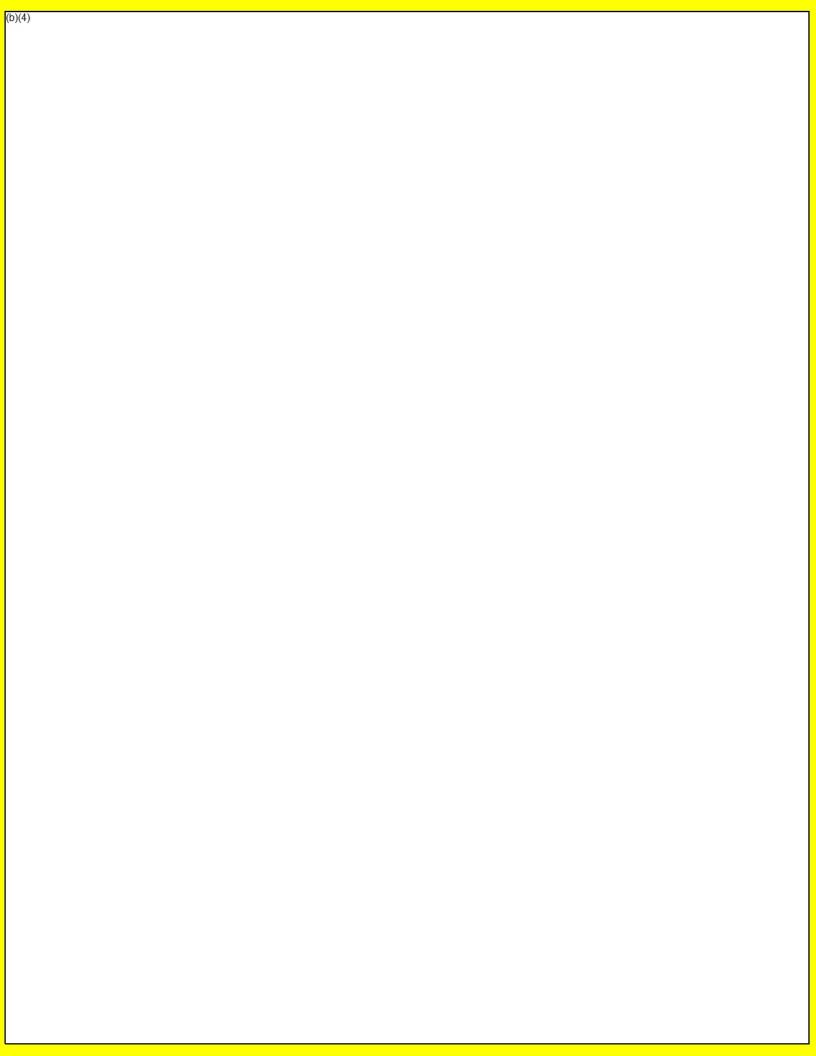


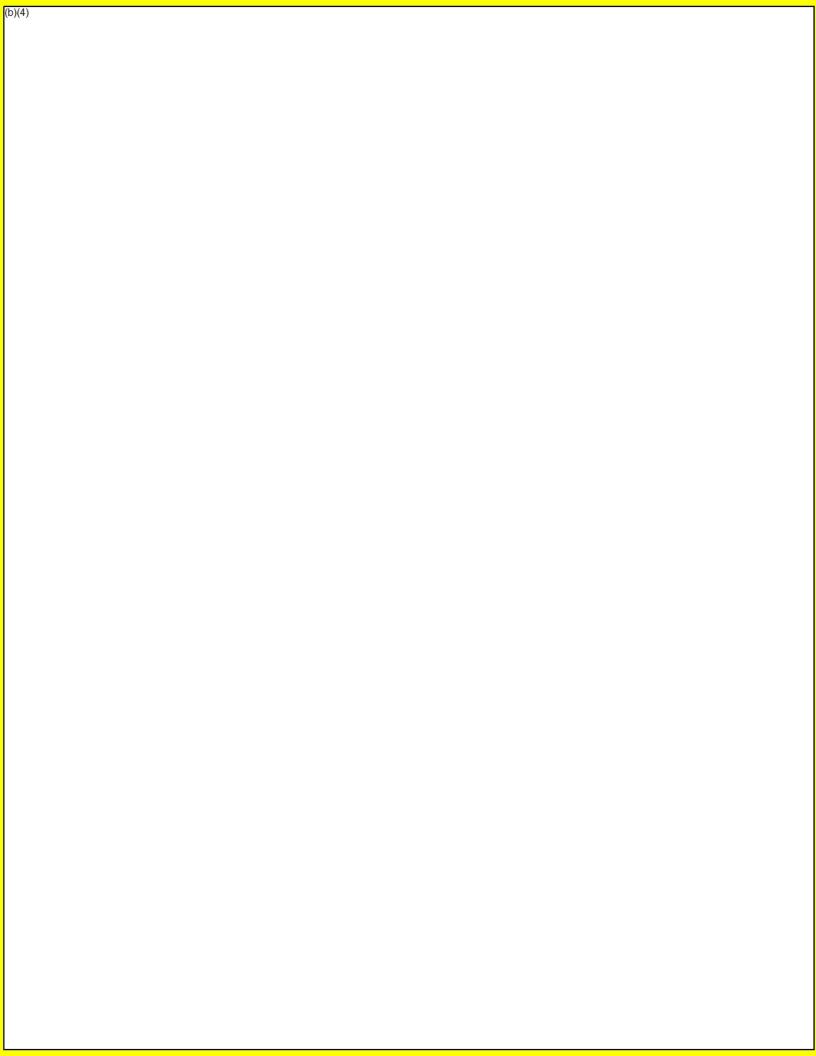


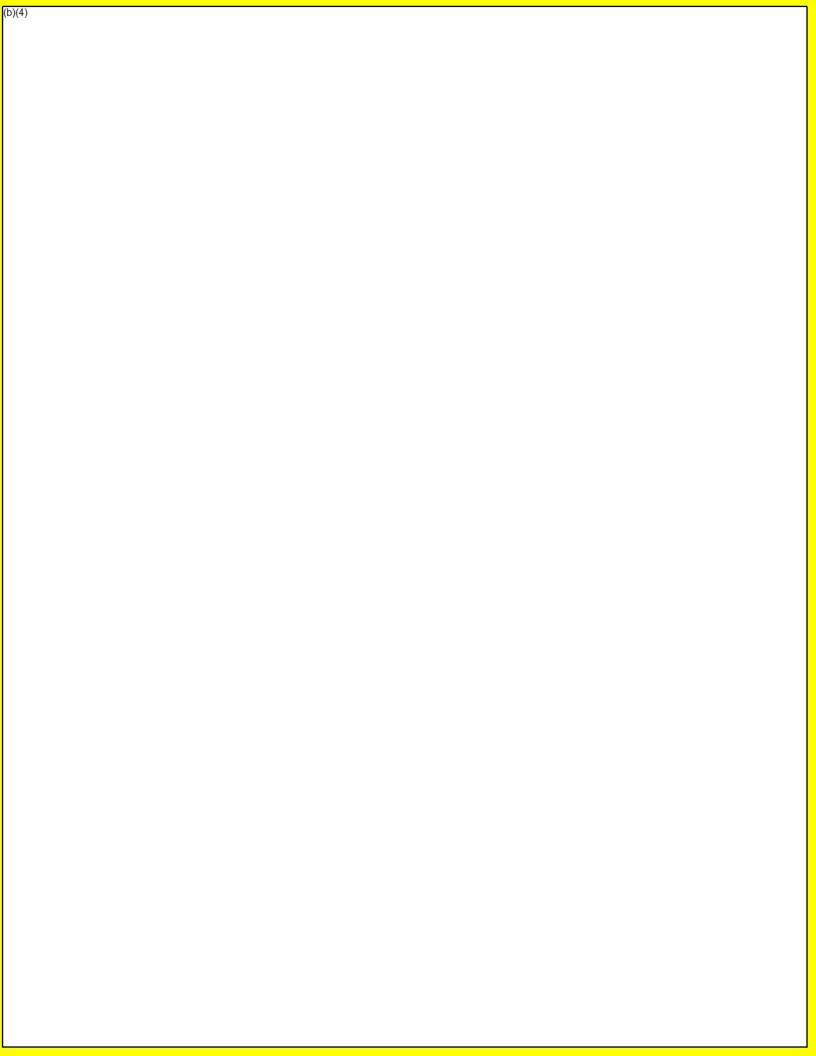




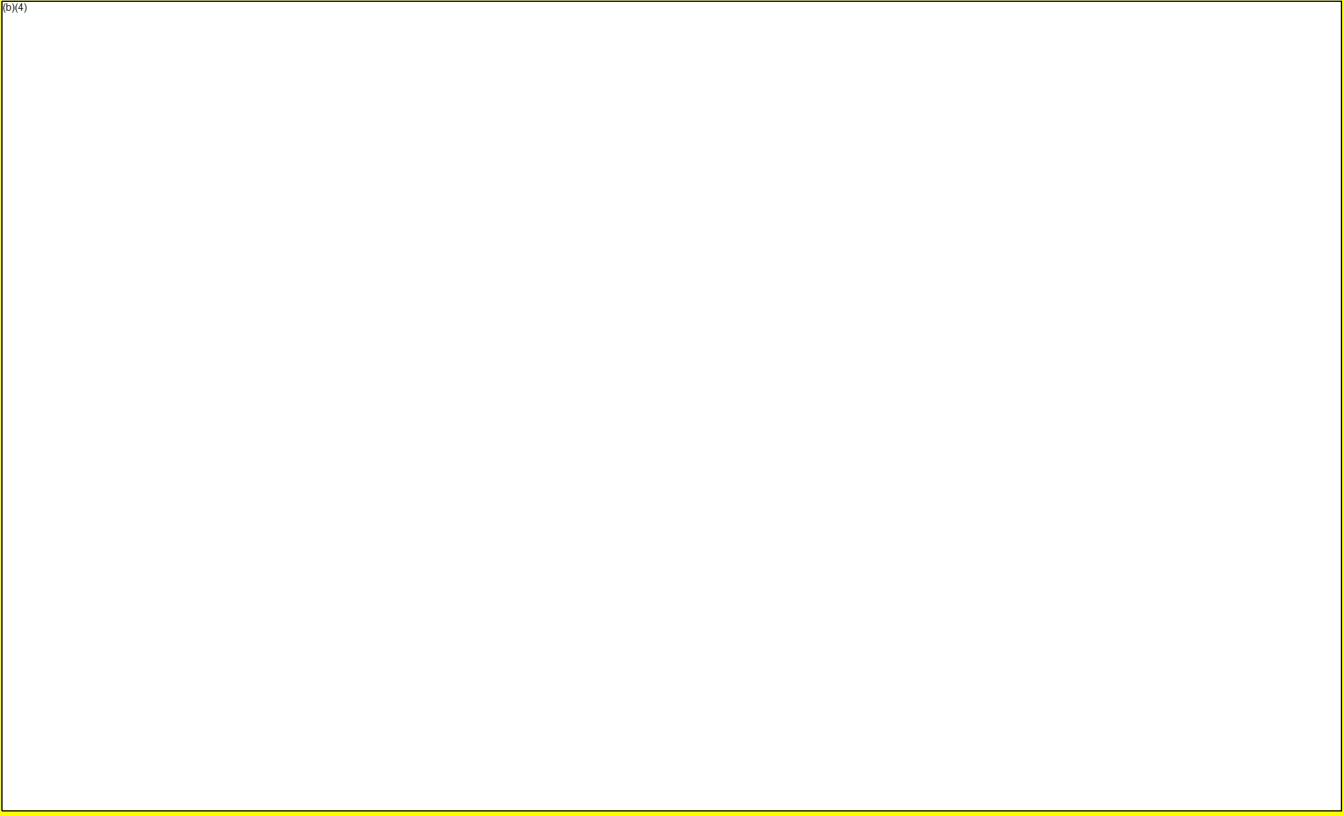












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SCHEDULE 8

MANUALS & MAINTENANCE PLAN

1 USER DOCUMENTS

1.1 Overview

All documentation will be produced by the Contractor and approved by Amtrak.

The documentation for Maintenance will consist of all documents to service, maintain, troubleshoot, and remove and replace a worn or defective Line Replaceable Unit (LRU) from the Trainset. The failed repairable LRU is sent to a workshop for overhaul or repair by the supplier.

Documentation and parts lists will describe the tasks or parts down to the LRU level. LRU will be defined at the beginning of the project in liaison with chosen supplier and/or design and will be specific to the equipment. The language of the documentation will be English.

Descriptive text will be prepared in simple technical language where the use of unclear words will be avoided. The vocabulary will have sufficient words to express the technical content. Relevant technical terms will be applied from the reviewed glossary. Acronyms will be clearly defined and will differ from each other by at least two letters in every case to avoid confusion.

Illustrations and drawings will be dedicated to describe the associated text. They will be of sufficient quality to be easily legible, and take into account the required readership level and training level. Illustrations from 3D models will be converted into isometric views.

In drafting documentation, particular rules will be applied to ensure with consistency the safety of the operators and to avoid any damage to the equipment. Specific rules may include applying consistent meanings for Warnings and Cautions, and also their use. An input of these rules for the equipment is the Safety Related Item List (SRIL), which is part of the Safety Case built by the RAMS team.

The documentation will be delivered in both electronic (1 copy) and paper (4 copies) formats in accordance with the Contract. The documentation delivered for each delivery will be consistent with the Maintenance Plan and the configuration of the Trainsets.

1.2 Manuals

1.2.1 Content and Structure of the Manuals

The Contractor will provide at a minimum documentation to describe:

- Physical and functional description of the Trainsets,
- > Operator's Manual (Trainset operation and high level diagnostic),
- Preventive Maintenance Manual.
- Corrective Maintenance Manual.
- Troubleshooting/fault finding manual,
- > A list of specific tools and test equipment,
- Illustrated Parts Catalog (IPC).

The above manuals will be produced according to a modular concept (XML format) developed by the Contractor for Amtrak's review and approval. The manuals will be published in electronic and/or paper format.

Except for the Operator's Manual, the documentation will be organized by System, then by assembly and sub-assembly, fulfilling the functions, according to the defined Logistic Breakdown Structure (LBS).

The Maintenance Manuals will describe the complete preventive processes in accordance with the Maintenance Plan supported by relevant corrective Maintenance processes. It will be used as a basis for the organization, the preparation & execution of the Maintenance work.

1.2.2 Documentation General Description

The information contained in documentation will provide sufficient knowledge to undertake corrective Maintenance tasks which includes, the replacement of assemblies, sub-assemblies and functional components, as well as routine preventive Maintenance operation such as lubrication, inspection and minor adjustments.

1.2.2.1 General Introduction

