

Luck Stone Corp – Leesburg Leesburg Plant

Fatal Accident: August 3, 2015



Overview

- August 3, 2015 Daniel C. Potter, truck driver/seasonal associate, age 18 was killed while preparing to load his truck.
- Potter parked his truck next to the “sand plant fines” silo under a conveyor belt.
- Potter exited the truck and entered a door leading underneath the silo.

Overview

- The hopper portion of the silo collapsed.
- Potter was buried beneath the falling material.
- MSHA completed the last regular inspection at this operation on March 3, 2015.

Information

Review the sections entitled “Description of Accident”, “Previous Silo Repairs and Inspections” and “MSHA Inspection of the Silo following Failure” on pages 2-8 of the Accident Investigation report.

Using the “Summary” section of the report on pages 9-10 discuss the following questions:



Photo showing interior of "Sand Plant Fines" Silo

Information

- Where did the inspectors conclude the hopper failure initiated?
- What critical factors combined to cause the hopper to fail?
- In your opinion was the condition of the silo at the time of failure adequate to contain the load it held?
- Was the current silo configuration in keeping with the original filling pattern it was designed to have?

Information

- What is the opinion as to what triggered the hopper failure?
- A review of the training records shows that Potter received the required training to operate his haul truck. Was this adequate for the task he was performing?
- What are your thoughts about the amount of experience Potter had?

Accident Cause

What was the cause
of the accident?

Basic Causes

- Failure to ensure that adequate inspections were conducted to properly evaluate structural integrity of the silo.
- Failure to take necessary follow-up actions to repair or replace components in order to maintain the stability of the structure.

MSHA Root Cause

Management failed to ensure that adequate inspection procedures were in place to properly evaluate the structural integrity of the “sand plant fines” silo.

In addition, management failed to take necessary corrective actions in order to maintain the stability of the structure.

Accident Prevention

What could have prevented this accident?

Accident Prevention

Outline proper
procedure for
performing this task

MSHA Best Practices

- Routinely examine metal structures for indications of weakened structural soundness (corrosion, fatigue cracks, bent/buckling beams, braces or columns, loose/missing connectors, broken welds, spills of stored solids, etc.).
- Periodic detailed inspections should be performed which examine hopper and wall thicknesses, critical connections such as the hopper to the wall, and the material flow conditions. Both the inside and outside of the structure should be evaluated.

MSHA Best Practices

- Report any changes in the discharge flow pattern which may be a result of an internal obstruction that causes non-uniform pressures on the silo structure.
- Report all areas where indications of structural weakness are found.
- Schedule inspections of the silo's interior surface only when all material has been removed to determine if it has become polished and worn from use.