“In the Matter of Waste Confidence, We so Deem.”

In the last somnolent dog days of August, the members of the Nuclear Regulatory Commission (NRC) gathered themselves for a final vote on a regulatory policy issue that will no doubt have far reaching implications for the future of the U.S. nuclear industry and the continued use and future development of nuclear energy in the U.S.

In a session that took only thirteen minutes in which reportedly the chairman had to cut short her summer vacation and which was necessitated by the imminent departure from the agency of another commissioner, NRC approved a final rule on the aptly named “Continued Storage of Spent Fuel Rule” as a replacement for the decades old predecessor rule known as the “Waste Confidence Decision (WCD)”.

The genesis of the NRC WCD dates back to the late 1970s when NRC’s continued licensing of nuclear plants without a demonstrated final solution to the disposal of spent fuel was challenged in the courts. In response to significant court decisions at that time, the NRC devised the WCD which incorporated several important findings including a finding that permanent geologic disposal was technically feasible and that spent fuel could be safely stored at reactor sites or away from reactor sites in the meantime. The WCD also incorporated a predictive finding of a timeframe of the availability of repository. Over the course of several decades, the NRC has periodically reaffirmed the critical findings of the WCD but also at the same time extended the predictive timeframe in which the repository would become available. In its final WCD update, the NRC eliminated the incorporation of the predictive timeframe altogether and asserted simply that a geologic repository would become available when necessary. This 2010 revision of the WCD is what prompted another round of litigation over the contentious issue of spent fuel storage and its timely disposal.

This week’s action by the Commission and the adoption of a newly formulated rule is responsive to a 2012 U.S. D.C. Circuit Court of Appeals decision in the *New York vs NRC* in which the Petitioners alleged, among other arguments, that the NRC did not properly evaluate the environmental effects of continued storage at reactors beyond their operating licensed lifetimes in violation of the National

Environmental Policy Act (NEPA). The Court vacated the Commission's Waste Confidence Decision and associated storage rule on NEPA grounds and ordered the Commission to conduct a fully complaint evaluation of the environmental impacts of continued storage of spent fuel, including the case of indefinite storage of spent fuel because of the Federal Government's failure to construct a geologic repository for disposal.

The Court's decision and remand is only one of several cases in which the Court has strongly expressed its continued and increasing frustration with the Federal Government failure's to effectively implement a national nuclear waste management program under duly enacted laws requiring the Federal Government to provide for a permanent disposal of spent nuclear fuel and high-level radioactive waste. An earlier decision by another D.C. Circuit panel found that the NRC had violated the Nuclear Waste Policy Act (NWPA) by prematurely terminating its regulatory review of the Department of Energy's Yucca Mountain license application and ordered the agency back to work on the application using existing congressional-approved carryover funding. And in a more recent case, another three-judge panel of the same Court ordered the Department of Energy to suspend the collection of NWPA required fee payments unless and until the DOE resumes implementation of the NWPA or Congress passes an alternative nuclear waste program.

So mindful of this growing impatience, the NRC dutifully conducted a comprehensive evaluation over the past two years, and developed a generic environmental impact statement that analyzes the environmental impacts of continued storage of spent fuel at reactor sites beyond their licensed operational lifetimes, resulting from the continued lack of availability of a geologic repository for permanent disposal.

The NRC's GEIS evaluates effects of continued storage over three timeframes, a short-term where the fuel is stored at reactor sites for 60 years beyond the operating licensed lifetime, a second long-term timeframe in which spent fuel is required to be stored for an additional 100-year period and then finally a third timeframe in which spent fuel is stored indefinitely.

In all three cases, the NRC found that the environmental impacts of continued storage of spent fuel at reactor sites were "small" and with no significant impacts,

even for the case where the spent fuel was stored indefinitely because of unavailability of a repository. In no small measure, the result, especially for the case of indefinite storage, was driven by the NRC's staff assumption in all three cases that there would continue to be institutional controls throughout each timeframe, i.e., regulatory oversight and monitoring, ensuring therefore that there would be no adverse effects to the environment.

As structured, the approved rule now allows the Commission to move forward and resume final agency licensing decisions which have been held in abeyance for over two years while the NRC staff developed the GEIS and associated rule. When the rule goes into effect 30 days after its publication in the Federal Register, the GEIS is incorporated by reference in individual licensing proceedings and therefore any related challenges regarding the long-term effects of continued at-reactor storage cannot be raised because they have been "deemed" to have been addressed and found to have no significant consequences.

The importance of the assumption of continued indefinite institutional controls to the outcome of NRC's analyses of no significant impact cannot be overstated. In fact, Chairman Macfarlane's partial dissenting comments highlights its importance and touched off a sotto voce debate within the industry and elsewhere. Chairman Macfarlane referred to "the elephant in the room" was the concern that by adopting the rule and GEIS, essentially affirming conclusion of no significant environmental impacts of indefinite at-reactor storage, that NRC might be inadvertently tipping the balance and creating the enabling regulatory conditions under which a repository might never come to pass. Macfarlane continued her partial dissenting comments by suggesting that she would have preferred that the GEIS have included additional scenarios of indefinite storage without institutional controls.

But, the NRC staff in the GEIS had already acknowledged that without institutional controls, the case where spent fuel is stored indefinitely could have severe consequences similar to what the DOE had determined in its Yucca Mountain Project EIS in the "No Action" Alternative found in Appendix K.

As discussed in the GEIS, NEPA does not require agencies to consider "worst case" scenarios and the NRC staff made a persuasive case that that the most reasonably likely assumption is that indefinite storage would be accompanied concurrently

with continued institutional controls, thereby ensuring no significant effects to the environment.

Over the past 50 years, the nuclear industry, under the oversight of NRC and its predecessor agency, the Atomic Energy Commission, has amply demonstrated its capacity to safely manage and store spent fuel. Moreover, the nuclear industry should not be penalized or held hostage to the vagaries of the Federal Government's "off-again, on-again" approach to the implementation of the NWPA and the pursuit of the establishment of a geologic repository. Nor should application of nuclear technology be further restrained due to the dysfunction of the Federal Government efforts. Nuclear energy is too important to the nation, because it provides 20 percent of the nation's electricity and over 65 percent of our clean, carbon free electricity while providing 24x7 around-the-clock reliable electricity to the national grid.

The Waste Confidence Decision, now the Continued Storage Rule, was always an act of "regulatory deeming" or the proverbial leap of regulatory faith dressed up exquisitely in regulatory parlance. Now it will be up to the Courts to uphold the NRC's action and, if not, the matter will have to be addressed by Congress.

On one final note, Chairman Macfarlane is absolutely right to note that "deep geologic disposal is necessary" and "… that the only suitable end point for high-level nuclear waste is permanent isolation in a deep geologic repository."

This is an immutable fact and the enduring reality since real "waste confidence" can only be derived from the successful demonstration and implementation of a national nuclear waste management program culminating in the startup and operation of a geologic repository.