Each manual will provide a general introduction to include the standard practices and abbreviations & glossary if these are not presented as appendices to the documentation.

Physical and functional description of the Trainsets

The technical descriptions (text and illustrations) contained in this manual will complement information provided in operational and Maintenance procedural instructions for the product.

It will be designed to provide the targeted user with the sufficient level of general information for facilitating training and preparing for Levels 1 through 3 Maintenance requirements. The main chapters of this manual will typically be:

- General characteristics and its functional performance
- Description (from top to required detailed level)
- Functional (includes block diagrams).

Where the System is made up from a number of components, the technical description will explain how these components are linked and operate in the context of the System reaching, at least, the level of the LRUs.

When an assembly or sub-assembly breakdown shows one or more removable components (part of LRUs), the description and operation of the components need not be covered. The components must be mentioned.

1.2.2.2 Operator's manual

This manual is created for the locomotive engineers and operators of Amtrak Trainsets and is intended to support their training. The initial version of this manual will be delivered towards the end of the material preparation phase (i.e., NTP + 39 weeks). The final version will be delivered shortly before operator training with the final training materials (i.e., NTP + 190 weeks). It is typically composed of:

- Operator's operating manual: This manual contains all information needed for operating the Trainset, in complete safety for Equipment, crew and conveyed passengers. The information (text and illustrations) contained in this manual will be sufficient to enable Trainset operators to identify and interpret the operation indications and execute the corresponding controls and actions both during normal service and during downgraded mode of operation. Trainset recovery processes (hauling, coupling, etc.) will be defined. The manual provides the complete necessary Software Man Machine interface. This manual is a unique document but it is organized around different operating levels and application areas.
- Operator diagnostic manual: This manual will describe the various Man-Machine-Interfaces (MMI) screens and details the specific controls and operations to be undertaken in the case of equipment failure or major fault. It will also contain all information required for the operator to perform high level diagnostics and identifying Trainset failures in order to return it to operational condition. High level diagnostic will not require the use of any special or specific tools other than those required for operating the Trainset.

1.2.2.3 Preventive Maintenance Manual

This manual will cover all actions performed in an attempt to retain an item in a specified condition by providing systematic inspection, detection and prevention of incipient failure. Overhaul operations are also described in this manual. The initial version of this manual will be delivered at the end of the material preparation phase (i.e., NTP + 52 weeks. The final version will be delivered shortly before Maintenance training with the final training materials (i.e., NTP + 190 weeks. Preventive Maintenance tasks shall be procedural and be:

- Inspections and visits; which will include cleaning and servicing,
- Possible or systematic replacement of components, to include those due to age limit (providing limits), those due to fault finding (include steps to determine) and those due to conditional need (include condition parameters).
- Possible or systematic test after intervention (functional and operational checks),
- Overhaul operations.

