

WM'00 Conference, February 27 – March 2, 2000, Tucson, AZ

THE INEEL'S CONTRIBUTION TO THE DOE COMPLEX IN MEETING FFC ACT MILESTONES

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ABSTRACT

The Federal Facility Compliance Act of 1992 (FFC Act) was passed by Congress to force Department of Energy (DOE) sites to begin active negotiations with their respective state agencies to agree on the negotiated milestones for the treatment of DOE's legacy mixed waste. Some of this waste has been in storage at various DOE facilities since the Manhattan Project began generating waste in the 1940's. Much of this waste requires treatment before disposal of the waste is allowed.

The FFC Act was implemented at the Idaho National Engineering and Environmental Laboratory (INEEL) through development of a Site Treatment Plan (STP) through a Consent Order with the State of Idaho on October 30, 1995. Other DOE sites and their respective states developed similar STPs and Consent Orders for their facilities based upon the waste at each facility. Each STP was to specify how each site's waste would be treated and when. Many of these DOE sites do not have adequate treatment facilities at their sites and were forced to evaluate treatment at both out of state commercial and other DOE sites. Shipping waste across state lines for treatment has proven problematic for many DOE facilities. The INEEL's WERF incinerator is one of the major facilities that has been able to develop an effective working relationship with their state so as to be able to assist other DOE sites by treating their waste. Over 15 DOE sites have been depending upon the INEEL to treat at least some of their waste, allowing those sites to meet their STP and other regulatory milestones.

The INEEL has assisted the DOE Complex by receiving over 200 cubic meters of combustible waste for incineration from 15 different DOE facilities to meet their treatment requirements and STP milestones. Current plans call for more waste from 30 DOE sites.

The INEEL STP is a flexible document. New waste streams that were not identified as being designated for treatment at the INEEL on October 30, 1995 can be added under protocols established in the STP. Since the INEEL STP was signed, 129 new offsite waste streams have been added to it. When a DOE facility identifies a waste stream that is appropriate for the INEEL to treat, the protocol allows DOE-ID to request the addition of a new waste stream to the STP with conditional State approval. The treatment plan for the new waste stream is then submitted to the public for review and comment. After addressing any comments, the State either approves or disapproves the treatment plan.

The INEEL Site Treatment Plan has been proven to be a good, working, living document assisting the INEEL and many other DOE sites to meet their STP milestones.

FEDERAL FACILITY COMPLIANCE ACT

The Federal Facility Compliance Act (FFC Act) was signed by Congress on October 6, 1992. This act waived sovereign immunity for federal facilities for violations of the Resource Conservation and Recovery Act (RCRA). The act provided for a waiver for such violation, provided that all Department of Energy (DOE) sites that manage mixed waste (waste that contains both hazardous and radioactive constituents) developed a Site Treatment Plan (STP). The STP would provide schedules for the development of treatment technologies and the operations of those treatment units to treat the inventories of mixed waste managed by DOE.

DEVELOPEMNT OF THE SITE TREATMENT PLAN

DOE developed a three-stage approach to complying with the FFC Act. DOE developed a Conceptual STP (October 1993), a Draft STP (August 1994), and the Proposed STP (April 1995). The Idaho National Engineering and Environmental Laboratory (INEEL) signed a Consent Order with the State of Idaho on October 30, 1995.

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MANAGING THE SITE TREATMENT PLAN

The INEEL STP is a flexible document. New waste streams that were not identified as being designated for treatment at the INEEL on October 30, 1995 can be added under protocols established in the STP. Since the INEEL STP was signed in 1995, 129 new non-INEEL waste streams, from 15 different DOE facilities, have been added to it. Since 1995 the INEEL has assisted the DOE Complex by receiving over 200 cubic meters of combustible waste for incineration to meet treatment requirements and STP milestones for other DOE facilities.

ADDING WASTE TO THE INEEL STP

When a DOE facility identifies a waste stream that seems appropriate for treatment at the INEEL, DOE-ID is contacted and a "Determination of Applicable Treatment" is requested. The requesting DOE facility provides information pertaining to the waste stream on EPA hazardous waste codes and constituents of concern, waste matrix, underlining hazardous constituents, volume, radiological characteristics, and a proposed schedule for treatment. A Waste Technical Specialist (WTS) reviews the information and determines if the waste is amenable to treatment technologies at the INEEL. If the waste stream is amenable, DOE will request the addition of the waste stream to the INEEL STP at a Quarterly meeting held with the Department of Environmental Quality (DEQ) of the State of Idaho. At these Quarterly meetings a treatment plan for the waste stream is proposed. The State then issues a proposed new waste stream and treatment plan to the public for a 30-day comment period. At the end of the comment period, the State will address any comments received and either approve or disapprove the addition of the new waste stream. If the waste stream is approved, the WTS can then work with the appropriate waste specialist at the DOE facility to approve the waste certification and establish a treatment schedule.

CERTIFYING WASTE FOR TREATMENT AT THE INEEL

After the new waste stream has been approved by the State for treatment at the INEEL, the WTS will contact the appropriate waste specialist at the DOE facility to identify and evaluate the details of the waste stream. The INEEL WTS will provide INEEL certification forms (L-0435s) to the waste generator. The generator completes these forms and submits them back to the INEEL WTS for review and approval. The L-0435 forms are the vehicles used to communicate the necessary information to ensure waste stream technical data is adequately reviewed prior to arrival at the INEEL. The categories of technical data include chemical constituents and corresponding concentrations, radiological characteristics to detail specific nuclides and radiation, waste container information, and waste shipping information.

Once the waste has been certified acceptable for INEEL treatment, a schedule is established. The State of Idaho regulates the storage of offsite waste prior to and after treatment. All offsite waste received at the INEEL must be treated within six months of the receipt date. All offsite waste residues must be shipped offsite within six months of treatment. On a case-by-case basis DOE can request long-term storage of offsite waste and the State of Idaho DEQ must approve such request.

TREATMENT UNITS AT THE INEEL

Treatment units that have accepted waste from offsite are: the Waste Experimental Reduction Facility (WERF) incinerator, Waste Reduction Operations Complex (WROC) Macroencapsulation, WROC Stabilization, and the Advance Mixed Waste Treatment Project (AMWTP). Typically, the AMWTP accepts waste that does not meet the acceptance criteria for the WERF incinerator. Other treatment units at the INEEL include the treatment of high-efficiency particulate air (HEPA) filters, metallic sodium (Na). The following treatments also exist at the INEEL: Neutralization deactivation, water reaction, and calcining.

SUMMARY

Since the signing of the INEEL STP Consent Order, the INEEL has played a vital role in managing DOE's complex-wide mixed low level waste problem. The WERF incinerator has treated over 200 m³ of combustible waste, assisting many DOE facilities in meeting FFC ACT milestones.