STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD, ILLINOIS 62704
217-785-9900
217-782-6133 (TDD)

Jim Edgar
Governor

Thomas W. Ortciger
Director

Copy faxed on 2/15/95.

February 10, 1995

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Docketing and Services Branch

The Illinois Department of Nuclear Safety (IDNS) appreciates the opportunity to comment on the proposed policy statement for Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities. IDNS has acknowledged in commenting on numerous rulemakings in the last five years that Probabilistic Risk Assessments (PRAs) are one of the best tools available for analyzing and managing risks to the health and safety of the public from nuclear power plant operation. Because of their value to the NRC, IDNS, and power plant licensees in fulfilling the common mission of protecting the health and safety of the public, IDNS believes high quality PRAs should be required and kept current. This conclusion was reached based on the following:

- PRA is a proven technology for analyzing and quantifying the risks to the health and safety of the public, and can be applied to the operation of nuclear power plants. Weaknesses and uncertainties in the technology are understood by the practitioners and can be dealt with consistently by end users when given guidelines to follow.

- The policy statement expresses a desire to involve the technology in all regulatory matters, limited only by the state-of-the-art. It is not clear whether this means the current state-of-the-art in the industry, or the state-of-the-art of the technology used in developing a PRA being considered for use in some application. This can vary widely. IDNS hopes it means the state-of-the-art of the industry.

- The Nuclear Energy Institute realizes the utility of PRAs in power plant regulatory matters and is encouraging licensees to do PRAs and keep them current. Not all licensees want to do this. We think they should be required to.

D510

- NRC has acknowledged the utility of PRAs in numerous studies; is anticipating the licensees will use them to comply with the maintenance rule; and recently inspected to see if licensees were using them in analyzing plant configurations for doing on-line maintenance. PRA use is becoming widespread in the nuclear industry, but is inconsistent. Firm guidance is needed.

- Each licensee performed a safety analysis to comply with the Independent Plant Evaluation requirements of Generic Letter 88-20, so a PRA of sufficient quality already will have been developed to satisfy those requirements. Because of a lack of standardization, these analyses may or may not be useful for other applications.

- The policy statement states that use of PRAs should be used in all regulatory matters, in conjunction with the safety goal policy, to complement traditional deterministic approaches. PRAs should be as realistic as possible using publicly available supporting data. They should be used to reduce unnecessary conservatism associated with regulatory requirements, regulatory guides, commitments, and staff practices. They should be used to support additional regulatory requirements. This is a wide-ranging list of applications for which to apply a PRA that only satisfies GL 88-20 requirements.

If much of both the industry and NRC see the value of PRAs in managing risks to nuclear power plant operation, and a deterrent to using them in all regulatory matters is their quality, then for the above reasons, **IDNS believes the NRC should insist on high quality PRAs**. We believe the NRC should, by rulemaking, require PRAs of sufficient rigor to allow their use in all regulatory matters pertaining to power plant operation. Following this course would have several advantages:

- NRC will have a good means to evaluate and quantify how much margin of safety and defense-in-depth is being sacrificed as conservatisms are removed from regulations.

- Licensees already have a considerable investment in their PRAs. Upgrading them and keeping them current should not cause undue additional burden considering the offsetting cost savings from the reduced regulatory requirements they likely will justify in the future.

- A considerable amount of training on applying PRAs is necessary for both licensee and NRC staffs before effective application is possible. Given that the maintenance rule is

a risk-based regulation (if NUMARC 93-01 guidelines as endorsed by the NRC are used to comply), and it becomes effective in July of 1996, not much time for training is left. Training to a relatively consistent quality product will lessen the NRC training burden, without affecting the licensee training efforts.

- Under the present practice of requiring sufficient quality of a PRA for a desired application, quality guidelines for various applications are needed, if the NRC hopes to have a consistently applied regulatory process across the industry. A requirement for consistently rigorous and relatively current PRAs would simplify the development of these guidelines. We believe to achieve a satisfactory degree of standardization of PRAs that the guidelines should be stated in a Standard Review Plan chapter, or a similar document. The technical information used in a PRA should be made available for public scrutiny.

The cornerstone of risk management, hence risk-based regulation, is the risk analysis. Without a rigorous and current risk analysis, in combination with deterministic analyses to reduce their inherent uncertainties, the effectiveness of risk-management is reduced. IDNS urges the NRC to alter the present practice of only requiring sufficient quality of PRAs commensurate with the intended application, to requiring rigorous and living PRAs by regulation for nuclear power plant applications. We also urge the NRC to codify the safety goals.

IDNS has major concerns, however, about the application of the PRA policy outside of the nuclear power plant operation arena. The policy statement was written in very general terms, at the NRC Commissioners' request, so that use of PRA technology can be used in all regulatory matters, if appropriate. We are very concerned that NRC not blindly require the application of PRA technology to all regulatory matters without the determination of when it is appropriate to do so. IDNS licenses a large number of diverse industrial, medical and academic licensees in the Agreement State program. Many, if not most, of these licensees have no familiarity with PRA technology and would find the development cost of PRAs to be prohibitive. IDNS will also have the responsibility for reviewing a license application for a low-level radioactive waste (LLRW) disposal facility for LLRW from Illinois and Kentucky. There is currently no available disposal capacity for LLRW generated in Illinois and Kentucky, as well as many other states throughout the country. We are concerned that the continued absence of disposal capacity will spawn the creation of a large number of storage facilities and

may result in curtailment of uses of radioactive materials in socially beneficial practices.

The PRA policy could further complicate and extend the efforts to develop new LLRW disposal facilities, if the policy is used as a delaying tactic by those opposed to the facilities. It could place a burden on licensees and Agreement States if applied to medical and sealed source licensees. If applied outside of the power plant arena, the training required could be a burden to both non-power plant licensees and Agreement States. Therefore, before PRA technology is required beyond power plant regulatory matters, consideration should be given to the benefits to be achieved and the burdens to be placed on all classes of licensees and Agreement States. Finally, the proposed rule is silent on whether it will be a matter of compatibility for Agreement States.

Sincerely,

Thomas W. Ortciger
Director

TWO/nth