Procedural tasks are organized around four pillars:

- Conditions required,
- Preparation required prior to performing the task, including safety precautions,
- Operating procedure,
- Close up statements following completion of the task, including follow up tests or verifications.

Procedural tasks must contain the following information:

- Maintenance intervals (initial suggested periodicities)
- Estimated person hours and number of personnel to complete tasks
 - These first two requirements above will not be included as part of the descriptive task. Instead, they will be listed in a table format next to the procedural task number and name in a separated section. This will allow for adjustments of periodicities and labor time without a complete revision of the task itself.
- Special tools, hand tools (including sizes), spare parts, lubricants (including quantities) and materials required (includes cleaning consumables, prescribed or prohibited products, expendables as well as required recycling procedures) not just to perform the task but also to gain access to the area where the task is performed (e.g., removing panels, shrouds, temporarily removing components for access),
- Depot facilities required to perform Maintenance ,

- Warnings and Cautions related to hazards associated to health and to the rolling stock,
- ➤ Notes with additional information necessary to assist the user with the procedure,
- Step by step instructions providing what has to be performed to run the task,
- > Post-Maintenance testing to confirm the correct operation completion,
- Packaging, Handling, Stocking and Transport (PHST) data for certain equipment.

1.2.2.4 Corrective Maintenance Manual

The Corrective Maintenance Manual will cover all actions performed as a result of a failure (or an impending failure, which could have safety and/or operational implications) and to restore an item to a specified condition. The initial version of this manual will be delivered at the end of the material preparation phase (i.e., NTP + 52 weeks). The final version will be delivered shortly before training with the final training materials (i.e., NTP + 190 weeks. Corrective Maintenance tasks shall be procedural and be:

- Adjustment,
- > Repair or Replacement,
- > Test after intervention (functional and operational checks) with reference to the diagnostic and test manual.

The procedural tasks are organized in the same way and contain the same information as described in the Corrective Maintenance Manual above.

1.2.2.5 Troubleshooting / Fault Finding Manual

The Troubleshooting and Fault Finding Manual must contain the process description and the relevant information required for locating failures and pointing towards remedial tasks to return the Trainsets to operational condition by the replacement of sub-assemblies and functional components at the Maintenance depot.

The Manual will describe the main process and how they rely on the Fault Cause and Effect which are derived from the failure codes from the Trainset diagnostic System. It will provide information on potential System faults and actions required to return the System to a serviceable condition.

The tables will list the typical failures, advice on the potential faults causing this failure, and the action proposed in order to return in correct operation.

In addition, each System fault, System information bit, variable or message that can be viewed on the person-machine interface screens or through test

equipment interface screens or in data files acquired from each microprocessor based Subsystem must have the following:

- A definition of the event, fault, bit, variable or message
- ➤ A description of the event including the timing associated with "setting" the event or fault and resetting the event or fault
- ➤ The conditions that will cause the event, fault, bit, variable or message to change. This should include all stages of logic from a physical change in state of a switch or variable to microprocessor logic and software decision making
- The timing of the conditions related to minimum and maximum durations required for pass/ fail logic associated with fault or event generation.

1.2.2.6 Special Tools & Test Equipment

The Special Tools and Test Equipment Manual will describe the specific tools designed by the Original Equipment Manufacturer (OEM) without which the Maintenance of the Equipment cannot be carried out. These tools can be handling tools, Maintenance tools or depot / workshop equipment or supplier Special Tools or even Maintenance software.

All Maintenance Software will be provided with instructional manuals, updated with each revision of software, to include:

- a step by step description of use
- definition and description of all variables, indicators and bits that can be viewed on the screen or viewed from a data file
- steps for installation or removal of software
- requirements for software to be installed (e.g., Operating System, RAM, CPU speed, etc.)
- a step by step description of data file or status review

1.2.2.7 Illustrated Parts Catalog

The Illustrated Parts Catalog (IPC) will be provided for the use of the Maintenance technicians, warehouse managers and procurement personnel. This document will allow the identification of dismountable parts (or LRU) required to be sourced to allow the performance of the various tasks described in the Maintenance Plan. It will set common terms to be used to describe parts between Amtrak and the Contractor.

The IPC will be divided into three parts:

- Part 1: The illustrated part comprising referenced illustrations (drawings), depicting the Trainset and its assemblies, and referring each of these to the component list on the opposite page,
- Part 2: The Alphanumeric Parts List (electronic list).
- Part 3: Part Locator (can utilize table data from Part 2) that allows the lookup of a part name and acronym with the ability to determine the exact location, in each Vehicle type, of each component in all of their instances in that Vehicle.

The IPC shall provide the user with a means to identify by reference any dismountable part and LRU that may need to be procured in support of the Maintenance of the Trainset:

- Locating one part or LRU in its environment;
- Locating the related fastening parts and the various assembly points of this part.

The following information shall be included:

- Name (consistent across all documentation),
- Description of the part,
- Identification number.
- Standard part specification,
- Supplier reference.
- Master reference to the illustration,
- Line item number to identify part on the illustration.
- Quantity of parts per assembly and total quantity per Vehicle for this part.
- Applicability code (when relevant).

An illustration will be included to assist with the correct identification of the required part number.

Each illustration will have a title and be identified by a drawing number. This number will be repeated on the parts list page. Each item of each drawing is assigned with an item number corresponding to that indicated in the parts list, opposite the item designation.

For parts which are considered as market available parts (e.g. bolts and nuts), these will be only referred in terms of part identification and size/grade/material description and will not need required further illustration.

For parts which are considered as materials, a technical specification is required (e.g. tensile strength).

When possible, the IPC will be organized to avoid unnecessary repetition of identical information. In such case, it will include adequate reference to the unique information.

The alphanumeric parts list is to be generated from all the parts referenced in the IPC. One line of this list will correspond to one or several identical items of the IPC. The Parts List will be arranged in a tabulated format to support the relevant parts information and have as a minimum:

- Entry and search key item: This entry key is made up of the identification number. Classification is alphanumeric on this reference:
- ➤ Item location: It gives the identification and drawing numbers to which the item belongs and the item number on the drawing, concerning IPC illustrations,
- > Designation of the assembly of the part considered,
- Amtrak part number (if provided by Amtrak);
- Supplier identification code, which corresponds to the supplier entry in the suppliers list,
- Item supplier's reference,
- "Where Used" function available per parts in the Electronic documentation.

2 TEMPLATES FOR MANUALS

The following sections provide annotated tables of contents for each of the manuals that the Contractor will provide. To the extent practical, the layouts will mirror those of Acela, in order to provide a level of familiarity.

2.1 General Introduction

Table of Contents

A table of contents of the General Introduction document only.

Description of the Trainsets

Brief narrative description of the Trainsets, their capabilities, and their major Systems.

Description of manuals

A listing of each manual and an overview of its contents.

How to use these manuals

A discussion of how to most effectively use this set of manuals in training, during daily Maintenance and operation, and in emergency situations.

Abbreviations

➤ A list of abbreviations found throughout the set of manuals, with corresponding full names or descriptions.

Glossary

➤ A list of unusual terms contained in the set of manuals, along with corresponding definitions.

2.2 Physical and Functional description of the Trainsets

Table of contents

A listing of the sections and subsections of this document, included with corresponding page numbers.

General Characteristics

Physical descriptions of the Trainset and the individual Vehicles.

Functional Performance

Descriptions and charts showing the functional performance of the Trainsets by System.

Description

A more detailed description of each major Subsystem from a top-down level.

Function

Descriptions, tables, block diagrams, and the like that provide the theory of how major Systems in the Trainsets work.

2.3 Operator's Manual

PREFACE

How to use the manual

Brief guide to the manual and the various sections within it. This manual will be tailored to the specific requirements of Amtrak and may be less technical than some of the Maintenance Manuals.

Table of Contents

Detailed table of contents of the Operator's Manual.

List of Illustrations

List of all illustrations in the book, along with section and page numbers.

List of Tables

List of all tables in the book, along with section and page numbers.

CHAPTER 1, INTRODUCTION

General Information

Explanation of the scope of the manual, list of abbreviations and their definitions, and a glossary of specialized and complex terms used within the document.

Equipment Description

Narrative descriptions of the equipment, including both equipment and Trainset data

General Description

Narrative description of the Trainset's major Systems.

Principles of Operation

A general overview of the principles of operation, on a System basis.

