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"ECONOMIC DEREGULATION OF THE ELECTRIC UTILITY INDUSTRY: ENSURING NUCLEAR SAFETY IN AN ERA OF CHANGING OPERATIONAL AND FINANCIAL PERSPECTIVES"

BY

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NUCLEAR ELECTRIC INSURANCE, LTD.

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Good morning, ladies and gentlemen. I am pleased to be here today to address this annual meeting of Nuclear Electric Insurance, Limited.

I. INTRODUCTION

I plan to focus today on Electric Utility Restructuring and the Nuclear Regulatory Commission (NRC). In the past year, I have addressed a number of audiences on this topic. I find the occasion today particularly meaningful because your annual meeting brings together the Chief Financial Officers and Chief Executive Officers from a large number of companies that have NRC licenses. I believe that, as economic deregulation of the electric utility industry and the resulting corporate restructuring proceed, the relationship of the financial decision-maker to safe operation, and to the assurance of nuclear power plant decommissioning funding, will become more important. As the basis for your corporate financial results shifts from base rate cost recovery to market-driven competition, you will be called upon to make financial decisions of a different--and, in some cases, a more difficult--character.

How does the role of the financial decision-maker--a term which, in my view, includes both the CFO and the CEO--interact with the issues of greatest importance to the NRC? To respond to that question, I will discuss today several critical aspects of electric utility restructuring as they intersect with the NRC mission and fall within NRC jurisdiction. For each area, I will share with you the actions the NRC is taking to ensure that we understand the changes being brought about by restructuring, and to ensure that we are positioned for an appropriate response to those changes.

As you know, the NRC is not an economic or rate regulator. Our mission is to ensure adequate protection of public health and safety, the common defense and security, and the environment in the use of nuclear materials in the United States. However, as the government agency responsible for regulating nuclear safety at power reactor facilities, the NRC has an important function during this transition to a competitive market. As organizations restructure internally, as ownership changes, as mergers occur, and as electric utilities work to control and reduce costs, the NRC must understand the effects of the changing business environment on nuclear safety. The NRC will not dictate how changes occur to the rules or statutory mandates undergirding economic deregulation, nor will we prescribe how the electric power industry restructures. It is, however, our responsibility to ensure that, as the business environment changes, the challenges facing the industry do not adversely impact nuclear safety. Equally important, it is our responsibility to ensure that any changes we make to our regulatory approach are well grounded and balanced. I have grouped the challenges facing the industry under three general headings: (1) the availability of funds for decommissioning and stranded costs; (2) electrical grid reliability; and (3) safe nuclear operations.

II. DECOMMISSIONING FUNDING AND STRANDED COSTS

A. Existing Regulatory Framework

Under Section 161 of the Atomic Energy Act of 1954, as amended, the NRC has general authority to regulate the decommissioning of the nuclear facilities and materials that it licenses. When the NRC promulgated its decommissioning regulations in 1988, the agency had determined that decommissioning funding assurance requirements were necessary to protect public health and safety. As a result, the NRC required its power reactor licensees to set aside funds periodically in external trust fund accounts (or to provide third party guarantees for estimated decommissioning costs) in order to accumulate over time an amount at least equal to the amounts provided by formula in 10 CFR 50.75. As such, by the time a licensee was expected to permanently cease operations, the total amount of funds estimated as needed to complete decommissioning would be available.

Within this framework, which makes up existing decommissioning funding provisions, the NRC does not specify the percentages or schedules of funds collection. In 10 CFR 50.75, the NRC shares responsibility for decommissioning funding regulation with rate regulators--that is, with the State Public Utility Commissions (PUCs) and the Federal Energy Regulatory Commission (FERC). Traditionally, the NRC has relied on the FERC

and the PUCs for such decisions as the sources of decommissioning funds (whether rate-payers or licensee stockholders), the timing of funds collection (questions of intergenerational equity), and the investment in trust funds. This practice is consistent with earlier NRC determinations that traditional cost-of-service rate regulation provides reasonable assurance of funds for operations and decommissioning.

Current regulations allow only those licensees that meet the NRC definition of "electric utility" to use the external "sinking fund" method of decommissioning funding assurance. Electric utility means any entity that generates or distributes electricity, and which recovers the cost of this electricity, either directly or indirectly, through rates established by the entity itself or by a separate regulatory authority (i.e., the FERC and the PUCs). Included within this definition of "electric utility" are investor-owned utilities, including generation or distribution subsidiaries, public utility districts, municipalities, rural electric cooperatives, and State and Federal agencies--including associations of any of the foregoing.

