MEMORANDUM TO: File

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SUBJECT: SUMMARY - DOE CHEMICAL SAFETY AND INTEGRATED SAFETY MANAGEMENT WORKSHOP, DECEMBER 14-16, 1999 WASHINGTON, D.C.

Dr. Makuteswara Srinivasan and Ms. Lydia Chang of the Tank Waste Remediation Systems (TWRS) Section attended the subject workshop at the Forrestal Building, Washington D.C., on December 14-16, 1999, to gain knowledge on the U.S. Department of Energy's (DOE's) approach in incorporating chemical safety into the Integrated Safety Management Programs. This workshop was sponsored by offices and working groups from both DOE and the Energy Facility Contractors Group (EFCOG). The majority of the attendees were personnel from DOE Headquarters and field offices, and DOE contractors from various sites and laboratories. Other attendees included were representatives from the Defense Nuclear Facilities Safety Board (DNFSB), the Chemical Manufacturers Association, and the American Institute of Chemical Engineers.

The topical themes for this 3-day workshop are: Day 1 - Overview and Status of Chemical Safety as an Integral Part of Integrated Safety Management (ISM), Day 2 - Integrating Chemical Safety in ISM Implementation, and Day 3 - Path Forward to Improved Integration of Chemical Safety into ISM. In general, the presentations were all DOE-focused, and the contractor presentations were very site-specific. A brief summary of the various presentations is provided below.

Summary

On December 14, 1999, Dr. David Michaels, the Assistant Secretary, Office of Environmental, Safety, and Health (EH), DOE, gave a short presentation on the evolution of the Chemical Safety Workshop since 1997, DOE accomplishments, summary of chemical occurrences in the past 10 years, and management expectations for chemical safety at DOE facilities.

Mr. Steve Polston, representing EFCOG, provided an organizational overview of the EFCOG and its role in DOE operations. The EFCOG has nine board members and is comprised of 27 major corporations involved in DOE operations. The EFCOG's new focus is to develop and implement performance measures and to increase safety margins. Mr. Polston indicated that more than 75percent of the problems are due to lack of conservatism in safety analysis and lack of DOE management involvement and oversight including enforcement. Key performance areas to be expanded are effectiveness of corrective action, common causes, and criticality safety. The Rocky Flats Plant has been selected to perform a pilot test of the ISM measures by using the five-core function and the seven guiding principles known as the 5x7 matrix.

Mr. Joe DiNunno of the DNFSB strongly recommended that DOE work with the Center for Chemical Process Safety (CCPS) in order to implement ISM from a holistic approach. Mr. DiNunno believes in the need for (technology) gap analysis prior to imposing new requirements on the sites. DOE's root problem is not lack of requirements, but lack of effective implementation, management attention, and involvement.

Other presentations included: "ISM Philosophy and Integration of Chemical Safety," given by the Safety Management Implementation Team (SMIT); "Chemical Safety as a Part of ISM," presented by EFCOG ISM Working Group; "Update on Y-12 Incident of December 8, 1999," provided by DOE Oak Ridge Operations Office; and "Lessons Learned Perspectives on Chemical Safety and ISM," given by EFCOG Lessons Learned Task Group of the ISM Working Group.

During the afternoon, there was one closed and one open concurrent session. In the open session, DOE EH made a couple of presentations which included the Chemical Safety Interest Group (CSIG) now known as the Chemical Safety Topical Committee (CSTC), and the Technical Standards Program (TSP). In addition, DOE also presented a status report on DOE-wide explosives safety and pressure safety. The day ended with a panel discussion between line management and the operations office on field perspectives on chemical safety at the DOE sites.

Most of the December 14, 1999, presentations were presented by DOE site managers or site contractors on their site-specific implementation efforts on the ISM program. Various EH offices also gave several presentation on resources available to assist the sites in ISM implementation.

The DOE Richland Office gave two presentations: one on their management system verification pilot as a tool for ISM validation, and the other on the identification and assessment of chemical safety vulnerabilities. The Idaho National Environmental Engineering Laboratory presented a requirements road-map demonstrating a web site link to DOE's network of chemical safety requirements information. The EFCOG Waste Management Working (WM) Group gave a talk on the impact of chemical safety and ISM. The Westinghouse Savannah River Company (WSRC) shared their experience in managing chemical hazards at inactive facilities. WSRC has also developed a risk rating system for inactive facilities. Bechtel-Jacobs, contractor for the K-25 plant, presented information on chemical safety and ISM in Decontamination and Deactivation (D&D) activities. Westinghouse Safety Management Solutions addressed how they are handling the combined consequence of chemicals, or the combination of chemicals, and radionuclides.

DOE EH gave three presentations: (1) "Elements of an Adequate Chemical Management Program (CMP) under ISM: Requirements vs. Integration;" (2) "Available Technical Resources for Chemical Safety;" and (3) “The Role of Hazards Analysis in ISM.”

The second day of the workshop ended with a summation of CSIG issues and a discussion and review of a chemical safety white paper.

The last day of the workshop was focused on site presentations and through a discussion tried to arrive at some unified path towards improving the integration of chemical safety into ISM. First, the WSRC provided an overview of the new Chemical Management Program (CMP) handbook. Lockheed Martin Energy System (LMES), contractor for the Y-12 plant, presented their approach using safety analysis for chemical hazards, which was then followed by three presentations related to laboratory safety. The Lawrence Livermore National Laboratory, the Savannah River Technology Center (SRTC), and the Pacific Northwest National Laboratory shared their laboratory safety programs with the attendees. The remaining part of the workshop was committed to a plenary discussion and brainstorming of CSTC issues with DOE personnel.

Overall, the workshop provided current information on the status of chemical safety integration into the overall ISM process. The NRC staff learned about DOE’s current approach, challenges in integration efforts, and DOE’s attempt to make current information available to all DOE personnel through its internal web site.

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