CHAPTER 2, OPERATOR'S OPERATING MANUAL

Operation

A description of the normal operation of the Trainset, including topics such as performing departure tests, turning the high voltage power on and off, operating the galley equipment, and operating the head end power.

Emergency Procedures

A narrative description of the emergency operation of the Trainset and its Systems, covering a number of emergency features and situations.

CHAPTER 3, OPERATOR'S DIAGNOSTIC MANUAL

Operator Troubleshooting

A set of instructions that allows the operator or other crew members to troubleshoot equipment. This section is greatly reduced in scope and complexity from the full version, which is discussed in section 2.6 below.

Controls and Indicators

This is a description of the Trainset's controls, MMIs, and indicators, provided by System.

INDEX

An alphabetical listing of keywords and topics within the manual.

2.4 Preventive Maintenance Manual

PREFACE

How to use the manual

Brief guide to the manual and the various sections within it.

Table of Contents

Detailed table of contents of the preventive Maintenance manual.

List of Illustrations

List of all illustrations in the book, along with section and page numbers.

List of Tables

List of all tables in the book, along with section and page numbers.

CHAPTER 1 – INTRODUCTION

General Information

Describes the scope of the manual and includes a list of abbreviations and a glossary of terms.

Equipment Description and Data

Description of the equipment and its performance by major System. This includes the theory of operation of each System and major Subsystem.

CHAPTER 2 – SCHEDULED MAINTENANCE

A listing of the scheduled Maintenance and overhaul steps and intervals, along with brief summaries of the tasks involved.

CHAPTER 3 – SCHEDULED SERVICING

A listing of the scheduled servicing (including lubrication, sanding, and fluid replacement) steps and intervals, along with brief summaries of the tasks involved.

CHAPTER 4 – MAINTENANCE PROCEDURES

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CHAPTER 5- MAINTENANCE PROCEDURE PERIODICITY & DURATION

A listing of the Maintenance Procedures (from Chapter 4), which includes the Task Number, suggested periodicity (e.g., daily, 92D, 365D, 2year, etc...) and estimated man-hours per task. The man-hours should be total time by all personnel, with an indication of which tasks will require 2 or more personnel.

2.5 Corrective Maintenance Manual

PREFACE

How to use the manual

Brief guide to the manual and the various sections within it.

Table of Contents

Detailed table of contents of the corrective Maintenance manual.

List of Illustrations

List of all illustrations in the book, along with section and page numbers.

List of Tables

List of all tables in the book, along with section and page numbers.

CHAPTER 1 – INTRODUCTION

General Information

Describes the scope of the manual and includes a list of abbreviations and a glossary of terms.

Equipment Description and Data

Description of the equipment and its performance by major System. This includes the theory of operation of each System and major Subsystem.

CHAPTER 2 – UNSCHEDULED MAINTENANCE

➤ A listing of the common unscheduled Maintenance steps and theoretical intervals, along with brief summaries of the tasks involved.

CHAPTER 3 – MAINTENANCE PROCEDURES

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2.6 Troubleshooting / Fault-finding Manual

PREFACE

How to use the manual

Brief guide to the manual and the various sections within it. This manual is tailored to the maintainer and is more technical than the operating manual.

Table of Contents

Detailed table of contents of the Troubleshooting manual.

List of Illustrations

List of all illustrations in the book, along with section and page numbers.

List of Tables

List of all tables in the book, along with section and page numbers.

CHAPTER 1 – INTRODUCTION

General Information

A description of the scope of the manual, along with a list of abbreviations and glossary of terms for this Troubleshooting Manual only.

Equipment Characteristics and Features

A narrative description of the Trainset equipment, including drawings to show general features and major components. It also includes equipment characteristics and performance numbers. This is arranged by major System.

Support Equipment

➤ A list of Special Tools and a list of diagnostic equipment for each System.

CHAPTER 2 – TROUBLESHOOTING

➤ A list of troubleshooting procedures broken out by major System.

CHAPTER 3 - FAULT OF MAINTENANCE EVENT LOGIC	
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2.7 Specific Tools & Test Equipment

How to use the manual

➤ Brief guide to the manual and the various sections within it. This manual is tailored to the maintainer and is more technical than the operating manual.

Table of Contents

Detailed table of contents of the Troubleshooting Manual.

List of Illustrations

> List of all illustrations in the book, along with section and page numbers.

List of Tables

List of all tables in the book, along with section and page numbers.

Specific Tools and Test Equipment by System

The specific tools and test equipment will be broken out by System and, as required, further broken out by Subsystem and function. Each set of tools will have an associated narrative description, drawings, and OEM supplier name, along with a reference to which parts of the other manuals they are used.

2.8 Illustrated Parts Catalog

There will be one IPC for each unique type of Vehicle (power car, coach car, etc.) provided in the Alstom Trainset. Each IPC will begin with a preface and continue, System by System, through the Vehicle.

PREFACE

List of Effective Pages

A list of currently applicable pages in the document, including the effective dates of each set of pages.

General Table of Contents

➤ A table of contents detailing the items and page numbers listed in each Vehicle type's IPC document.

How to Use this Manual

A detailed description of the layout of each section and how the reader can navigate the IPC.

List of Vehicle Numbers

A list of the Amtrak numbers for each of the Vehicles of the applicable type in the Fleet.

List of Vendor Addresses

An alphabetical listing of all major Original Equipment Manufacturers (OEM) on the Trainset, including names, phone numbers, and addresses, along with an abbreviation that is used throughout the document.

Abbreviation List

A list of abbreviations used in the IPC and corresponding full names and descriptions.

Part Number Index

A cross reference of all part numbers and associated section and figure numbers.

CHAPTER 1 - CARBODY

List of Figures

A list of all figures used within the chapter (one for each major System).

Parts List and Figures

➤ A top-down listing of the Vehicle type's bill of materials (BOM) within the IPC.

This format continues for the remaining Systems within the Vehicle type, starting with Chapter 2.

3 PRELIMINARY MAINTENANCE PLAN

This chapter describes Contractor's approach to developing, implementing, and continuously improving the Maintenance Plan for Amtrak's Trainsets.

Section 3.3 below contains Contractor's preliminary Maintenance Plan. Once the plan has been finalized and approved by Amtrak, it will be inserted into the template shown in Section 3.2. This template will enable Amtrak to properly schedule and marshal its resources for the implementation of the Maintenance Plan.

Section 3.1 describes Contractor's proposed approach for working with Amtrak in initially fragmenting the scope of work and optimizing the Maintenance Plan based on experience gained throughout the Maintenance period.

3.1 Collaboration with Amtrak for Optimized Maintenance

Once the agreed upon finalized Maintenance Plan has been inserted into the template described in Section 3.2, Contractor will work with Amtrak to fragment the various Maintenance tasks using scheduling software or linear programming techniques. The Trainsets' modular design will allow for a natural fragmentation by both System and serialized component. With this division available, the template will allow Amtrak and Contractor to evaluate the available resources and fragment the Scheduled Maintenance tasks to fit into a daily 3.5 hour service window while preventing conflicts of personnel, tooling, on-board locations, or other resources.

(It should be noted the Integrated Testing and Maintenance (ITM) Plan states the proposed Maintenance Plan cannot be approved by Amtrak without review and approval from the FRA. The FRA is allowed 90 days for review.)

Prior to the start of Revenue Service, Contractor will work with Amtrak to develop a fragmentation that completes work within statutory, contractual, and supplier-recommended intervals while minimizing resource downtime. The final Maintenance Plan prior to the start of Revenue Service will be agreed upon between Amtrak and Contractor at NTP + 190 weeks.

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Tree	Tree Proc.	Description	Task time by craft		# of People	Tools		Total Time	Interval	Max	Vehicle Type		Location	Material	Train Scanner	Safety Critical		
			Mach	Elec	Etc.	1 copie	Crane	Press	Etc.	1010111110	l linerval	Interval	PC	PC	Location	Matorial	Ocarmer	Offical
		Α																
		В																
		С																
		D																
		E																
		F																
		G																
		Н																
		1																
		J																
		K																
		L																
		M																
		N																
		0																
		Р																
	_	Q																
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	-	S																
		Т													,			
		U												-				

Figure 1: Maintenance Plan Template

Each of the major columns of the template is described below.

Tree

The Maintenance tasks will be grouped into a tree structure based on the ability of Maintenance personnel to perform such tasks independently of one another. The Trainsets will be designed for Maintenance to allow the performance of Maintenance tasks in isolation to the extent possible. Maximizing this task isolation will allow greater flexibility of Maintenance scheduling. Any task that comes from the main branch of the tree on the left hand side of the diagram is a task that can be performed on its own. Those tasks that branch in further are directly dependent upon the earlier tasks. For example, task B must be performed prior to tasks C or D being performed. These nested tasks will be kept to a minimum.

