ATTACHMENT A

Scope of Work
SCAPE OF WORK

1. PROJECT BACKGROUND AND OVERVIEW

A. Virginia Railway Express (VRE) purchased twenty (20) MP36 locomotives between 2010 and 2011. Each locomotive utilizes one (1) turbocharger for the prime mover engine. VRE’s locomotives are currently equipped with Electro-Motive Diesel (EMD) turbochargers.

B. A Lifecycle Maintenance (LCM) Program was adopted for VRE rolling stock and requires that VRE’s locomotives and passenger rail cars be maintained at the highest level of reliability throughout the lifecycle of the equipment. In accordance with the LCM Program, VRE seeks to replace the locomotive prime mover turbochargers and spring drives, which are nearing the end of their useful life, with remanufactured turbochargers and spring drives as well as to purchase new accessory drives and gasket kits.

2. GENERAL REQUIREMENTS

A. The turbochargers, spring drives, accessory drives and gasket kits shall adhere to all applicable requirements of the current editions of the following:

1. 49 CFR 229, Railroad Locomotive Safety Standards; and
2. 49 CFR 238, Passenger Equipment Safety Standards.

B. The turbochargers and spring drives must be manufactured in an Association of American Railroads (AAR) M-1003 certified facility. A valid ARR M-1003 certificate must be submitted with the Bid Form.

C. VRE will be responsible for installation of the turbochargers, spring drives, accessory drives and gasket kits furnished by the Contractor.

3. PRODUCT SPECIFICATIONS AND SALIENT CHARACTERISTICS

A. The Contractor shall deliver the following parts to VRE:

1. Twenty (20) Locomotive UTEX Turbochargers, Electro-Motive Diesel (EMD) Part No. 40108833 or approved equal.
2. Twenty (20) UTEX Spring Drives, Electro-Motive Diesel (EMD) Part No. 9538149 or approved equal.
3. Twenty (20) Accessory Drives, Electro-Motive Diesel (EMD) Part No. 8460738 or approved equal.

4. Twenty (20) Gasket Kits, Swellex Part No. 9580734SX or approved equal.

B. The turbochargers and spring drives shall be designed to fit an EMD 16-645F3B engine, mounting to the camshaft drive housing and driven by the camshaft drive gear train utilizing the spring drive gear assembly.

C. The turbochargers shall function as a combination turbo-compressor. The turbochargers shall also use the gear train and over-running clutch for low engine speed when exhaust gas temperature alone is insufficient to drive the turbine working as a compressor. At higher engine speeds and when the exhaust gas temperature is sufficient, the clutch shall disengage thereby turning the turbo-compressor into a true turbocharger.

D. The exhaust duct shall be a “Short Stack” configuration to facilitate use of a Harco Diesel Oxidation Catalyst (DOC).

E. The turbochargers shall be configured for installation of an oil separator and an auxiliary drive.

F. The exhaust flange of the turbochargers shall be configured to connect to the adapter to turbocharger expansion joint.

G. The turbochargers shall have a 17.9:1 ratio.

4. SHIPPING AND DELIVERY

A. Within thirty (30) consecutive calendar days from the date set forth in the written Notice-To-Proceed (NTP), the Contractor shall deliver to VRE one (1) of each of the following parts: turbocharger, spring drive, accessory drive and gasket kit.

B. Each month thereafter, the Contractor shall deliver to VRE an additional quantity of one (1) each of the following parts: turbocharger, spring drive, accessory drive and gasket kit.

C. The delivery of parts shall continue monthly until a total quantity of twenty (20) of each of the following have been received and accepted by VRE: turbocharger, spring drive, accessory drive and gasket kit.

D. All parts shall be delivered to VRE within twenty (20) consecutive calendar months from the date set forth in the written NTP.
E. Within thirty (30) calendar days of receipt of each turbocharger from the Contractor, VRE will provide a corresponding core to the Contractor. The cost associated with shipping each core to the Contractor is the sole responsibility of VRE.

F. If the delivery of parts is not met by the Contractor as specified above, the order may be cancelled by VRE.

G. A written shipping release shall be obtained from VRE before shipping any parts.

H. The Contractor shall prepare its own packing list to accompany each delivery. The packing list shall identify the part numbers and quantity shipped.

I. Upon receipt of the parts, a VRE representative must sign the packing list. The signed packing list shall be included with each corresponding invoice submitted to VRE for payment.

J. Shipments shall be FOB Destination. Therefore, any damage incurred in shipping the parts to VRE is the sole responsibility of the Contractor.

K. The Contractor shall deliver all parts to the following address:

   VRE Crossroads Maintenance and Storage Facility
   9400 Crossroads Parkway
   Fredericksburg, VA 22408

L. Deliveries shall be made between the hours of 9:00 A.M. and 4:00 P.M. Eastern Time, Monday through Friday.