

ORPS Performance Analysis October 1, 2003 through September 30, 2004

Executive Summary of Analysis Results

There were eighteen incidents analyzed for this performance period. Two were classified under the Occurrence Reporting and Processing System. The other sixteen did not meet the criteria established for reporting to DOE. There was nothing to indicate trends or recurring issues. There was insufficient data to conduct a statistical analysis.

Background

The time period used for the analysis was October 1, 2003 through September 30, 2004. The events included in the analysis are attached.

Date of Incident	Title of Incident	Brief Summary of Incident	Date of Final Reportability Review	Reportability Analysis Summary		REPORTABLE? Yes / No		
		1 October 2003 – 30 September 2004			ORPS	Environmental Regulations	PAAA-NTS	Internal

10/16/2003	D0 Dumpster Issue	A small radioactive particle was found in a dumpster at D0 in a routine dumpster survey. The composition of the radionuclides was subsequently determined to be similar to that of the pulse magnet associated with the 2002 trailer contamination incident, when the activities were decay-corrected to that time. [See 3/31/2002]. The material was in a vacuum cleaner bag in a vacuum cleaner that had been used at D0, CDF, and MW9. The highest activity measured in the small piece of material was 47 nCi of Co-57. Contamination surveys of the D0 office complex, where the vacuum cleaner had been used, found no further contamination. Since a mixture of radionuclides was present and all local sealed sources were properly accounted for as intact, it was concluded that this was a leftover from the referenced incident.	10/20/2003	This incident, by itself, does not meet the requirement for reportability under either ORPS or NTS.	No	No.	No	No
11/7/2003	Subcontractor Struck by Another Subcontractor's Truck	While walking to his vehicle on a construction site access road, the worker was struck from behind by a stakebed delivery truck that was being driven in reverse. The worker sustained a fractured shoulder and multiple scrapes and bruises.	11/10/2003	This incident is reportable under ORPS due to fractured shoulder	Yes	No	No	Yes
3/10/2004	Electrical Mishap at Fermi SiDet Facility	A mechanical technician, while cleaning out the Lab B Bubble Chamber, cut through an energized 480-volt wire that he believed to be de-energized. The employee was not injured.	3/10/2004	This incident is reportable in ORPS as a near miss	Yes	No	No	Yes
3/17/2004	Blue Block Rigging Incident	On March 17, 2004 an operational test was performed with the electric forklift to be used to move material underground at MINOS. The test involved loading the forklift with a twenty thousand pound blue block and traversing back and forth from the shaft to the Absorber Hall. After the test, the blue block was set in the shaft for removal. Once the hooks were set, the block had to be adjusted to the middle of the shaft by a series of mini picks to prevent it from swinging. When the block was between ten and twenty feet below the top of the shaft, it was noticed that the block and rigging did not appear level. It was suspected the east hook of the rigging was not seated properly. By entering the roped off area, employee had unknowingly placed himself under the block hanging at the top of the shaft. Once the block was in the High Bay area, it was discovered that the lifting bar of the block was resting on the tip of the hook and the back of the hook was wedged against the block. The size of the hook and the configuration of the block lifting bar would make it impossible for the hook to slip out unless there was a hook failure. The stresses placed on the hook in this configuration are unknown at this time.	6/8/2004	This incident is not reportable as a near-miss under ORPS. There was never any danger of the hook to slip out unless there was a hook failure.	No	No	No	Yes
4/14/2004	Hydraulic fluid spill	Hydraulic fluid leaked from a fork lift in front of TD Lab 1 on the hard stand.		Only a small amount was released onto a hard stand. Material was cleaned with oil	No	No	No	Yes