Some tasks are not directly dependent on other tasks, but nonetheless make sense to perform together. These are often tasks performed in the same location or on the same System. Tasks that are branched together on the right hand side of the column (i.e., G, H, I, J, K, and L) fall into this category.

Proc.

This is the unique procedure number.

Description

This is the task description.

Task time by craft

This category parses out the total task time by worker craft. With this information, Amtrak will be able to more easily schedule work based on the number of workers with specific Maintenance training or contractual requirements available.

of People

This indicates the minimum number of people required to complete the task. Although some tasks can be completed in less time using more people, there are some tasks that require more than one person to complete. The number in this column will most commonly be '1', but there are tasks where this number will be higher.

Tools

Each column in this set will represent a unique tool. The tools in these columns will be those that may not be found in all of the depots, or will be otherwise limited and require specific scheduling to avoid conflicts. These are intended to be unique

bench test equipment, cranes, or other large tools and are not intended to be common hand tools.

Total Time

This column lists the total number of technical person-hours required to perform each task, independent of the workers' skill sets. After the list of Maintenance tasks have been finalized, Contractor will demonstrate to Amtrak that the technical time for each task is achievable.

Interval

This is the initial recommended interval for performing this work (i.e., 92 days, 1 year). This number will be developed based on a combination of Contractor's experience, manufacturers' recommendations, and subcontractors' experience. These intervals may change slightly if our experience with these specific Trainsets under these specific conditions suggests that the intervals should be changed.

Max Interval

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This is the initial recommended maximum allowable interval between iterations of each task. As with the Interval column, the number will be determined based on a combination of experience and design specifications and may change based on the performance of the Trainsets in the field.

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SCHEDULE 6

AGREEMENT MANAGEMENT

1. Purpose

To establish the project management principles under which Amtrak and Contractor will work together for the successful completion of the Work.

2. Objectives

The main objectives of Amtrak's project team is to ensure that the Trainsets are completed to the quality, safety, performance standards, and Project Schedule agreed to by Amtrak and Contractor and all Appplicable Laws.

Part 1: Amtrak's Processes and Obligations

3. Project Team

The principal role of Amtrak's project team is to ensure that both parties meet their obligations specified under the Contract. The roles and responsibilities of the members of Amtrak's Project Team are specified below. Amtrak reserves the right to vary the structure and the assigned personnel at any time. Any such change shall be communicated to Contractor.

3.1 Amtrak's Contracting Official

The "Contracting Official" (CO) is the Vice-President, Chief of Procurement & Logistics Officer who is authorized to enter into certain contracts and to make determinations and findings with respect to contractual obligations. The CO has the sole authority to administer all contracts as delegated on behalf of Amtrak. Change Orders are negotiated and executed by the CO, except as otherwise provided for, or delegated in writing. Except as otherwise provided in Schedule 3, Change Request Process, this includes a duly appointed successor or an authorized representative of the Contracting Official acting within the limits of his or her authority.

3.2 Amtrak's Contracting Official's Representative

The "Contracting Official's Representative (COR)" is the duly appointed individual who is subordinate to the CO and is responsible for all contractual actions other than those specified elsewhere in Amtrak's procedures. The COR is the individual delegated with the authority to act on behalf of the Contracting Official.

3.3 Amtrak's Contracting Official's Technical Representative (COTR)

The COTR manages the project in all aspects and ensure the related other parts of the Program are monitored and kept on track. The COTR is the individual authorized in writing by Amtrak designated by Amtrak to be responsible for the daily technical and on-site administration of the Contract, including monitoring Contractor in its performance and compliance with the technical requirements of the Contract. The COTR approves the technical acceptability and timeliness of the work completed and the invoices submitted by Contractor to carry out the initiating, planning, executing, monitoring/controlling and closing of the project. The COTR manages the project team and is accountable for accomplishing the stated project objectives relative to cost, schedule, scope and quality. The COTR's responsibilities include:

- **3.3.1** Overall management of Amtrak's project team;
- **3.3.2** Knowledge of the terms and conditions of the Contract;
- **3.3.3** Addressing any delays which may arise during the life of the Contract;
- **3.3.4** Allocating other team members to meet specific project needs;
- 3.3.5 Day-to-day oversight of Amtrak's project management activities on behalf of Amtrak and to ensure that the project achieves its objectives and meets the requirements of the Contract with regard to scope, time, cost, quality and safety.

3.4 Project Engineer

Manages the engineering elements of the project including the Design Reviews, the Quality Assurance/Quality Control (QA/QC), and the TSSSA elements.

3.5 Project Risk and Safety Manager

Develops a strategy for identification and mitigation of risks, maintains a risk register and monitors measures to address risk; closely coordinates with Amtrak's Enterprise Risk Management (ERM) team.

3.6 Budget Manager

Manages the financial aspects of the Trainset project budget including the Trainset Project Management Office (PMO)'s internal budget; tracks the financial status of the project, assures timely and appropriate responses for requests for payment by the OEM, and identifies issues related to project expenditures to be resolved by Trainset project leadership. Serves as the Trainset PMO point of contact for Amtrak's Finance Department on the accounting for expenditures on the Trainset project.

3.7 Scheduling Manager

Monitors all progress against the Project Schedule according to Schedule 5; provides an early warning for schedule-related issues and with the COTR develops solutions for schedules that have been delayed.

3.8 Document Control Manager

Develops a system of document control and maintains a record of where each document is and ensures that each one is handled in a timely manner.

3.9 Project Coordinator

Monitors all related projects from a scope, schedule and budget aspect in coordination with the Enterprise PMO. Identifies all areas of concern to the COTR and the Risk & Safety Manager. Handles all aspects of communications, internally and externally.

3.10 Project Legal Counsel

Legal advisor for the Trainset PMO.

4. Project Meetings

4.1 Kick-Off Meeting - Amtrak/Contractor

Amtrak will hold an initial meeting within thirty (30) days of NTP, at a time and location designated by Amtrak, to discuss with Contractor all essential matters pertaining to the successful execution and completion of the Work as defined in the Contract.

4.2 Project Review Meetings

Amtrak will hold Project Review Meetings (the "Project Review Meeting") with Contractor. The Project Review Meeting shall take place monthly, at a minimum, or on another mutually-agreed interval.

Amtrak shall circulate an agenda at least one week prior to each meeting. Appropriate data packages covering the information to be discussed shall be submitted by Amtrak and Contractor prior to the upcoming meeting.

Amtrak and Contractor's Project Director shall attend the meeting. Other members of Amtrak and Contractor's organizations may attend as required. Contractor shall ensure that persons knowledgeable in the topics to be discussed, including the appropriate subcontractors, are present as required at these meetings.

The primary purpose of the Project Review Meeting is to monitor Contractor's performance against the requirements of the Contract and ensure that Contractor's performance will meet the project objectives; and to provide the focal point for resolution of project issues.

The Project Review Meeting shall achieve this by:

- 4.2.1 Reviewing Contractor's project progress report, as referenced in Schedule 5, and ensuring that appropriate responsibility for actions is agreed upon;
- **4.2.2** Ensuring that the Trainsets comply with the quality, safety and technical matters of the Contract;
- **4.2.3** Identifying contractual matters which could potentially affect Contractor's performance;
- 4.2.4 Identifying any major concerns regardless of source and ensuring that appropriate actions are agreed to facilitate resolution of such concerns;
- **4.2.5** Review any emerging issues.

4.3 Design Review Meeting – Amtrak/Contractor

Amtrak will hold Design Review Meetings (the "Design Review Meeting") with Contractor as called for in Schedule 2. Design Review Meetings shall take place on a regular basis throughout the project and in line with Contractor's Design Review Program and the Project Schedule.

5. Meeting Minutes

Amtrak shall chair all meetings and produce and circulate all meeting minutes. Action items shall be identified and assigned to an individual for completion by a pre-determined response date. Contractor shall maintain a master action log that consolidates and monitors these items to ensure that all items are closed out.

6. Audits

Amtrak, Amtrak's Office of Inspector General (OIG) and FRA shall have the right to audit Contractor in accordance with Article 43 of the General Provisions of Contract.

Contractor may request audit reports from Amtrak, and they shall be made available to Contractor to the extent permitted by law. Audit reports shall be subject to the confidentiality provisions of the Contract.

7. Acceptance Management

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Amtrak shall manage its own activities with respect to the acceptance of Trainsets in accordance with the Contract. This shall include but not be limited to, the following:

- **7.1** Specification compliance review;
- **7.2** Trainsets documentation review;
- **7.3** Production of an open action item list of the Trainsets (and subsequent close-out):
- **7.4** Making appropriate staff available to inspect and sign-off;
- 7.5 Trainsets for acceptance and identification and approval of modifications; Contractor will provide assistance in this to the extent obligated under this Contract

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10.2 Design Review Program

Documentation

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Design Review shall follow the procedures in Schedule 2 – Design Review Process. Contractor shall provide to Amtrak's COTR the materials required by Schedule 2, including a detailed listing and design program which provides a structured commentary on the Specification and identifies all submissions to be supplied for demonstrating compliance with the Specification and the Contract.

