

ATTACHMENT A: SAMPLE TASK ORDER

Program Evaluation Support For FRA's Human Factors R&D Program

1.0 BACKGROUND AND TECHNICAL DISCUSSION

Two program managers in FRA's Office of Research and Development manage the Human Factors R&D Program. This program supports FRA's Safety Program by providing technical and research support to FRA's Office of Safety in areas such as the Safety Assurance and Compliance Process (SACP), the Rail Safety Advisory Committee (RSAC), the issuance of safety advisories, and other compliance or regulatory activities. It also supports the Safety Program by initiating and implementing a variety of longer-term innovative research and evaluation projects and programs aimed at systematically improving the safety, efficiency, productivity, and mobility of railroad operations and railroad systems design.

The programmatic research activities encompass four broad areas of research and evaluation: yard and terminal safety, train operations and systems design, grade crossing safety, and program evaluation and performance-based standards (recently added¹). Currently, FRA's Human Factors program managers' conduct from 35 to 40 on-going research and evaluation projects with 10-15 contractors. This means that approximately 75 to 100 people provide support to the program, either directly as primary contractors' employees or indirectly as subcontractors' employees. More specific on-going human factors projects and programmatic areas of research are listed in Section C of this solicitation.

Railroad Safety Reporting Culture. The nature of relationships in the railroad industry, especially that between railroad labor and railroad management, and between the rail industry and the FRA, has been historically adversarial and contentious. This adversarial safety culture in the railroad industry has evolved little from its roots of operating rules, adopted largely from the British military over a century ago. Firmly embedded in this safety and rule-driven culture are the Federal Employer's Liability Act (FELA), a fault-based law enacted in the early 1900's, and the regulatory process itself. FELA also appears to foster an adversarial relationship between labor and management by discouraging the reporting of unsafe working conditions that might indicate responsibility (labor or management) for an accident or injury. The fault-based nature of FELA also tends to discourage a cooperative working relationship between labor and management by hindering efforts to improve safety in the workplace.² Moreover, research results have sometimes been used to support FELA claims, influencing the perception that research in general may increase a railroad's liability.

¹ See U.S. Department of Transportation, Federal Railroad Administration, Five-Year Strategic Plan for Railroad Research, Development, and Demonstrations (2002).

² Reinach, S. & Gertler, J. (July, 2001). Examination of Railroad Yard Worker Safety. Washington, DC: Department of Transportation, Federal Railroad Administration. (Report No. DOT/FRA/ORD-01-20). Also, General Accounting Office (1996). Federal Employer's Liability Act: Issues Associated with Changing How Railroad Work-Related Injuries are Compensated. (Report No. GAO/RCED-96-1999). Washington, DC: Author.

The Regulatory Environment. Adding to the cultural and legal challenges is the regulatory environment. In 1993, the FRA shifted its safety program away from violations and civil penalties as the primary means to obtain compliance with safety regulations, and emphasized cooperative partnerships with other federal agencies, railroad management, labor unions, and the states.³ Although this new cooperative approach for improving safety in the railroad industry has been instrumental in identifying and more systematically addressing safety issues outside the realm of regulation, those changes appear to have had little impact on the manner in which research and demonstration projects are conducted in the railroad industry. Regulatory fears in the railroad industry, for example, often compel industry partners to ask for reassurances that the purpose of a particular research or demonstration project is not intended for regulatory purposes.⁴

It is unclear as to how to conduct human factors research with the industry that is both effective in improving safety, and generally acceptable to those parties for whom it is intended. Some of the barriers to cooperative research in the railroad industry need further illumination, and programmatic alternatives explored, to improve industry collaboration on human factors research. Significant concerns still exist regarding human factors research and demonstration projects in the rail industry amidst these legal, regulatory and cultural factors.⁵

FRA's Office of Safety. In addition to contextual factors in the industry, various internal factors also influence railroad human factors research and support services, primarily the human factors technical support provided to FRA's Office of Safety. FRA has approximately 750 employees nationwide: 250 are in headquarters and the rest are divided among eight geographic regions. The Office of Safety, FRA's largest component, is the agency's primary safety enforcer. It has about 400 inspectors split among five disciplines: signal, motive power and equipment, operating practices (human factors), hazardous materials, and track. These field inspectors are dispersed across the country, and, in addition to their inspection duties, serve as front line "listening posts" for safety-related issues in the industry. Also, through the Office of Safety's Safety Assurance and Compliance Process (SACP), the agency works cooperatively with railroad labor and management to identify and solve the root causes of systemic problems facing the railroads.

While the Human Factors R&D Program provides a variety of technical support for the safety goals and initiatives of the Office of Safety, it is not always able to respond to the need for human factors technical support in a timely fashion. For example, emergent conditions dictate a reactive mode for specific research without regard to workload, budget or the evident delays in the funding process. In addition, the level of technical evidence needed to support agency decision-making varies depending on the safety initiative or type of activity it is supporting. The level of technical support needed for writing a Safety Advisory, for instance, is considerably less urgent and less onerous than that required to support the RSAC safety rulemaking process. The lack of predictability in the amount or level of human factors technical support that will be needed for either short-term or long-term needs severely hampers the ability to respond to the Office of Safety's safety critical needs in a timely fashion.

³ U.S. General Accounting Office (1997). Rail Transportation: Federal Railroad Administration's New Approach to Railroad Safety. (GAO/RCED-97-142) Washington, D.C.: USGAO.

⁴ SOFA Working Group (October, 1999). Switching Operations Fatalities Analysis: Findings and Recommendations of the SOFA Working Group. (pp. A1-2). Report No. DOT/FRA/ORD-00/04.

⁵ Reinach, S. & Gertler, J. (July, 2001). Examination of Railroad Yard Worker Safety. Washington, DC: Department of Transportation, Federal Railroad Administration. (Report No. DOT/FRA/ORD-01-20).

Further, this compliance and regulatory support role to the Office of Safety may sometimes be at odds with the broader role of initiating other proactive safety research and evaluation programs that are less regulatory and compliance oriented in nature. Potential industry partners may become confused and mistrusting as to the intention and objectives of FRA's human factors research when their primary exposure to the Human Factors R&D Program has been through other higher profile reactive research activities in support of regulatory or compliance related matters. Thus, any improvements to FRA's Human Factors R&D Program must be a coordinated approach not only externally with the railroad industry, but also internally with the FRA's Office of Safety.

2.0 SCOPE

The scope of this Task Order is limited to general research and evaluation that will help build program evaluation capacity for human factors research and evaluation in railroad operations, and help improve the impact and use of products and services delivered by FRA's Human Factors R&D Program.

3.0 OBJECTIVES

Specific objectives of this Task Order are to: 1) increase the collaboration (internal and external) and acceptance of human factors research and evaluation in the railroad industry, 2) improve the process by which human factors research programs and projects are identified and prioritized, and 3) improve the coordination, quality, flow and utility of human factors related data and information to program managers, agency decision makers, and other outside stakeholders.

4.0 TECHNICAL APPROACH

The contractor shall propose a technical approach describing the methodology to be used, specific tasks to be accomplished, deliverables, and realistic timeframe in sufficient detail as to allow a clear understanding of how the contractor will accomplish the above objectives within the defined scope.