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4/16/2004	Unlabeled Radioactive materials	During a routine dumpster survey at Warehouse II, a 30" long water filter was found in a dumpster that read 3800 gross/1800 net counts per minute (dumpster probe bicon). While these readings place this filter exactly at Fermilab's threshold for considering it as radioactive. The activity was determined by analysis at the RAF to be accelerator-produced rather than naturally-occurring. The event was subsequently investigated. E. Marshall, FESS RSO, reported that no one in FESS Operations recalls ever seeing such a filter on equipment that they maintain. It was later confirmed by B. Fritz that this filter originated from Accelerator Division (R. Siazky's group). AD ES&H discussed the importance of proper surveying with relevant personnel. AD management has been made aware of this event. Proper disposal as radioactive waste has been done.	5/1/2004	Since the item was barely radioactive, if at all, no pertinent requirements of 10 CFR 835 were violated. (Ref. 10 CFR 835 Appendix E thresholds). However, future events should be monitored to assure that a programmatic or repetitive issue is not present. No ORPS reporting criteria were violated. No measurable radiation exposures are believed to be attributable to this event.	No	No	No	No	No
4/29/2004	Unlabeled Radioactive materials	A routine snoop was conducted at the New Muon Lab by PPD personnel. W. Smith reported that several gas piping parts were discovered to be Radioactive Class 1. These parts included stainless steel and brass valves, steel support stands, and various pipe fittings. The gross count rates were typically about 10,000 cpm with one item having a reading of 25,000 cpm as measured with a standard Bicon survey instrument. The technicians localing working in the area have no direct knowledge of where these items came from, but there is a belief that they originated from MI-12 by PPD personnel and were brought to New Muon within the last 6 months. The support stands have been returned for use inside the Tevatron and the other materials have been relabeled and moved to a posted area for reuse due to their significant value.	5/12/2004	At these low levels, it is unlikely that pertinent requirements of 10 CFR 835 with respect to posting and labeling were violated. However future events of this type should be monitored to assure that a repetitive or programmatic issue is not present. No ORPS reporting criteria were violated. No measurable radiation exposures are believed to be attributable to this event.	No	No	No	No	No
5/5/2004	Propane Release	FD units responded to site 50 MSB for an outside 1000-gallon propane tank leaking. Upon arrival a significant amount of propane was seen leaking out of the fill valve. There was no possible way for the FD to isolate the leak. The Duty mechanic was notified and responded. Upon his arrival, he was unable to stop the leak. Command requested T. Peterson (Cryogenics) to respond. AmeriGas was notified of the situation and had a service technician enroute with an ETA of one half hour. T. Peterson arrived on the scene and was unsuccessful at stopping the leak. At 1431 hours AmeriGas arrived on the scene and the technician was able to cap off the fill valve and stop the leak. FD units returned to quarters. The building manager estimates 100# of propane was released.	5/5/2004	RQ value for propane is 1000 pounds.	No	No	No	No	No
4/11/2004	Unlabeled Radioactive materials	A TD technician brought two class one high voltage feed throughs from a beam separator in NWA to IB4 approximately April 11 to IB4 to be leak tested with a subsequent decision to machine it. The feedthroughs were delivered to IB4 on 4/29/04. These items originated from AD-D0. Neither the items nor the separator itself were labeled. On all items the net readings were about 7000 cpm above a 1000 cpm background (standard Bicon). Contrary to TD procedures, the items were machined without being surveyed. The lack of surveying was discovered at MC/QC subsequent to machining. The chips were collected by the TD RSO. The components will be resused.	5/13/2004	At these low levels, it is unlikely that pertinent requirements of 10 CFR 835 with respect to posting and labeling were violated. However future events of this type should be monitored to assure that a repetitive or programmatic issue is not present. No measurable radiation exposures are believed to be attributable to this event.	No	No	No	No	No
5/10/2004	Transformer Oil Spill (non-PCB)	Fire Dept. response to NWA south end outside for a reported oil leak of unknown origin. A bystander stated he noticed oil leaking from a large electrical oil switch located between NWA and NS-4. The oil appeared to be leaking from a sight glass on the unit. Approximately one quart of oil was noticed on the concrete pad and adjacent soil. The area was isolated with barrier tape. The power was shut off to the	6/7/2004	The amount leaked does not trigger any reporting criteria	No	No	No	No	Yes