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12.	Tes	t Program
	12.1	The testing and commissioning of the Trainsets will be in accordance with Schedule 9, Testing and Qualification.
13.	Acc	eptance Management
	Pro	e acceptance of Trainsets shall be managed in accordance with Trainset General visions and Acceptance Certificates, which will be issued as per Schedule 4, Form of ceptance Certificates.
14.	Rec	ording Failures & Challenging Data
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16. Appendix A-CDRLS (See Attached Table)

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SCHEDULE 5 CONTRACT TIME PLAN

1. PURPOSE

This Schedule 5 contains the Delivery Schedule and outlines the requirements of the Project Schedule. The Project Schedule will adhere to all General Provisions, specifically Article 11, and provide for the acceptance of the Trainsets within the mutually agreed upon time frame as set out in the Project Schedule. The Project Schedule will be updated as directed by Amtrak.

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PROJECT SCHEDULE SCOPE	•
The Project Schedule (a deliverable under this Contract) shall milestones and sufficient other detail, such that Amtrak is able to mor of the project up to Final Fleet Acceptance, as set forth in the General	itor progress
The Project Schedule shall enable Amtrak to monitor Contractor's partial be prepared in a manner so as to permit the orderly planning, and execution of the Work, and enable Amtrak to clearly understand the design phase on the procurement process. The Project Schedule Sched	organization, the impact of

Amtrak's required input and/or its resources.

shall be logically linked to the major milestones of the project.

The Project Schedule and its subsequent revisions shall also clearly identify

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4. IMPLEMENTATION AND CRITICAL PATH METHOD (CPM)

The Project Schedule shall be broken down into a range of activities. For each activity, duration, and input dependencies shall be identified per PMI Standards. The Project Schedule activities will contain 4 different groupings: Design and Development, Procurement, Manufacturing, and Testing and Commissioning, further described in this schedule.

The activities are to be sequenced and arranged in order from Notice to Proceed (NTP) to Project closure.

- 4.1 The Project Schedule submitted for approval will be a transparent, collaborative and proactive working schedule process that will clearly support meeting milestones, tests, manufacturing, and provide continuous visibility of the status; and the baseline will be identified and approved by Amtrak.
- **4.2** The Project Schedule, shall demonstrate that Contractor is capable of meeting the deliveries. Contractor will generate a progress report, which will be reviewed at the Project Review Meetings.
- 4.3 The Project Schedule and subsequent revisions shall clearly identify early start and finish dates (duration), remaining float and the critical path. Contractor shall maintain the schedule and update it accordingly to reflect the full scope of work and all scope changes. Contractor will promptly notify Amtrak of, and submit a recovery plan for any slippage.
- 4.4 Contractor shall highlight and utilize the Critical Path Method (CPM), a path through all the inter-connected tasks that is of the longest duration, to develop a project schedule that has logical grouping of project phases identifying discrete tasks, milestones and deliverables. The CPM will have estimated actual start and finish dates ranging from NTP to delivery of the last Trainset including major engineering activities such as design reviews, submittal and approval of drawings, first article inspections, engineering tests, production, acceptance tests, and precedence of network tasks all with Amtrak interaction. All activities will be integrated in a clear and logical

- sequence in the Project Schedule and phases will be clearly defined. Dependencies between the activities will be clear and precise and a critical path will be highlighted to ensure the project will be completed within the defined time frame.
- 4.5 A prediction concept such as PERT (Project Evaluation and Review Technique) shall be used, if history is not available, to analyze the tasks involved in completing the Project. The tasks on the critical paths will be highlighted on the Gantt Chart..
- **4.6** Contractor shall continuously monitor performance and control the Project Schedule and submit updates.

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ô.	PROCUREMENT	
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7.	MANUFACTURING	
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9. Deliverables in this Schedule:

TRAINSET ASSEMBLY AND TESTING

8.

9.1. Project Schedule in the form of a Gantt Chart in Microsoft Project 2010 format.

SCHEDULE 2 DESIGN REVIEW PROCESS

1. GENERAL

The Design Review Process (DRP)¹ will be a robust mechanism to establish the designs necessary for the manufacture and supply of the Trainsets. This process is intended to:

- 1.1. determine whether Contractor has identified and understands the technical requirements;
- 1.2. determine whether Contractor has identified an adequate approach to demonstrate that each design requirement has been or will be met;
- determine whether Contractor has identified all interfaces and has a comprehensive System integration approach;
- 1.4. observe the relationship between Contractor and major suppliers and to ascertain that Contractor provides adequate technical oversight;
- 1.5. determine the state of Contractor's Quality Assurance program; and
- 1.6. determine the readiness of the design and Contractor to proceed to the next stage of the design, manufacturing and testing.

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2. PURPOSE

This Schedule 2 sets out the DRP to address the following:

- 2.1. the elements of the Trainset which will be subject to design review;
- 2.2. the process for making design submissions;
- 2.3. the timescales for reviewing design submissions and returning comments following each review and the process to be followed for addressing any comments received;

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3. DESIGN REVIEW PROCESS GOVERNANCE

The Contractor and Amtrak will work closely together in a collaborative way to ensure that the final design of the Trainsets meets the contractual requirements and resolve any technical problems or issues that may arise during the project.

This collaboration will be via:

- 3.1. a continuous involvement by Contractor with Amtrak and stakeholders to resolve and validate all of the design-related issues that arise during the project, through the review meetings (refer to section 4.0);
- 3.2. specific meetings where detailed analyses are reviewed by the parties for complete areas;
- 3.3. a review of deliverables (including, where appropriate, but not limited to, Drawings, assembly drawings, technical descriptions, calculation notes, studies, electric diagrams, pneumatic diagrams, test procedures and operation and maintenance documentation) to be submitted for review.

Amtrak shall have the right to invite or permit to participate in any design review, audit or test anyone Amtrak deems appropriate. Individuals or entities designated by Amtrak including, but not limited to, the Federal Railroad Administration (FRA), shall be afforded all desired access to the project, including design reviews, witnessing of tests and audits. Only those individuals, designated in writing by the Contracting Officer's Technical Representative (COTR), shall have the authority to take actions on behalf of Amtrak that relate to the DRP, including, but not limited to, approvals, acceptances and providing design review comments. The Contractor shall not recognize the actions of those individuals not so designated in writing. Amtrak will give Contractor reasonable notice of stakeholder participation, but reserves the right to include participants without notice.

4. REVIEW MEETINGS AND COMMUNICATIONS

During performance of the Work, regular communication, in addition to the Project Review Meetings (PRM) and Design Review Meetings (DRM), will take place between Contractor's technical project team and Amtrak (and other stakeholders) which will be done either by telephone, e-mail, video conference, or face-to-face meetings. The purpose of these communications is to highlight potential issues, including any comments on the emerging designs and decide the most appropriate design outcome for all of the participants involved in the project. These communications are intended to be a "fast-

inv	These meetings have two objectives, first to allow the participants to maintain a close involvement in the project's development, and second to allow Contractor's project team to answer questions and resolve issues that arise during the project.						
far of inc	The proposed agenda for these meetings will not be fixed. The agenda will be issued as far in advance as possible prior to each meeting by Contractor and will reflect the issues of high-priority at that time on the project. All participants will have an opportunity to include on the agenda any issues that they deem important and in need of resolution at the meeting.						
	eeting notes and action lists will be produced by Amtrak for each review meeting to be followed up at subsequent meetings.						
5	. TRAINSET DESIGN REVIEW AREA FEATURES						

track" process for making decisions on a regular basis, allowing the participants to

maintain a close involvement in the project.

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6.	DESIGN REVIEW PROGRAM
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Throu	ighout the design review stage(s) and as called for in the Specification, mock-ups
•	fically those defined in Schedule 1 Part A –Performance Specification, will be used
to sup	pport the design development activity.
7.	DESIGN REVIEW
	Contractor will engage with Amtrak throughout the development of the design of
•	fic project elements to inform and where appropriate seek input from Amtrak into the
	opment of those designs. The DRP will begin once the design review program ibed in Section 6 has been approved by Amtrak.
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reviewed by Amtrak. The DRP will result in the presentation by Contractor of progressively greater levels of detail, reflecting the progress of the designs as they advance through the conceptual, intermediate and final design stages.

