

Mill Case Study – A Contractor Incident

PPSA Safety and Health Conference

Orlando, Florida

June 11, 2012

Contractor fatal fall

October 17, 2011

Engineered Lumber Mill

Facility History

- **The facility processes poplar logs to produce veneer for internal processing into Microllam[®] and Parallam[®].**
- **The facility was built and started up in 1995.**
- **In November 2010, the site upgraded its contractor management process to include site leadership approval, safe job plan development, and safety observer for each contractor job performed on site.**
- **Buckhannon Safety Performance**
 - **979 Day record for days Associates were RI free 2008-2010**
 - **Weyerhaeuser Senior Management Team Gold safety award winner for 2009**

The Contractor

- **A private non-union company located near Pittsburgh. The company was established in 1986 and currently employs about 20 people.**
 - The company had worked at 2 Weyerhaeuser mills in the area
 - The Contractor had not had any safety issues at either site
- **The Contractor had a “B” safety rating prior to the incident due to an RIR of 4.78, i.e., 0.78 above limit. The Contractor would not have been permitted to work at the site but for an exception granted by the facility manager.**
 - Based on past safety performance and the contractors familiarity of the required work the facility manager granted an exception October 6, 2011.

The sites Heat Energy System



Sequence of Events

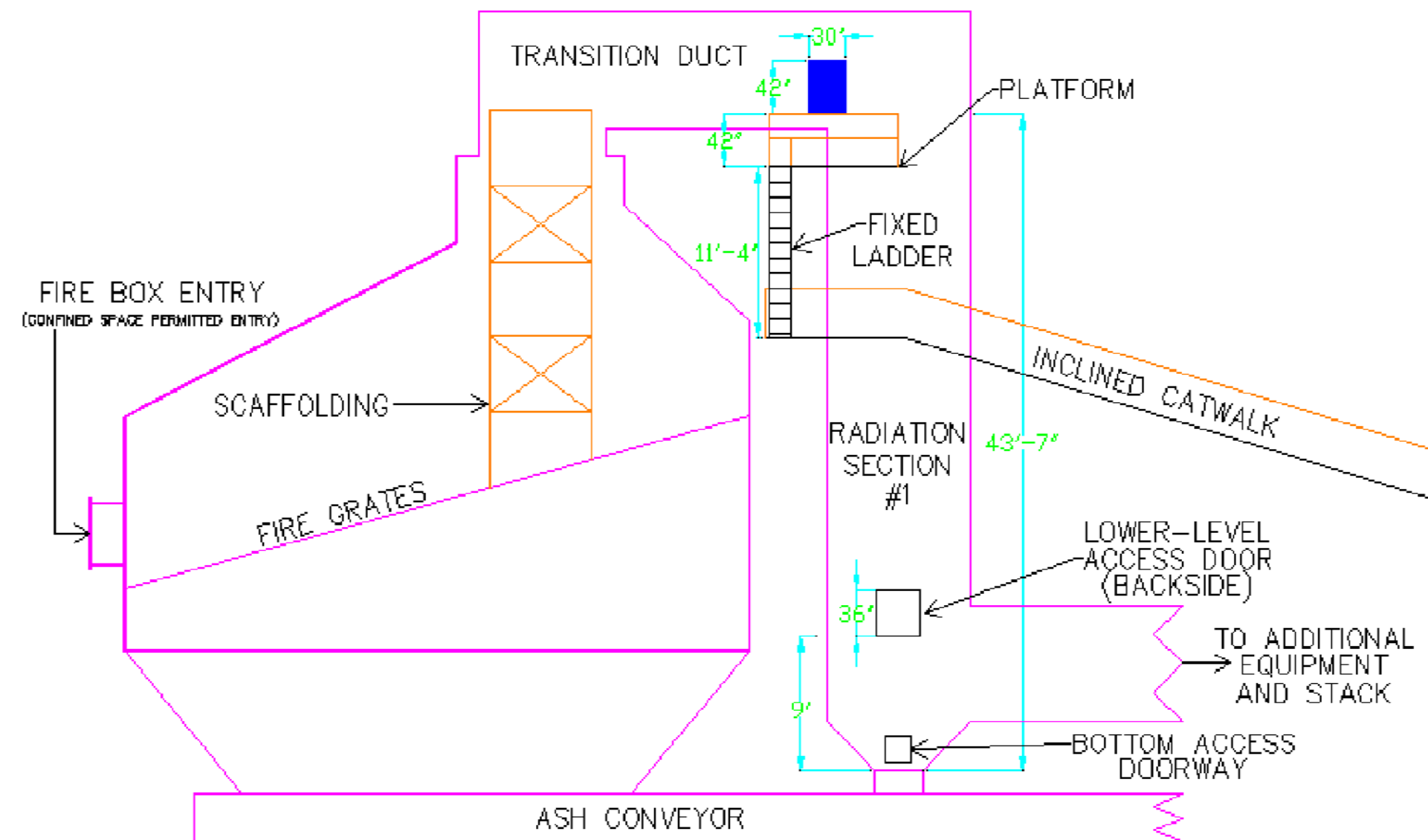
- **Annual maintenance shutdown began Thursday October 13th.**
- **The Contractor's day shift prepared for the job of furnace cleaning/de-slugging on Monday, October 17th by erecting scaffolding inside the furnace.**
- **The Contractor's night shift (seven workers) participated in a safety orientation when they started the shift at 7:00 p.m. on Monday evening.**
- **The facility's heat energy operator then reviewed lockout procedures, the confined space entry permit and performed a RADAR with the contractor's night shift.**
- **After the orientation and RADAR, four contractors entered the furnace to inspect the scaffolding and to determine if extra lighting and other equipment was needed.**
- **The Contractor's day shift had begun to run compressed air hoses from a diesel-powered air compressor up to a platform below the Transition Duct located at the top of the furnace. Three night shift workers – including the Contractor involved in the fall – went to work in this area.**

