

Conference Title: International Incineration Conference

Date & Place: May 3 - 6, 1988, San Francisco, CA

NRC'S ROLE IN LLW INCINERATION

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The NRC's authority to regulate incineration of low-level radioactive waste (LLW) is governed by the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1975. We are required by the Atomic Energy Act to grant licenses for purposes authorized by the Act, subject to reaching favorable findings related to public health and safety, protection of the environment, and the common defense and security. Although incineration is not specifically identified as an authorized activity, it is certainly included in the general category of peaceful uses of atomic energy. The NRC implements the Act for the topic at hand through Title 10 of the Code of Federal Regulations and in particular Parts 20, 30, 40, 50, 51, and 70 of that Title as appropriate. The Commission in 1981 issued a Policy Statement on Low-Level Waste Volume Reduction which encouraged licensees to minimize the volume of waste generated and to apply advanced volume reduction equipment, including incineration, to their processes as means of limiting amounts of LLW shipped for disposal by burial. While this Policy Statement does not carry the force of regulation, it clearly signaled the intent that the NRC would be prepared to license incineration for volume reduction, and on an expeditious basis. In addition, our Office of Nuclear Material Safety and Safeguards has written on two occasions to all NRC licensees and Agreement States, warning them of potential constraints on disposal capacity, and suggesting that they develop contingency plans for dealing with capacity shortfalls.

The NRC has three variations in the way it reviews and approves applications for operation of LLW incinerators. These depend primarily on the type of incinerator use -- institutional, nuclear power reactor, or commercial, i.e., processing wastes of others as a commercial service. Applications for operation of incinerators for institutional use are reviewed by the licensing groups in the NRC's Regional Offices. Prior to regionalization of byproduct material licensing, these reviews were performed by our Office in headquarters. The criteria for approval are straightforward and are described in a Division Policy and Guidance Directive. Essentially, calculations must show that effluent concentrations will not exceed Part 20 limits averaged over 24 hours and, in the context of ALARA, less than ten percent of Part 20 limits averaged over one year. Also, the applicant must have safe procedures for operations, including feed and ash handling, and evidence of state and/or local permits. About 50 NRC

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institutional licensees have been authorized to operate LLW incinerators for volume reduction of their own wastes, with perhaps an equal number authorized by the Agreement States. Interestingly, virtually no new applications have been received by the NRC for incinerator use within the past few years.

Applications for operation of incinerators at nuclear power plants have been handled differently. Vendors have submitted topical safety reports to our Office of Nuclear Reactor Regulation (NRR) for review. After determining that a topical report is satisfactory, NRR accepts the report for referencing in license applications. Upon application by a utility for use, NRR then performs only a site-specific review, covering such matters as the process control program, effluents, monitoring systems, accident analysis, fire protection, operational procedures, and occupational exposures. Under the Commission's Policy Statement on Low-Level Waste Volume Reduction, four topical reports were reviewed and approved. Seven authorizations for use have been granted, either by license amendment in cases of operating reactors, or by granting Operating Licenses with the incinerator included in the Final Safety Analysis Report in cases of new reactors. For various reasons, none of the incinerators are operating. Furthermore, there have been no more topical reports or applications for use submitted for review by NRR since 1985.

Applications for operation of two commercial incinerators have been reviewed by our Office at headquarters. Although the normal practice would be the same as for institutional incinerators, i.e., submittal to the appropriate Regional Office, the two units were proposed for operation by two organizations whose licenses are administered by headquarters because the licenses authorize possession of critical mass quantities of special nuclear material. These licenses were not transferred to Regional Offices upon decentralization. It is likely that an application for commercial incinerator operation submitted to an NRC Regional Office would be referred to headquarters for review assistance, particularly in preparation of an environmental assessment. We approved one of the two applications by issuance of a license amendment. The other one was the subject of an NRC adjudicatory hearing, and the Administrative Judge authorized us to issue an amendment authorizing incinerator operation, subject to the licensee meeting certain additional requirements on demonstrating decontamination factors and on effluent and environmental monitoring. The licensee has not submitted information to describe how he would meet these requirements. We now understand that neither of the incinerators will be installed and operated. Furthermore, no other applications for commercial incinerator operation are pending.

