

NUCLEAR REGULATORY COMMISSION

10 CFR Part 51

Waste Confidence Decision Review: Status

AGENCY: Nuclear Regulatory Commission

ACTION: Status Report on the Review of the Waste Confidence Decision.

SUMMARY: On September 18, 1990 (55 FR 38474), the Nuclear Regulatory Commission (NRC) issued the results of the first review of its Waste Confidence Decision, originally issued on August 31, 1984 (49 FR 34658). The purpose of the original Waste Confidence Decision was "to assess the degree of assurance now available that radioactive waste can be safely disposed of, to determine when such disposal or offsite storage will be available and to determine whether radioactive waste can be safely stored onsite past the expiration of existing facility licenses until offsite disposal or storage is available." (49 FR 34658). In 1984, the Commission concluded that there was reasonable assurance that safe disposal in a geologic repository is technically feasible, one or more repositories would be available by the years 2007-2009, and spent fuel will be managed in a safe manner until sufficient repository capacity is available. The 1990 review of this decision basically affirmed the findings of the original decision and further determined that spent fuel could be safely stored and managed under existing processes through the first quarter of the 21st century and 30 years beyond the licensed life for power reactor operation. In its 1990 review, the Commission stated that its next review of the waste confidence issues would occur in ten years. As the ten year period for review approaches, the Commission is issuing this notice on its intent with regard to further Waste

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Confidence reviews. The Commission is of the view that experience and developments since 1990 confirm the Commission's 1990 Waste Confidence findings. Thus, the Commission has decided that a comprehensive evaluation of the Waste Confidence Decision at this time is not necessary. The Commission would consider undertaking a comprehensive evaluation when the impending repository development and regulatory activities have run their course or if significant and pertinent unexpected events occur, raising substantial doubt about the continuing validity of the 1990 Waste Confidence findings.

FOR FURTHER INFORMATION CONTACT: Janet Kotra, Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington D.C. 20555, telephone (301) 415-6674.

SUPPLEMENTARY INFORMATION:

- I. Background
- II. Ongoing Repository Development and Spent Fuel Storage Activities
- III. The Next Review

I. Background

In 1977, the Commission denied a petition for rulemaking wherein the U.S. Nuclear Regulatory Commission (NRC) was asked to determine whether radioactive wastes generated in nuclear power reactors can be disposed of without undue risk to public health and safety and to refrain from granting pending or future requests for reactor operating licenses until such finding of disposal safety was made. The Commission noted in its denial that it "... would not

continue to license reactors if it did not have reasonable confidence that the wastes can and will in due course be disposed of safely."

At about the same time, the Commission granted license amendments permitting expansion of the capacity of spent fuel storage pools at two nuclear power plants, finding that the actions would not endanger public health and safety. The Commission did not address the potential environmental consequences of such storage beyond the expiration of the reactors' operating licenses. Upon appeal of the license amendment decisions, the U.S. Court of Appeals declined to stay or vacate the license amendments but remanded to NRC the question of whether reasonable assurance exists that an offsite storage solution will be available by the years 2007-2009, the expiration dates of the plants' operating licenses, and, if not, whether there is reasonable assurance that spent fuel can be stored safely at the reactor sites beyond those dates.

In response to the Court's remand, NRC conducted a generic rulemaking to assess the degree of assurance that radioactive wastes can be disposed of safely, to determine when disposal or offsite storage will be available, and to determine whether the wastes can be stored safely at reactor sites beyond the expiration of existing facility licenses until offsite disposal or storage is available. This rulemaking came to be known as the "Waste Confidence" proceeding. On August 31, 1984 (49 FR 34658; 49 FR 34688), the Commission issued five findings, accompanied by a final rule, codified at 10 CFR 51.23, incorporating the findings as the basis for excluding case-by-case consideration of environmental effects of extended onsite storage of spent fuel in reactor and spent fuel storage facility licensing proceedings. The Commission's basic conclusions were that there was reasonable assurance that safe disposal in a geologic repository is technically feasible, that one or more repositories would be available by the years 2007-2009, and that spent fuel will be managed in a safe manner until sufficient repository capacity is available.

