

**STATEMENT OF WORK:
Independent Review of NGEC Standardization Process**

(to be included in NGEC work plan and budget)

Background

The Passenger Rail Investment and Improvement Act established the Next Generation Corridor Equipment Pool Committee (NGEC) comprised of representatives of Amtrak, the Federal Railroad Administration, host freight railroad companies, passenger railroad equipment manufacturers and suppliers, interested States, and, as appropriate, other passenger railroad operators to design, develop specifications for, and procure standardized next-generation corridor equipment. Standardization is viewed as potentially having a positive impact on life cycle costs for passenger rolling stock and on the re-establishment of its US based supply chain.

The NGEC embraces standardization on several levels and has created a Standardization Working Group (SWG) to evaluate and produce NGEC-particular standards for components and systems. The SWG has developed a prototype process by which such NGEC standards will be created (see Attachment 1). These standards may exist in several forms:

- adoption/adaptation of an existing Amtrak standard,
- adoption/adaptation of an existing industry standard incorporated by reference,
- derivation of an original standard through the NGEC Technical SubGroups,
- acquiring/procuring the standard outright, or
- acquiring the standard as part of an equipment procurement.

A pilot program was initiated in May of 2011, utilizing the procedures defined by the SWG, to determine its efficacy. Seven candidates for standardization were conceived to which the SWG procedures were applied. During the September 27, 2011 NGEC Executive Board teleconference, a report on the results of the pilot program was presented (see Attachment 2). The report describes several lessons learned from the pilot and can be summarized as follows:

- Major issues: lack of Technical SubGroup member interest in participation; no current baseline vehicle yet designed to use as basis for subsystem interface Standards
- Minor issues: improvements in process steps; some candidates were too complex and SubGroups could not agree on all items of a candidate
- Technical SubGroups and their Financial Advisor were not clear as to how to perform the economic analysis of the potential benefits of standardization, since formal economic analysis was not practiced in Technical SubGroup preparation of vehicle specifications
- Process took much longer than expected.

Based on this information and follow-up discussion, the NGEC Executive Board determined that one reason for the difficulties encountered during the pilot program was the potential bias introduced by having the Technical SubGroups (composed primarily of industry members – rail equipment manufacturers and suppliers) make the determination as to whether a component or system should be standardized. The Executive Board concluded that the standardization process as conceived should be reviewed and revised by an impartial third party assessor. This activity is the goal of the effort proposed herein.

Work Breakdown:

The independent assessor shall perform the following items of work:

1. Review the SWG process, performance and results and recommend changes to the SWG Work Plan and Work Plan flowchart (Attachment 1), indicating how and where the proposed process could be revised and/or simplified, including issues regarding the, funding, independence and productivity of the SubGroups, which has been largely been comprised of volunteers from the carbuilders and suppliers. (estimated 3-4 manhours)
2. Address standards development in the context of the current activities of the NGEC by considering the following questions:
 - How can perceived barriers to standards development be overcome, while maintaining involvement of the NGEC Technical SubCommittee in the standardization process? Active (and continued) participation of industry representatives (manufacturers and suppliers) is critical to the success of the NGEC. (estimated 10-14 manhours)
 - How should the concept of a standardized component be defined? Can/should components which are comprised of several subcomponents (possibly produced by different suppliers) be standardized? Should standardization be focused on components, or on major subsystem interfaces with a car, or both? (estimated 12-15 manhours)
 - How can the question of *when* to standardize be resolved? For example, will standardizing on components which exist now impede technological innovation? Is it more practical to base standards on the components chosen for incorporation in the first NGEC equipment order? (estimated 8 hours)
 - How can/should the potential benefits of standardization be determined? In its current form, the standardization process considers a cost/benefit-like analysis. Is this appropriate? Would other metrics be more reflective of the potential gains achievable by standardizing components? (estimated 8 hours)
 - If an item is rejected for standardization, what should be the process for reviewing the reasons given and potentially re-evaluating the decision? (estimated 4 hours)
3. Prepare a letter report for presentation to the NGEC Executive Committee describing the findings from Tasks 1 and 2. (estimated 8 hours)

Schedule:

The period of performance of the proposed efforts is 30 days (1 month) from issuance of a Notice to Proceed by the NGEC Chair.

Cost Estimate:

53-60 professional hours at \$225/hour (\$12,000 - 13,500).

Attachments:

1. Standardization Working Group Work Plan (ver 05a, April 18, 2011). [*Standardization Working Group Work Plan_v05a.pdf*]
2. Candidate for Standardization Pilot Program - Status Report (as presented to NGEC Executive Board, September 27, 2011). [*Standardization_Presentation_to_Exec_Sept_27_2011.ppt*]