Sequence of Events, continued

- **The Contractor involved in the fall walked up an inclined catwalk carrying a coil of air hose. One of the site's safety observers had a brief conversation with him then followed him up the catwalk to the base of a fixed, vertical ladder.**
- **The safety observer waited at the base of the fixed ladder until the Contractor cleared the ladder and gained the platform, then the observer began to climb.**
 - **The ladder can be climbed in 10 to 15 seconds.**
- **When the observer reached the top of the ladder another Contractor already on the platform, exclaimed his colleague had fallen through an open hatch in the Transition Duct.**
- **The site safety observer used his radio to report that a man had fallen and to call 911 .**
- **Offsite emergency response services were called at 8:25 pm and arrived at 8:35 pm**
- **The Contractor was found in the cone-shaped base of the No. 1 heat exchange vessel covered with ash. He had fallen about 45 feet and suffered severe injuries.**
- **Emergency response personnel extracted him from the heat exchange vessel. He was life flighted from the site at 9:25 pm and passed away at the hospital at 6:02 am Tuesday, October 18th.**

Photos and Diagram of Mill Heat Energy Area

DIAGRAM 1



Heat Energy Area – Night of Incident



Transition Duct Hatch, Step and Staged Air Hose



Interior of Transition Duct Viewed Through Hatch



Position Standing on Step Below Hatch



Investigation Findings

Contractor:

- **The Contractor's workers had received training in confined space entry.**
- **The Contractor did not identify the hatch in the Transition Duct as an entry point or request an entry permit for the hatch. The facility did not issue a confined space permit allowing entry through the hatch.**
- **A review of the incident scene showed that the plane of the hatch had been broken prior to or during the incident.**
 - **Footprints were observed on a steel step welded to outside of the Transition Duct.**
 - **What appeared to be a handprint was found immediately inside the hatch on the slag build up next to a portion of the slag that had broken away.**
 - **One coil of air hose was found inside the hatch on the left hand side. This coil was placed inside the hatch by one of the contractor's workers.**
- **No one saw the contractor fall.**

Investigation Findings

Weyerhaeuser:

- **Personnel at the facility did not request that the Contractor provide a written work plan for the cleaning/de-slugging project and the Contractor did not provide one as required by Weyerhaeuser's Contractor Safety Policy (2005).**
- **The facility's Safe Job Plan did not address how air hose would be routed to workers inside the furnace. The facility's Single Point of Contact (SPOC) for the Contractor did not review the Plan with the contractor's workers.**
- **ISNetworld reviewed the contractor's written programs and confirmed they met OSHA standards for required programs and training.**
- **The facility manager granted an exception taking into consideration the contractor's previous safety performance at Weyerhaeuser Mills and their familiarity with the required work and the balance of ISN's report.**

Investigation Findings

Other:

- **The site SPOC signed the confined space entry permit as the entry supervisor, but left the facility during the entry timeframe. The SPOC did not verify prior to the entry that rescue services were available to respond in the event of an emergency.**
- **The SPOC did not make a formal transfer of his duty as entry supervisor to another qualified person at the facility before he left the site.**
- **After the incident the Contractor informed Weyerhaeuser that the deceased was actually employed by a subcontractor. Weyerhaeuser was not aware of this subcontractor relationship and did not consent to use this subcontractor.**
- **The distance from the platform deck to the lower ledge of hatch is about 39 inches meaning no guard (such as a railing) is required by OSHA regulation. The steel step formerly welded to outside of the Transition Duct was about 13 inches above the platform. The distance from the step to the lower ledge of the hatch was about 26 inches. No guard was in place at the time of the incident. The facility removed the step after the incident.**

Recommendations

- **Remove the step that was welded to Transition Duct. (This was done immediately.)**
- **Determine whether additional controls (e.g., an internal guard or railing) are needed to mitigate the fall hazard created if steps are required to access the hatch.**
- **Update the facility's written confined space program to:**
 - **Transfer responsibility from one permit entry supervisor to another as required**
 - **Verify the availability of the emergency rescue crews prior to issuing a confined space entry permit**
 - **Use reasonable measures to prevent unauthorized entry into a confined space.**

Recommendations

- **Review contractor hiring and management procedures to ensure that:**
 - **Contractors conducting hazardous work on site provide a written plan which specifies the hazards for the work activities to be done and the required controls to manage those hazards.**
 - **Weyerhaeuser SPOCs review the written plans with contractors to ensure that Weyerhaeuser requirements are met before work starts.**
 - **Weyerhaeuser SPOCs receive appropriate training to ensure they are aware of their roles and responsibilities and can successfully execute them.**
 - **Weyerhaeuser designated representatives are made aware, and are permitted to decide whether to consent or to bar the subcontractor, when contractors wish to bring sub contractors on site.**