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SAFETY AT THE WASTE ISOLATION PILOT PLANT

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The Waste Isolation Pilot Plant (WIPP) is a Department of Energy (DOE) project designed to demonstrate safe disposal of transuranic (TRU) wastes in the excavations of a salt bed situated 2,150 feet underground. The operational philosophy of the WIPP is threefold: to start clean and stay clean, to meet or exceed regulatory requirements, and to keep radiation exposures as low as reasonably achievable (ALARA). The well-being of the public, the environment, and the workers is the project's first priority. Extensive safety measures have been and will continue to be taken throughout all phases of project activities.

The success of a project relies on the qualification and attitude of its employees. The WIPP project involves workers with various professional disciplines and technical skills. Performance-based training is a highly effective means of ensuring that these personnel are well-trained to conduct their work safely and efficiently. The WIPP site has developed and implemented a comprehensive training program, with special emphasis on safety, for Operations, Maintenance, Engineering, and all technical support positions. The WIPP training program is actively participating in the DOE's Training Accreditation Program as required by DOE Order 5480.18.

For safe transportation of TRU waste, a TRU Package Transporter-II (TRUPACT-II) was designed and manufactured. The TRUPACT-II has passed severe tests and was certified by the Nuclear Regulatory Commission. A digital two-way communications satellite system is utilized for tracking the transportation vehicle location and bill of lading. The Waste Handling staff and TRUPACT truck drivers are all specially trained and qualified. Radiological Assistance teams formed by radiological protection experts and emergency response teams formed by local fire fighters, police department staff, medical personnel, and civilian volunteers have also been trained to perform emergency response tasks.

Radiation protection programs are extremely strong at the WIPP. The Dosimetry program has been accreditated by the DOE Laboratory Accreditation Program (DOELAP) and was judged by the DOELAP as one of the best among all participants. The Continuous Air Monitoring System and the Health Physics Technician Training Program were also evaluated by the Defense Nuclear Facilities Safety Board as outstanding.

To comply with the Resources Conservation and Recovery Act, the WIPP is also required to perform volatile organic compound (VOC) monitoring to verify that there is no migration of hazardous gases. A VOC Monitoring Program, aimed at quantification of VOC concentrations in gas samples, has been established. The technique selected is the Environmental Protection Agency (EPA) Compendium Method TO-14 Using 6-liter SUMMA passivated canisters. Computerized systems at monitoring stations allow continuous sampling of representative samples. Method relative accuracy

is evaluated by spiking samples with a known amount of gaseous standard. Spike concentrations are determined from background levels. Initial and quarterly cleaning and certification of the sampling systems are required.

Engineering and administrative controls are implemented to reduce radiation exposure levels to ALARA. An ALARA Committee has been formed to oversee and provide guidance to ALARA activities. All workers are instructed with precautions for avoiding unnecessary exposure and reducing the level of necessary exposure.

This paper describes the major elements of the WIPP safety program. Some testing results and baseline data will also be presented.

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