

# NATF Redacted Operating Experience Report

## Engulfment Risk

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## Topic

Engulfment Risk

## Description

An Engineering Technician, while surveying a gas transmission pipeline located in a tidal slough, stepped down and sank in the mud up to his chest. Although the employee was not injured, the potential for drowning existed. The employee self-rescued with survey equipment on hand. A slough (pronounced “slew”) is used to describe marshy wetlands along the edge of a river or bay.

## Lessons Learned

1. For slough environments, pre-job planning and hazards identification are essential.
2. Use of a wading/probing tool (*not previously issued*) before entering tidal slough areas can help determine soil stability.
3. A pre-job safety-walk assessment of the work-site should be performed prior to conducting a wading survey in tidal slough areas.
4. Rescue plan and rescue equipment should be discussed and documented on the Job Safety Analysis (JSA) worksheet prior to beginning the wading survey.
5. The issued life vest was not intended for corresponding environment (i.e., mud).

## Actions Taken

- Opportunities to Eliminate Risk
  - Evaluate and acquire technologies that eliminate or reduce the need for wading in sloughs (e.g., remote-controlled surface vehicle).
  - Validate criticality of data collection in slough crossings, in collaboration with the asset owner, to eliminate or reduce the need to wade in sloughs.
- Tools & Personal Protective Equipment (PPE)
  - Acquire PPE/tools to more accurately assess crossing characteristics of wading sites. Use of these tools will be incorporated into procedures.
- Administrative Controls
  - Update Client Interface and Bathymetry procedures to define and document appropriate actions for tidal slough work.
  - Reinforce SPEAK UP culture and emphasize criticality of speaking up about potential procedure gaps and taking personal accountability for safety by stopping work in the face of uncertainty.

## Extent of Condition

N/A