If LLW commercial incinerators are eventually placed into operation, some concern has been raised about their impact upon the regional disposal compacts. As you know, most of these have restrictions or controls on importing or exporting waste from other compact regions or States. The NRC's role in this issue is limited to controlling

transfers of waste intended for disposal and establishing a shipment manifest tracking system and recordkeeping requirements. These are specified in 10 CFR Part 20.311 of our regulations. If compacts have import/export restrictions, it would appear that treated out-of-compact wastes would have to be segregated by generator or compact region/State, and shipped to a disposal site or returned to the generator. New manifests would have to be prepared for these purposes. Both commercial incinerator proposals that we reviewed included such arrangements.

What's wrong? Is the NRC doing something which inhibits putting new LLW incinerators into operation? I don't think so. We have approved almost every application for use that has been requested. Perhaps we have not acted as fast as some wish, but we have acted. Furthermore, we do not withhold approval until other permits, which might be required by other Federal, State, or local requirements, are obtained. We deal with this by recognizing, usually in our environmental assessments, the need for other permits and using language in our approvals such as: this does not relieve the licensee from complying with other applicable Federal, State, and local regulations governing any other toxic or hazardous property of the licensed materials. Are we not promoting sufficiently the use of incineration for LLW volume reduction? The NRC is not empowered to promote any type of commercial activity. The Commission chose its words carefully in its 1981 Policy Statement which encouraged consideration of incineration. More than that we shouldn't do. Other speakers at the Conference will be speaking later about problems in placing waste incinerators into operation. I hope they recognize the proper role of the NRC in this regard.

Before making a few remarks at the request of the Conference Chair about the NRC's role involving mixed wastes, I want to bring to your attention one other matter. In 1984 the Edison Electric Institute and the Utility Nuclear Waste Management Group filed a petition for rulemaking with the NRC to establish radionuclide concentrations in waste oil from nuclear power plants at which disposal by incineration and other means could be made without regard to the radioactive material content of the waste. Although the NRC has been trying to deal with the "below regulatory concern" issue on a generic basis, we are dealing with this petition specifically and currently.

During the legislative development of the Low-Level Radioactive Waste Policy Amendments Act in 1985, the NRC recommended that one federal agency be given authority to regulate mixed wastes. The Congress chose not to do that, and so both NRC and EPA have separate authorities over the same wastes. However, considerable progress has been made since then between the two agencies to sort out overlapping and conflicting responsibilities. Three joint guidance documents have been issued covering definition of mixed wastes, siting requirements for mixed wastes disposal facilities, and design requirements for mixed wastes disposal facilities. A fourth joint guidance document is

in planning now, and it is expected to be issued this Fall. It will cover sampling and testing of mixed wastes at disposal sites and a comparison of both agencies' licensing and permitting procedures, highlighting differences, for treatment, storage, and disposal of mixed wastes.

Regulation of the radioactive material in mixed wastes should be similar throughout the US, whether in an Agreement State or not, because Agreement State regulations must be compatible with NRC regulations before authority to regulate is relinquished to a State. It is quite possible, however, that the State agency which regulates the radioactive material in mixed wastes is different than the agency which regulates the hazardous material in mixed wastes. For example, in Texas the Radiation Control Bureau of the Department of Health regulates uses of radioactive material, independent water and air quality commissions regulate water and air discharges, and the Low-Level Waste Authority would operate an LLW disposal site, which in turn would be regulated by the Radiation Control Bureau!

In closing, let me say how pleased I am to have had this opportunity to speak to you today. I expect to attend the remainder of the Conference as well, and I encourage attendees to meet with me to discuss any of the LLW incineration issues in which the NRC has a role. Thank you very much.