SSC Monthly Construction Contractor Meeting

Safety Presentation

Excavation Safety

August 01, 2024

EXCAVATION SAFETY

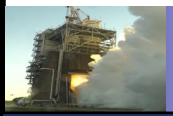
SSC Mishaps, NASA Safety Center and Occupational Safety and Health Administration (OSHA)

Since the beginning of the calendar year, SSC has had six excavation mishaps. These mishaps involved damage to water, phone, sewer, utility and gas lines. In one mishap, the construction lifting eyes sheered off the shoring box while it was being lifted into place. This caused the shore box to fall into the excavation and strike the electrical feed to Lift Station 101. The area had been cleared of workers in advance of the lift, so thankfully there were no injuries.

Safe Plan of Action

Trenching and excavation operations require protective systems and inspections before workers can enter. OSHA standards require that trenches and protective systems be inspected daily and as conditions change by a competent person before work begins. When employers fail to install trench protection systems or properly inspect the trench, workers are exposed to serious hazards, including risk of being buried under thousands of pounds of soil. By some estimates, a cubic yard of soil can weigh as much as 3,000 pounds, equal to that of a compact car.

Stennis Common Work Instruction (SCWI-8715-0008) provides an overview of the Construction Safety and Health Program which includes excavation and trenching requirements (Section 8.12).



SLOPE IT. SHORE IT. SHIELD IT.

When done safely, trenching operations can reduce worker exposure to cave-ins, falling loads, hazardous atmospheres, and hazards from mobile equipment.

Never enter a trench unless:

- It has been properly inspected by a competent person.
- Cave-in protection measures are in place.
- There is a safe way to enter and exit.
- Equipment and materials are away from the edge.
- It is free of standing water and atmospheric hazards.

Prevent trench collapses:

- Trenches five (5) feet deep or greater require a protective system.
- Trenches 20 feet deep or greater require a protective system designed by a registered professional engineer.

Protective systems for trenches:

- ***SLOPE*** or bench trench walls by cutting back the trench wall at an angle inclined away from the excavation.
- ***SHORE*** trench walls by installing aluminum hydraulic or other types of supports to prevent soil movement.
- ***SHIELD*** trench walls by using trench boxes or other types of supports to prevent soil cave-ins.