

10 CFR 851 Preliminary Notice of Violation (INL)

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Preliminary Notice of Violation – Idaho National Laboratory

- Two events at INL were investigated by DOE HSS
 - June 12, 2007 – fume hood fire that occurred in their Reactor Technology Complex
 - July 14, 2007 – electrical shock of two firefighters responding to a wildland fire
- DOE concluded the investigation and closed out on November 8, 2007. Report was provided to INL December 5, 2007.
- Factual Accuracy and comments provided to HSS on January 3, 2008

Preliminary Notice of Violation – Idaho National Laboratory

- DOE HSS sent letter on March 28, 2008 from to INL stating that DOE concluded that violations of 10 CFR 851 occurred and issued Preliminary Notice of Violation (PNOV) with 4 violations categorized at Severity Level I and one violation at Severity Level II. http://www.hss.energy.gov/Enforce/wshe/eas/FINAL_LettertoGrossenbacherand%20PNOV.pdf
- The violations involved deficiencies in hazard identification and evaluation, hazard prevention and abatement, training and information, adherence to procedures, and fire safety and emergency response. The associated violations have been grouped and categorized as four Severity Level I violations and one Severity Level II violation.

Preliminary Notice of Violation – Idaho National Laboratory

- DOE handled the violations through a contract action. The Idaho Operations Office reduced the INL fee in the amount of \$250K.
- INL submitted a written reply within 30 calendar days of receipt of the PNOV
- Corrective actions are being tracked in the NTS with HSS monitoring status to completion

Fume Hood Fire

- Chemist sustained burns from red phosphorus fire
- Fire was intense – melted other containers in the fume hood, some of which contained oxidizers
- *“It is considered fortuitous that the chemist, workers treated for smoke inhalation and other workers exposed to smoke did not suffer serious health effects given that red phosphorus emits toxic byproducts when involved in a fire”*

Fume Hood Fire

- DOE is particularly concerned that corrective actions taken in response to previous events, involving deficiencies in work control and independent hazard review process, were not effective in improving the process to the degree necessary to prevent the fume hood fire.
- ...the corrective actions from the investigation were too narrowly focused and three judgements of need warranted attention... The fact that this was a self disclosing event, DOE determined that no mitigation was warranted for this event.

Electrical Shock of Two Firefighters

- Two firefighters shocked by electrical energy, transferred from a 69-kilovolt power line to their response vehicle and equipment, could have been electrocuted.
 - It is a documented recognized hazard that heavy smoke and flames can cause arcs to ground from nearby high voltage transmission/distribution lines.
 - Direct attack must be abandoned within 100' of transmission lines.
- Tactical direction was given to directly attack the east and west flanks of the fire less than 100' from the power line, without full consideration of the safety of firefighting personnel.
- DOE remains concerned about longstanding problems with INL's radio communications system.

Electrical Shock of Two Firefighters

- DOE determined INL's investigation to be thorough and resulted in a broad set of well-considered corrective actions but partial (rather than full) corrective action mitigation was warranted for fire protection violation associated with this event.

Codes and Regulations Cited:

- NFPA 45 *Standard on Fire Protection for Laboratories Using Chemicals, 2004 edition*
- NFPA 10, *Standard for Portable Fire Extinguishers, 2007 edition*
- 29 CFR 1910.1200 *Hazard Communication*
- 29CFR 1910. 1450 *Occupational Exposure to Hazardous Chemicals in Laboratories*