

## **Quarterly Report # 3**

Date of Report: *15 July 2005*

Contract Number: *DTRS56-04-T-0005*

Prepared for: *U.S.DOT, Research & Special Programs Administration,  
Distrigas of Massachusetts Corporation*

Project Title: *“Modeling and Assessing a Spectrum of Accidental Fires  
and Risks in a LNG Facility”*

Prepared by: *Technology & Management Systems, Inc.*

For quarter end period *June 30, 2005*

### **PUBLIC PAGE**

In this quarter (# 3) the focus of work was on the following items:

- 1 The (further) modeling and description of radiative characteristics of large turbulent, diffusion LNG pool fires.
- 2 Developing a technical paper on the state of the art in modeling turbulent diffusion pool fires. This technical paper has been peer reviewed and is due for publication in the Process Safety Progress, a journal published by the American Institute of Chemical Engineers<sup>1</sup>.
- 3 Reviewing and evaluating the protocols for using risk analysis principles to determining the hazards and risks posed to a population that may be subject to LNG hazards from either an on-shore storage plant or due to a release from a ship.

Computer programs have been developed to determine the locations of contours of constant thermal radiation flux levels on the ground from a fire on top of a LNG storage tank. Coding of the large fire model into a computer program has been initiated. Integration of several different fire sub-models into an overall computerized system is being undertaken in the coming months.

The application of risk protocol to evaluate LNG facility and/or LNG ship release hazards to the public will be undertaken in the remaining reporting periods. Development of a set of recommendations for instituting an approach to modifying Codes/Standards and Regulations on LNG facilities will be undertaken in the coming months.

---

<sup>1</sup>The journal editor has indicated that the technical paper will be available on-line by 18<sup>th</sup> July 2005 and printed version of the paper will appear in the September 2005 issue of the journal.