The design review for each stage will allow for the review, comments and responses to the design packages, and for Amtrak to provide a final status for each design review. The design packages for the various design review areas as detailed under section 5.0, for each of the three design stages will be submitted to Amtrak by Contractor in line with the design review program. The design review period will commence with the submittal of the design package and Amtrak shall complete the design review process within twenty one (21) business days as set forth in section 8 below.

8. (b)(4)	DESIGN REVIEW MEETINGS (DRM)
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9. AMTRAK DESIGN REVIEW MEETING EXPECTATIONS AND GUIDELINES

9.1 Schedule

The Contractor will develop the schedule for the completion of the design feature or area being reviewed and will present it to Amtrak. Such schedule will provide for the timing of decisions by Amtrak consistent with Article 4 of the Contract's General Provisions unless otherwise agreed to by Amtrak. Key SCHEDULE 2 – DESIGN REVIEW PROCESS – AUGUST 1, 2016 FINAL Page | 7

points in the validation of the design will be highlighted as well as where Amtrak participation or decisions will be required in order to keep to the schedule. The Contractor will highlight for Amtrak those aspects of the design under review that pose project schedule risks.

9.2 Theory of Operation

The Contractor will clearly explain the theory of operation of the Subsystem/design area under review to Amtrak.

9.3 **Design Description**

The Contractor will describe the specific design approach and features for the features/Systems/Sub-systems under review. Specific design decisions will be explained and justified.

9.4 Software Role/Status

The Contractor will explain the functions provided by software where it relates to the specific aspect of the trainset design under review, describe the software development process and how it will be documented, and explain how the software will be validated and integrated with the hardware.

The Contractor will explain how the software meets software safety integrity level (SIL) requirements if the software plays a safety critical role. The status and schedule of the software development effort will be explained as well as efforts to provide software quality assurance.

9.5 Interfaces/System Integration

The Contractor will pay particular attention to the interfaces of the System or feature under review with the vehicle and other Systems on the vehicle. All interfaces will be identified and the process to be used for Systems integration shall be described.

9.6 Planned/Completed Design Verification Activities

Amtrak expects Contractor to conduct a complete review of its planned and completed internal design verification activities as part of each design review. Results of analyses and tests will be provided to Amtrak. If failures occur, the steps to correct the design deficiency and the re-testing plan will be provided to Amtrak.

9.7 Planned/Completed Quality Assurance Activities

The quality assurance program for the item under review, where applicable, will be discussed. Planned or completed internal and/or external quality audits will be reviewed. Planned or completed First Article Inspections (FAI) tests will be described.

9.8 Status of Drawings

The status of the drawing package for the item under review will be given. This represents the time to include a description of configuration management activities/status.

9.9 Status of Hazard Identification/Mitigation

The Contractor will identify potential safety hazards posed by the design under review and take actions to mitigate those hazards through the design. The design will not impose limitations on RAMS to achieve safety. Presentation of the status of hazard identification/mitigation will be a key part of each design review to be included prior to close out of each stage.

9.10 Status of Reliability Allocation Prediction

The Contract has an overall Trainset reliability requirement. This requirement will be achieved in part through allocation of a reliability goal to each major Subsystem of the car and tracking the reliability prediction for that component as the design matures. The status of this activity will be reported as part of the design review.

9.11 Status of Design for Maintainability

Amtrak expects that the Trainset will be designed for ease of maintenance. The status of design activity to meet maintainability goals will be reported at each design review.

9.12 Manufacturing/Manufacturability Issues

The Contractor will report the status of the manufacturing analysis of the item under review. Any identified manufacturing/manufacturability issues will be reported to Amtrak.

9.13 Other Things Amtrak Should Know

The Contractor will present to Amtrak during the design review any other design issues found to exist that are not covered by these expectation guidelines.

9.14 Actions Required of Amtrak

The Contractor will identify any actions required of Amtrak as a result of the review – including a proposed time- frame for the completion of the action.

10. DESIGN SUBMISSIONS & REVIEW DISPOSITION

10.1 Design submissions will be organized in an orderly and logical sequence to enable understanding of interface relationships between all component parts and their resulting assemblies or installations. In addition, each design submission will be for a distinct part of the trainset and will contain all the details necessary to enable Amtrak to be able to understand and review the design,

- and to satisfy itself that the design submitted appears to conform to the Contract.
- 10.2 Each design package and or associated design correspondence will be allocated a unique reference and prefix number, based on the origination of the submittal. Each design package will be submitted in electronic form, in English and in a legible standard format.
- 10.3 All design packages reviewed by Amtrak will be assigned one of the following dispositions:
 - 10.3.1. Approved (Used in certain specific cases and as identified in Schedule 1 Part A e.g. the color palettes)
 - 10.3.2. Not Approved
 - 10.3.3. No Objection(s) to the continuation of planned work
 - 10.3.4. No Objection(s) to the continuation of planned work (with technical comments)
 - 10.3.5. Objection to the continuation of the planned work with technical comments, i.e. does not appear to meet the contract technical requirements
 - 10.3.6. Received for information purposes only
 - 10.3.7. Closed - Submissions have either been approved by Amtrak or Amtrak has no objections
- 10.4 Conclusion of FDR's will result in a design baseline that subsequently falls under the Configuration Management program and establishes the production configuration.
- 10.5 All Contractor submissions defined in the design review program will be classified as "Closed" before Trainset Final Fleet Acceptance can be granted.

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submittals and activities will represent a continuation and updating of all activities specified as ongoing in the PDR, IDR and mock-up review as applicable to this design review stage and as agreed by the parties in the design review program. FDR in summary will provide for an in-depth review of System and function descriptions, detailed calculations and simulations, weight estimates, consumptions, full functionality, final layouts, specifications, drawings, diagrams, test procedures and software functionality details.

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	11.4	Aestrietical Design Reviews
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12. DESIGN REVIEW REGISTER

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Throughout the DRP, Contractor will compile and maintain a design review register, a part of the design review program, which will be tracked under the CDRL log indicating the following:

- 12.1. The date and contents of the submission of all items submitted
- 12.2. The date of receipt and content of all comments in respect of all submitted items that are returned or deemed to be returned by Amtrak.
- 12.3. The contents of the design review register will be confirmed by the parties every two (2) months and each party will be entitled to a copy thereof.

13. CONCLUSION OF THE DESIGN REVIEW PROCESS AND ACHIEVEMENT OF CLOSED STATUS

The design of the Trainsets will be completed when: all required DRMs have been held, all submissions have been made as identified in the detailed program, and either:

- 13.1. There are no significant outstanding or unresolved objections on the part of Amtrak to the design as evidenced by a notice of non-objection to Contractor with respect to the FDR for all groups of design areas as identified in 5.0, or
- 13.2. Amtrak and Contractor have agreed to a plan to address any outstanding or unresolved objections to the design regardless of their significance.

14.	DESIGN VALIDATION	
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15. CONTRACT DELIVERABLES:

- 15.1. Design Review Program: The initial submittal will be sixty (60) days after NTP and updates for subsequent design will be provided sixty (60) days prior to the submission of design review packages.
- 15.2. Final Design Book: The final Design Book and associated samples will be submitted after the aesthetical FDR for Amtrak approval.

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SCHEDULE 13 TRAINING REQUIREMENTS

1. INTRODUCTION

This Schedule defines the Contractor's responsibilities and requirements to provide training courses for Amtrak referenced in Section 7.9 of the Trainset General Provisions. This includes "Train the Trainer" and training for locomotive engineers and conductors who will participate in the validation tests on the NEC.

The training courses for Amtrak's trainers will be performed with the same level of quality using industry best practice and the Contractors' employees, Contractor's representatives, and the resources of a training Subcontractor.

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2. SCOPE

2.1. Training Activities

Contractor, at its own expense, will organize, develop and provide training courses to be delivered by Amtrak's trainers designed for Amtrak's Maintenance, On-Board, and Operations personnel.

The training activities performed by the Contractor will cover the following training sessions:

- 2.1.1. On-Board staff training prior to the validation tests on the NEC;
 - Locomotive Engineer training
 - Conductor training
 - Emergency and Re-railing training
 - First Responders training
- 2.1.2. On-Board and Operations staff Train the Trainer prior to Revenue Service;

- Locomotive Engineer training
- Conductor training
- First Responders training
- Catering Cars training for OBS
- 2.1.3. Qualified Mechanical Personnel Train the Trainer, required to address requirements of 49 CFR 238 subpart F, prior to Revenue Service.
 - QMP Certification training
- 2.1.4. Train Systems training, including all major contract supplier subsystems, will be completed prior to Revenue Service.
 - Train Systems/Subsystems training

Training courses will be developed and performed by Contractor Parties working with Amtrak's trainers. The training courses will acquaint Amtrak training-personnel with the Equipment in order to provide sufficient working knowledge to safely and properly operate, inspect, service, maintain, and test the equipment, and likewise teach Amtrak personnel to do the same.