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6/23/2004	Inadvertent Release of a Counter-Weight during Pelletron Disassembly at Wideband Lab (PB7)	While dismantling the pelletron counter-weight, the consultant hired to oversee the job forgot to install steel rods before releasing the cam brake lever. AS a result the counterweight started to slide and almost fell. . The AD Task Manager used two slings to secure the cam/pendulum counter-weight to the counter-weight lower frame. The cam/pendulum counter-weight was subsequently lowered to the floor using the building crane.	6/28/2004	The case does not fall under the a "near-Miss" per ORPS. There was more than one barrier still in place that prevented any injury. There was no property damage.	No	No	No	Yes	
7/16/2004	Ventilation Motor Failure	On Friday, July 16, at 10:45 pm it was reported that the HU-2 which provides ventilation to the MINOS side of the underground facility. Additional ventilation and procedures were put in place to compensate until the motor is fixed.	7/19/2004	This case does not qualify for ORPS. There was no one working in the facility at the time, and no evacuation was necessary. Compensatory measures were put in place before allowing employees in tunnel.	No	No	No	Yes	
7/19/2004	Vacuum Cleaner Motor Burn Out	While vacuuming debris from the robot in FCC the vacuum cleaner motor burned out. Seeing the smoke, the vacuum cleaner was turned off. The smoke however, activated the smoke alarms and the building was evacuated per procedures	7/21/2004	This case does not qualify for ORPSAlthough this was a facility evacuation, this smoke from the vacuum cleaner is not considered an "actual event"	No	No	No	Yes	
8/2/2004	Torn Sheet Metal	Monday afternoon, 8/2, a piece of sheet metal siding the height of the window was torn off the face of the vertical box beam that supports the OH door at Minos SB, pictures attached. The rip off was pretty clean. That is, except for a lower angle piece of lower siding bent out at the upper corner (has duct tape over it in picture), the only piece bent up is the section at the window level. As the driver started to pull out of the building, a couple of mechanical support men were backing up towards the double doors to pick up some materials. The truck driver was watching them, but rather than stopping he inched ahead and the strong back caught the door jamb.	8/3/2004	This case does not qualify for ORPS. There was very little damage	No	No	No	No	
8/31/2004	Rigging Incident at MI-65	While moving a shielding block over the "work room" the block got hung up on the work room door. The foreman sent 3 individuals up to dislodge the block (without benefit of fall protection).	9/1/2004	This case does not qualify for ORPS.	No	No	No	Yes	
8/31/2004	Oil Spill at CHL	30 gallons of oil had been spilled from CHL which ended up in a ditch and then in Bullrush Pond. The Fire Dept. put up oil containment (booms) in the pond to prevent the spill from traveling further and CHL stopped the leak.	9/1/2004	This case does not qualify for ORPS. The quantity spilled does not meet any reporting criteria. The oil remained on site, and did not enter any outfalls; therefore it is not reportable to the state.	Np	Np	No	Yes	
9/1/2004	Fuel can storage	Two 5-gallon fuel cans of diesel where set within the protective area of monitoring well NS1-2. Technicians from FESS O&M were refueling a diesel generator by service building NS1. Two fuel cans were placed on the gravel within the protective area of the monitoring well. The generator was taken away when finished but the fuel cans were left behind. Both fuel cans had open spouts that were visibly leaking. Contaminated gravel was removed (about 1 ft3) and disposed of.	9/1/2004	This case does not qualify for ORPS and the quantity released does not meet any reporting criteria. The release was small and contained within the upper gravel.	No	No	No	No	
9/8/2004	Material Handling Incident at MINOS	After installing coil, the lifting fixture was removed from underground. As the fixture was lowered to a horizontal position, it start to roll to its side. Employee placed left leg between the fixture and the mast of the forklift. The load shifted toward the forklift nearly trapping his leg against the mast.	9/9/2004	This case does not qualify for ORPS.	No	No	No	No	

Analysis

1. Identification of Repetitive Groupings/Elements to Determine Potential Recurring Problems.

There were four incidents (20%) concerning unlabeled radioactive material. These incidents individually were not PAAA-NTS or ORPS reportable. They involved material that was very low level. It is unlikely that pertinent requirements of 10 CFR 835 with respect to posting and labeling were violated. No measurable radiation exposures were believed to be attributable to any of these events. Future events will be monitored to assure that a programmatic or repetitive issue is not present. Additionally, a 10 CFR 835 triennial compliance assessment is currently ongoing. Any programmatic or repetitive issues will be reviewed during this review.

There were four incidents (20%) concerning the leakage of a material. Each incident involves different types of equipment/systems and does not reflect a pattern of failure as a result of a common equipment failure or a common service provider/user.

Two incidents (10%) concern equipment failure, each involve a failure of an internal component of a closed device. These failures are considered normal failures and not attributed to an external cause.

Seven incidents (35%) concern a failure to follow procedures. With the large number of tasks and groups involved, a systematic cause for failing to follow procedures is not evident. Drawing from the information a conclusion that attention to detail/following procedures can not be stressed enough.

Three incidents (15%) may be classified as a subset of the failure to follow procedures in which, people either placed themselves at risk or were potentially placed in harms way due to the failure to follow procedures/common sense.

2. Elements with a large concentration when compared to all others.

The nine non-ORPS incidents occurred within the Accelerator Division. Since this division accounts for 25% of the laboratory population, it is expected that a larger number of incidents, especially near-miss type incidents, would arise from this organization. There are no indications of a trend within the division. In addition, there were not enough incidents during this performance period to allow for any statistical analysis.

3. Elements with a large concentration when compared to all others that were analysed for recurring problems.

Other than what is discussed in #1 above, there are no grouping or elements that identified potential recurring problems. Upon closer examination the incidents are sufficiently disperse amongst the stakeholder and projects that a clearly defined problem is not evident. There were not enough incidents during this performance period to allow for any statistical analysis.

Conclusion

No recurring problems were noted. As a result, no new ORPS reports were generated as a result of this review.