

1984 MOU: MTB and GRI

MEMORANDUM OF UNDERSTANDING BETWEEN OFFICE OF PIPELINE SAFETY REGULATION MATERIALS TRANSPORTATION BUREAU AND GAS RESEARCH INSTITUTE

I. PURPOSE AND SCOPE. The purpose of this Memorandum of Understanding (MOU) is to provide continuing cooperation on a program of related projects having mutual interest to the Office of Pipeline Safety Regulation of the Materials Transportation Bureau (OPSR/MTB) and the Gas Research Institute (GRI). These projects concern evaluation of wind tunnel simulation of LNG vapor dispersion with an end objective of the research being to determine the predictive capability of wind tunnel modeling and to develop procedures for wind tunnel use which can be specified in Federal standards on LNG facilities, 49 CFR Part 193.

The R&D of the parties will be more effective if it can be coordinated than if the parties pursue independent programs of research without such cooperation. An information exchange is an important part of this cooperation. To help achieve this cooperative effort, OPSR/MTB and GRI will coordinate their contracting efforts so as to assure the maximum benefit from each listed project. Although the projects are parallel (ongoing at the same time) and sequential (following one another in a logical sequence), each party is solely responsible for all phases of its contract, including but not limited to solicitation, negotiation, funding, monitoring, closeout.

II. PROJECTS OF CONCERN.

(a) Heavy Gas Dispersion, Phase III -- The large-scale test project, under contract with the British Health and Safety Executive using the British National Maritime Institute (NMI) as prime testing contractor, is developing field data for wind tunnel test correlation on LNG dispersion characteristics when influenced by the detention of the vapor in a fenced enclosure. The project is sponsored by OPSR/MTB for approximately \$425,000, with anticipated duration from October 1983 to July 1984.

(b) Wind Tunnel Simulation of Phase III and other field trials -- Wind tunnel simulation of the field tests for correction evaluation will be done by NMI. This task will be sponsored by GRI (with possible co-funding by organizations in Western Europe). Anticipated cost to GRI is approximately \$150,000. The contract period is anticipated to be July to December 1984.

(c) Preliminary Design Guidelines for Fluid Modeling of LNG Vapor Clouds -- Preliminary guidelines will be prepared by Colorado State University (CSU), which has conducted extensive wind tunnel simulations of LNG dispersion for GRI. The project will be sponsored by GRI at a cost of approximately \$91,000. The contract period is anticipated to be March 1984 to January 1985.

(d) Development of Final Design Guidelines for Fluid Modeling of LNG Vapor Clouds -- The project will include the evaluation of (c) and incorporation of the results of (a) and (b). The project will be sponsored by OPSR/MTB. Anticipated cost in FY '85 to OPSR/MTB is approximately \$200,000.

The contract period is anticipated to be January to December 1985.

III. INFORMATION EXCHANGE AND PROGRAM COORDINATION. Throughout the life of this MOU, the parties will use their best efforts to ensure that there is a maximum productive formal and informal exchange of information on the plans, ongoing efforts, and results of each party's work in the agreed upon areas of cooperation. To facilitate coordination, the parties agree to the following:

(a) Proposals for Projects II (b) and II (d) will be technically reviewed by both organizations and the nonsponsoring organization will be requested to comment to the sponsoring organization on the proposed scope of work. (This has already been done for Projects II (a) and II (c)).

(b) Progress reports on all projects will be exchanged. When appropriate, joint meetings of project contractors, OPSR/MTB staff, and GRI staff may be arranged.

(c) The nonsponsoring organization will be requested to review and comment on draft final reports before final publication and distribution.

(d) Either organization may contact NMI regarding results of Project II (a) and II (b) and NMI may use the results of either project in its conduct of the other project. However, only the sponsoring organization may change the scope of work for its project. Any suggestion by the nonsponsoring organization for project modifications should be made to the sponsoring organization and not directly to NMI.

(e) The nonsponsoring organization should obtain permission from the sponsoring organization before contacting the contractors for Projects II (b) and II (d) regarding the subject research.

IV. FUNDING.

(a) In the event either GRI or OPSR/MTB cannot obtain funds sufficient to meet annual obligations for the identified projects, they shall notify the other party. The parties will then meet to determine what modifications can and should be made to the coordinated projects to accommodate the insufficiency. This MOU does not obligate either party to fund any project listed herein if funding is not available or if the agency mission changes so as to render the research effort inapplicable. This does not bar the other party from funding such project.

(b) Each party shall be responsible for its own personnel costs, such as salary, travel, and per diem, and, except as may otherwise be agreed in a particular situation, each party will be responsible for its own administrative costs.

V. POINTS OF CONTACT. The following are designated as points of contact for their respective organizations and shall be responsible for the overall implementation of this MOU:

OPSR/MTB -- Walt Dennis, GRI -- Steve Wiersma. They, or their designees, shall keep each other

informed of the ongoing steps taken to implement this MOU within their respective organizations.

VI. TERM AND TERMINATION. This MOU will be effective when signed on behalf of both parties, and will remain in force and effect until all projects listed in Projects of Concern have been completed unless and until termination by written notice of either party at least 60 days prior to the date of termination.

IN WITNESS WHEREOF, the parties have executed this MOU as of the 13th day April, 1984.

By: R.L. Beam, Associate Director for Pipeline Safety Regulation

By: D.R. Dietrich, Senior Vice President, Administration and Treasurer