In the 1984 Decision, the Commission noted that its decision with respect to the availability of a repository for disposal was unavoidably in the nature of a prediction, and indicated that it would review its conclusions should significant and pertinent unexpected events occur or at least every five years until a repository is available. The first review was completed in 1990 (55 FR 38474; September 18, 1990). The conclusions reached and the findings made in the Commission's 1990 review of the original Waste Confidence Decision were:

1. The Commission finds reasonable assurance that safe disposal of radioactive waste and spent fuel in a mined geologic repository is technically feasible. (This finding is identical to the finding in the original Waste Confidence Decision in 1984).
2. The Commission finds reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and that sufficient repository capacity will be available within 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of any reactor to dispose of the commercial high-level radioactive waste and spent fuel originating in such reactor and generated up until that time. (This finding revised the finding in the original decision that a mined geologic repository would be available by the years 2007 to 2009.)
3. The Commission finds reasonable assurance that high-level radioactive waste and spent fuel will be managed in a safe manner until sufficient repository capacity is available to assure the safe disposal of all high-level waste and spent fuel. (This finding is identical to the finding in the original Waste Confidence Decision in 1984).
4. The Commission finds reasonable assurance that, if necessary, spent fuel can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin, or at either onsite or offsite independent spent fuel storage installations. (This finding is basically identical to that in the original

Waste Confidence Decision with the addition of the consideration of license renewal and spent fuel storage 30 years beyond the licensed life for operation of a reactor).

5. The Commission finds reasonable assurance that safe independent onsite or offsite spent fuel storage will be made available if such storage capacity is needed. (This finding is identical to the finding in the original Waste Confidence Decision in 1984).

In issuing the 1990 review of the Waste Confidence Decision, the Commission extended the cycle for future reviews from every five years to every ten years. The rationale for this extension was that predictions of repository availability are best expressed in terms of decades rather than years. The Commission also affirmed its original statement that it would reevaluate its Decision at any time whenever significant and pertinent unexpected events occur, such as major shifts in national policy or a major unexpected institutional development, or new technical information.

II. Ongoing Repository Development and Spent Fuel Storage Activities

We are now nearing the end of the ten year period since the last review of the Waste Confidence Decision. Since the 1990 revisions of the Waste Confidence findings, the U.S. Department of Energy's (DOE) program for characterizing a single site at Yucca Mountain, Nevada, as a potential geologic repository has progressed and is nearing completion. DOE published a viability assessment on the proposed repository in December of 1998 and a draft environmental impact statement (EIS) in August of 1999. It is expected that DOE will complete a final EIS in 2000, such that a recommendation with regard to suitability of the Yucca Mountain site, pursuant to the Nuclear Waste Policy Act of 1982, as amended (NWPA), can be made in 2001. If DOE is able to advise the President that the Yucca Mountain site is suitable for development as a repository, and the President accepts the Secretary of Energy's

recommendation, DOE intends to submit a license application to NRC in 2002. In addition, NRC has proposed 10 CFR Part 63 which would establish a framework for licensing consideration of the repository. Similarly, the Environmental Protection Agency (EPA) has published its proposed standards for repository licensing. Thus, there has been substantial progress toward consideration and possible licensing of a repository.

As to spent fuel storage capabilities and capacity, the NRC has continued to review commercial dual-purpose spent fuel dry cask storage and transportation system designs and site-specific license applications for onsite dry storage of spent fuel to meet the interim storage needs of reactor licensees. In addition, the NRC is reviewing an application for an away-from-reactor Independent Spent Fuel Storage Installation (ISFSI), and a second application is expected in fiscal year 2000. The NRC staff has noted substantial advances in spent fuel storage -- the certifications of a number of new spent fuel storage cask designs; additional interim dry cask storage capacity at power reactor sites; the NRC's establishment of a Spent Fuel Project Office to more effectively focus on interim spent fuel storage and management -- since waste confidence findings were last reviewed in 1990.

These considerations confirm and strengthen the Commission's 1990 findings and lead the Commission to conclude that no significant and unexpected events have occurred -- no major shifts in national policy, no major unexpected institutional developments, no unexpected technical information -- that would cast doubt on the Commission's Waste Confidence findings or warrant a detailed reevaluation at this time. As a result, a formal review of these activities now would not call into serious question the Commission's Waste Confidence findings, as updated in 1990. The Commission, therefore, is not undertaking any modification to the findings codified in 10 CFR 51.23. However, when the nearer term activities on repository development and licensing are concluded, there may be implications for the Waste Confidence

findings. If warranted, the Commission will consider undertaking a comprehensive review at that time.

III. The Next Review

The appropriate trigger for the next review could be a combination of events or it could be a single event. For example, any significant delays in DOE's repository development schedule or a decision by the Secretary of Energy to not recommend Yucca Mountain as a candidate site might necessitate a reevaluation of the Commission's Waste Confidence Decision. Thus, the Commission would consider undertaking a comprehensive reevaluation of the Waste Confidence findings when the impending repository development and regulatory activities run their course or if significant and pertinent unexpected events occur, raising substantial doubt about the continuing validity of the Waste Confidence findings.

Dated at Rockville, Maryland, this 30th day of November, 1999.

For the Nuclear Regulatory Commission.


Annette Vietti-Cook,
Secretary of the Commission.