



## BP HSSE Communication Incident Investigation Update

**Incident:** MIA – Operator Fatal Fall  
**Business Unit:** Whiting Business Unit  
**Location:** Lakefront Water Treatment Plant  
**Date of Incident:** January 1, 2004

**Brief Account of Incident:** A Whiting BU operator suffered a fatal fall of approximately 10 feet from a stairway platform while performing routine duties at the Water Treatment Plant. The incident occurred at approximately 4:00pm, January 1, 2004. Initial evaluation of the incident site found a failed handrail.

The plant Emergency Response Team responded to the scene. The operator was transported to St. Catherine's Hospital in East Chicago, IN and was pronounced dead.

A joint Union/Management led investigation team was formed, which included an external Team Leader and Root Cause Specialist to determine the root cause of the incident and recommend actions to prevent similar incidents.

**What Went Wrong (Critical Factors):** Because of corroded support legs, a handrail failed when the operator required it for fall protection.

**Primary Immediate Causes:** Handrail failed when it was used for fall protection.

**Primary System Causes:** The 1947 vintage handrail design (where a support pipe is inserted into a larger sleeve) allowed a corrosion cell to develop which created undetected deterioration at the support legs.



Pipe  
Rail

Cup

There is no preventive maintenance program for Lakefront facility handrails and working / walking surfaces. In addition, they are not part of an integrity inspection program at the Lakefront nor are they part of the WBU Civil / Structural Management Program.

Accountability / responsibility for Lakefront civil structure integrity should be clarified. Additionally, civil structural integrity should be given as much importance as process mechanical integrity.

The condition of the civil structures at the Lakefront should have adequate walkthroughs and follow-up actions. An ongoing culture of awareness should be developed to identify and correct deteriorating civil structural conditions.



Failure  
Points

### Immediate Actions:

Inspection and testing is ongoing for all "rail & cup" handrail design components (where a support pipe is inserted into a larger sleeve) at the Lakefront.

All such handrails identified as needing repair have been removed from service and will be replaced with an appropriate design before use.

### Forward Actions:

1) Integrity / regulatory assessment, 2) preventative maintenance, 3) asset inspection plan, 4) civil structure integrity management program, 5) improve injury and near miss data analysis, and 6) create a system of accountability for reporting sub-standard infrastructure with work order follow-up.

A final one-page summary will be issued when the investigation team report is completed.

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