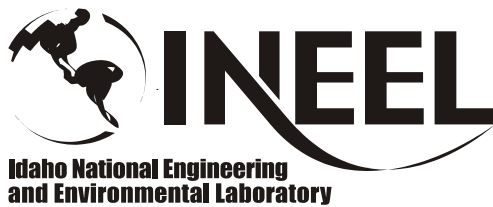


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## Using Addenda in Documented Safety Analysis Reports

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# **Using Addenda in Documented Safety Analysis Reports**

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## **Abstract**

This paper discusses the use of addenda for the Documented Safety Analysis (DSA) to the Radioactive Waste Management Complex (RWMC), located at the Idaho National Engineering and Environmental Laboratory (INEEL). Addenda were prepared for several systems and processes at the RWMC that lacked adequate descriptive information and hazard analysis in the DSA. They were also prepared for several new activities involving unreviewed safety questions (USQs). Ten addenda to the RWMC DSA have been prepared since the last annual update.

## **INTRODUCTION**

During the last several years, the RWMC has had several projects that required completion in accordance with agreements with the State of Idaho and the Department of Energy for the removal or packaging of transuranic waste. Two of these projects were the 3100 Cubic Meter Project and the Glovebox Excavator Method Project. To facilitate the operation of these projects, addenda to DSAs were used for the safety documents. In addition, for the Glovebox Excavator Method Project, an addendum to the RWMC technical safety requirements document was also developed.

### **3100 Cubic Meter Project**

The 3100 Cubic Meter Project required the RWMC to characterize and certify 3100 m<sup>3</sup> of transuranic waste for shipment from the INEEL to the Waste Isolation Pilot Plant (WIPP) in New Mexico. This project was completed in 2002, beating all the contract obligations. In support of operations, there were three types of safety documents generated, including: (1) positive "New Information/Discovery" USQ determinations and resolutions, (2) new facility processes with positive USQ determinations, and (3) new or existing facility descriptions with negative USQ determinations. Positive USQ determinations required DOE approval of the revised safety basis or the resolution plan, whereas negative USQ determinations were contractor approved, and would be DOE approved at the next annual update. In order to meet the aggressive project schedule, revisions to the facility Safety Analysis Report (SAR) were required in very short timeframes, typically 6 to 12 weeks. SAR addenda were used to describe these new processes and to resolve any positive USQ determinations. An abbreviated DOE-STD-3009

format was followed, with the addenda focusing mainly on the new process. This typically resulted in a SAR addendum containing DOE-STD-3009 Chapter 2, "Facility Description," Chapter 3, "Hazard and Accident Analysis," Chapter 4, "Safety Structures, Systems, and Components," and Chapter 5, "Derivation of Technical Safety Requirements." Addendum material was specific to the process and referenced the main body of the SAR. For example, Chapter 2, "Facility Description," described only the new process and referenced the main body of the SAR for facilitywide descriptions.

Addenda could be prepared, attached to the main bodies of the SARs, and approved by DOE much faster than complete SAR revisions. By completing a SAR addendum, the issue of incorporating annual update information and other minor facility changes could be kept separate from the addendum, and thus avoid confusion or slowdown of the review process down. The addendum also made the review process easier, because the reviewer only needed to focus on a relatively small addendum, specific to individual processes, rather than on the entire SAR.

Upon completion of the 3100 Cubic Meter Project at the INEEL, many of the processes were decommissioned. The use of addenda simplified the SAR updates, because the addenda for retired processes could simply be removed. Other addenda could be incorporated into the main body of the SAR at a more leisurely pace during the annual update process.

If an addendum is used, annual updates to the SAR are still required per Title 10 Code of Federal Regulations (CFR) Part 830, Subpart B. At the time of the annual update, an evaluation should be performed to determine if the addendum should be (1) incorporated into the main safety analysis document, (2) left as is, or (3) deleted (if the activity has been completed).

### **Glovebox Excavator Method Project**

The Glovebox Excavator Method Project will retrieve at least 75 yd<sup>3</sup> of buried transuranic waste from the OU 7-10 pit located in the Subsurface Disposal Area at the RWMC. The removed waste will be stored above ground at the RWMC, pending disposal at the WIPP. This project was determined to be a major modification to the RWMC operation that resulted in a preliminary documented safety analysis. During the development of the DSA for the Glovebox Excavator Method Project, the DSA that would comply with 10 CFR 830, Subpart B for the RWMC was being developed. The schedule for the Glovebox Excavator Method Project was such that incorporation of the safety analysis into the upgraded DSA was not feasible. The Glovebox Excavator Method Project required a new DSA to support a DOE operational readiness review in September 2003. The approval of the upgraded RWMC DSA was being delayed due to the deactivation of several facility operations. Therefore, it was determined that a DSA addendum would be produced to support the Glovebox Excavator Method Project. This addendum followed the 17-chapter format of DOE-STD-3009. It also referenced the RWMC DSA, where applicable. In addition, because the RWMC TSRs were also being upgraded, a TSR addendum was also developed.

The Glovebox Excavator Method Project is a one-month operation. At the end of the operation, the facility will begin deactivation, decontamination, and decommissioning (DD&D) activities. These activities were also included in the Glovebox Excavator Method Project DSA to support the necessary safety analysis activities. Upon completion of the Glovebox Excavator Method Project at the INEEL, it is anticipated that the DSA addendum will be deleted, using the USQ process. Then during the annual update, the TSRs will be removed.

## **Conclusion**

SAR addenda can be useful tools for the safety analyst. There are times when a DSA addendum is more cost effective and time efficient than revising the DSA. A DSA addendum should be considered when:

- The operation is short-lived or a one-time-only operation
- The use of an addendum makes the safety analysis easier to understand
- The preparation of an addendum is the most cost- and schedule-effective method.