The "Train the Trainers" courses will include formal courses which will include: a classroom instruction module, as well as a practical hands-on instructional activities module on the actual new Equipment. The allocated training time for each course will vary depending on the training content.

All training courses will be provided at a location agreed upon with Amtrak and will include the provision of all necessary training materials and Equipment to permit Amtrak's trainers to undertake further training of Amtrak's employees. All training courses, modules and classes will be approved by Amtrak.

The Contractor will provide effective training aids for the courses as required. All training contents and materials will depict the actual Amtrak Equipment. All training contents and materials will be provided in English.

Locomotive Engineer Training – Completion of the locomotive engineer/road foreman training course and Contractor's training materials will not officially certify the locomotive engineers to drive the Vehicles. The training course will simply provide an overview of the controls and processes necessary to drive the Train.

2.2. Training Modules

Each training course has two modules:

- 2.2.1. Classroom lecture modules to teach the theory behind the module's contents, or to provide instruction to new processes, procedures, or tools required to safely operate and maintain the new equipment.
- 2.2.2. Hands-on instructional modules where the work to be performed is demonstrated by the course instructor and then practiced by the course participants under the guidance of the course instructor.

The exact division of time between the two modules will vary depending on course contents.

The process for all training activities begins with a material preparation phase:

2.2.3. The Maintenance and Operations manuals, maintenance instructions, and Work Method Statements for the Trainsets will be developed; and will provide step-by-step details of the work to be performed for each Maintenance or Operations task.

- The Maintenance and Operations manuals will be the resource materials to support course content and be provided as the trainee's supporting documentation.
- 2.2.4. Work Method Statements will be used as the source for QMP course content development and will be used to identify periodicity-based task training processes, tools and procedures. Work Method Statements will be referenced during hands-on demonstration of the periodicity-based task training.

2.3. Written Course Materials

- 2.3.1. Training materials for both trainers and trainees The set of approved documents including but not limited to: operation and maintenance manuals, course outline trainee reference materials and guides, technical library resources, including maintenance instructions and Work Method Statements, troubleshooting guides, presentation aids, slides and photos for performing the classroom portion of the training course. Presentation materials will identify the course completion standard and terminal learning objectives in compliance with 49 CFR 243.
- 2.3.2. Testing materials The competency assessments which will be used to verify that each trainee has adequately mastered the skills taught. Testing materials will include written exams with learning objectives identified for each exam question, in accordance to 49 CFR 243; and performance exams, with each task aligned to a performance task objective (learning objective), per 49 CFR 243. Performance exams will have a completion and performance standard for measuring competency to satisfy 49 CFR 243.
- 2.3.3. Competency audit schedule A list of each training course and the frequency periods with which trainers and trainees should be retested after completion of the course. The frequency will depend upon such factors as the complexity and safety criticality of the course contents. This schedule will be developed in accordance with Amtrak. Amtrak will determine the frequency periods for which trainers and trainees should be retested.
- 2.3.4. The Contractor shall submit the Amtrak training materials to Amtrak for review prior to the commencement of each Amtrak training course. Amtrak's comments will be communicated to the Contractor prior to the start of the training course, with sufficient time given to update the training materials and/or course contents.
- 2.3.5. The Contractor shall provide Amtrak with formally written training materials in both hard copy and in an electronic format specified by Amtrak. Amtrak shall be entitled, free of charge, to duplicate as many copies of training materials as it requires for the purpose of training its employees. These copies may be made of original documents and any updates throughout the life of the Trainset.
- 2.3.6. All final course material/content will be accompanied by the following information to satisfy a 49 CFR 243 program submission:
 - Unique name and identifier/Course ID
 - Course description including terminal learning objectives
 - Description of the target audience
 - Course outline/syllabus
 - Method of delivery
 - Course duration
 - Federal law, regulations or FRA orders covered in the course
 - Assessment strategy/type of test used

- Documentation of each OJT/field training portion of the program, including the roles and responsibilities of each person involved in the administration and implementation, guidelines for program coordination, and the progression and application of the OJT or Field Training (Hands-On)
- Employee training point of contact information
- External training organization/learning institution information, if developed and/or delivered all or part of the training.
- 2.3.7. Amtrak training will support the Contractor with identifying and delivering the 49 CFR 243 submission information listed above. Amtrak training will compile/consolidate the information needed to satisfy the 49 CFR 243 program

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2.4.	Other Course Materials		
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2.5. Support to Amtrak Trainers

In parallel to the training courses detailed below, the persons identified by Amtrak as "trainers" will receive additional training instructional courses to reinforce their core teaching and training skills. This course will be executed in two modules. The first module will focus on general aspects of teaching and training skills and will be completed at the start of the training cycle. The second module will review the practical aspects of the roll-out of the training and will be conducted at the end of the training course outline detailed here in.

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3. COMPETENCE ASSESSMENT AND ACCREDITATIONS

All participants of the initial training will be assessed in terms of retained knowledge.

In order to complete the competency assessment verification, Amtrak will administer a final exam that will be completed by the trainees at the end of every training course. The aim of these tests is to verify the participants' retention of the course contents including System functional aspects, ability to demonstrate the skillset taught in the course, safety measures, key Maintenance information, and troubleshooting capabilities.

Amtrak will determine the cut score (pass mark) for each test.

Upon passing the final exam for each course, an attendance certificate will be released to each trainee.

The same final exams will be provided to the trainers for their own use when delivering the training courses to Amtrak employees.

4. TRAINEES' SKILLS

Trainees are required to have minimum levels of knowledge and skills in order to take the training courses.

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SCHEDULE 11

QUALITY PLAN

1. GENERAL

The Contractor will perform the work under the Amtrak Next Generation High Speed Trainset Contract in accordance with the principles defined in ISO 9001. This will apply at all phases of the Contract execution including:

- 1.1 Project phase from Contract Award to start of revenue trains in service;
- 1.2 conditional acceptance, acceptance and Final Fleet Acceptance, including the applicable warranty period;
- 1.3 maintenance service (a TSSSA specific Quality Plan will be established and submitted to Amtrak under the TSSSA Contract)

2. QUALITY PLAN

The Contractor will provide an Amtrak specific Project Quality Plan (CDRL 10.1) based on the requirements defined in this schedule that demonstrates the methods that will be employed to ensure the full control of all systems, processes, materials supply and the selection, competence and on-going use of Subcontractors. This Quality Plan will be submitted to Amtrak for review and approval in accordance with the Contract requirements.

3. QUALITY PLAN REQUIREMENTS

The Amtrak specific Project Quality Plan will include the following at a minimum:

- 3.1 A description of the Contractor's Quality Management System
- 3.2 A description of the Contractor's Quality Management System Documentation
- 3.3 The Contractor management's responsibilities and the authority of the Amtrak specific Contractor Project Quality and Safety Manager.
- 3.4 The Contractor's quality organization to be involved in the Amtrak project.
- 3.5 Methods for ensuring qualification under the Contract requirements of all personnel performing quality activities on the Amtrak project.
- 3.6 The link between the Contractor's Quality Management System and the Amtrak specific Project Quality Plan.
- 3.7 The methods employed to monitor, review and continuously improve the Quality Management System through, among other things, System, project, process and product audits, annual process reviews, and annual management reviews.
- 3.8 Management of all Work specific documentation.
- 3.9 Management of Quality records.
- 3.10 Change management of all project specific documentation and product.
- 3.11 Methods for ensuring quality network communication between the Contractor and Amtrak.

SCHEDULE 11 QUALITY PLAN

- 3.12 Methods for ensuring compliance with the requirements of the Contract, at each phase of the Contract.
- 3.13 Methods for ensuring Subcontractor qualifications, competence and capacity to execute work on the Amtrak project consistent with the Contract requirements.
- 3.14 Methods for assessing product for compliance with technical, contractual and legal requirements.
- 3.15 Methods to control inspection, measurement and test equipment.
- 3.16 Methods for managing product and process non-conformity.
- 3.17 Methods for ensuring expeditious correction of product and process nonconformity.
- 3.18 Amtrak access to Contractor Party to assess compliance with the requirements of the Contract.
- 3.19 Methods to ensure prompt notification to Amtrak of any non-compliance or non-conformity with the requirements of the Contract or violation of Applicable Laws
- 3.20 Link between the Amtrak Quality Plan and other project specific plans.

The Amtrak specific Quality Plan will be regularly reviewed and maintained throughout the duration of the Amtrak project to ensure continued effectiveness.

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SCHEDULE 11 QUALITY PLAN

	CONTRACTOR'S STANDARD OPERATING PROCEDURES
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