The NRC also has explicit requirements in 10 CFR 50.82 concerning the release of decommissioning funds from trust accounts. The NRC has regulatory authority to stop any unwarranted withdrawals, and to require reimbursement of the trust fund for unwarranted withdrawals already made. Based on the broad authority given under the Atomic Energy Act, the NRC also could order trust fund disbursements for a particular decommissioning-related activity, based on the presence of a threat to public health and safety if this activity did not occur.

Although the FERC and the PUCs typically do not become too closely involved in the release of decommissioning funds, some states, such as California, are more proactive in this area and have their own requirements for funds release.

B. Changes Due to Deregulation

When the Energy Policy Act of 1992 was passed, with provisions that enabled wholesale competition in electricity generation, few of us would have predicted the speed with which the shift to both wholesale and retail competition would occur. Orders 888 and 889 issued by the FERC, together with the FERC merger policies, were major enabling actions for the economic deregulation of wholesale markets. As these changes began to take shape, the NRC found it to be critical that we understand the changes, identify any safety concerns, and forward those concerns to the agencies responsible for economic regulatory decisions, or take regulatory action, as appropriate, for issues within our direct statutory purview.

Some of the most significant changes involve new ownership arrangements. For example: generation, transmission, and distribution assets may be spun off into subsidiaries or fully separate companies (called "GENCOs," "TRANSCOs," and "DISCOs"). We expect to see a variety of hybrid ownership arrangements that go beyond current structures, which typically are defined geographically and integrated vertically.

Another focus area is the problem of above-market or "stranded" costs, including some nuclear plant capital and decommissioning costs. States and the FERC are considering various remedies, including exit fees for customers leaving a company's system, transmission access fees for new bulk electricity suppliers, and other transmission or "wires" charges. In some States, nuclear plant owners have been allowed to accelerate the depreciation of their plants, so that by the time full retail competition arrives, the capital costs of certain nuclear plants will have been amortized fully. States also are exploring securitization as a method for providing recovery of stranded costs.

The NRC does not have the responsibility of determining how ownership arrangements may be structured, nor how nuclear "stranded" costs (or assets) should be addressed by State PUCs or State and Federal legislatures. However, we <u>are</u> responsible for making clear that power reactor licensees must continue to have sufficient resources both to operate and to decommission their plants safely. That responsibility includes taking appropriate regulatory action for issues within NRC jurisdiction. Where warranted, it also includes weighing in on legislative initiatives under consideration by the Congress.

C. <u>NRC Actions to Address Deregulation</u>

What has the NRC done to respond to deregulation and emerging utility restructuring scenarios? In the Fall of 1995, the NRC initiated a broad review of its policies and regulations--including a re-evaluation of our decommissioning funding policies--to ensure that the existing regulatory framework was sufficient to cope with any potential safety impacts on NRC power reactor licensees. In February 1996, the agency issued an Action Plan that described a framework and schedule for specific actions needed, based on our understanding of the likely future shape and structure of nuclear electricity generation. To date, these actions have included the issuance of an Advance Notice of Proposed Rulemaking, the formulation of a Proposed Rule, and the development of a draft Policy Statement and draft Standard Review Plans, with due consideration of public comments at the various stages. I will discuss each of these actions briefly.

In April 1996, the NRC issued an Advance Notice of Proposed Rulemaking seeking stakeholder input on a series of questions related to electric utility restructuring and the potential need for NRC actions. The Advance Notice requested public comment on a specific proposed change to NRC regulations which would revise the definition of "electric utility," and would impact those power reactor licensees no longer subject to rate regulation by the FERC or the State PUCs. As proposed in the Advance Notice, this change would <u>not</u> affect the current requirement that non-electric utility licensees must provide some other means of assurance--such as a letter of credit or surety bond--for any unfunded balance of decommissioning costs.

The staff reviewed a wide range of public comments submitted in response to the Advance Notice. One area of comment concerned "benchmarking," or specifying the amount of decommissioning funding that a licensee should possess at given points in the projected operational life of a nuclear power plant. For example, benchmarking might

require licensees to accumulate 25 percent of their decommissioning funds by the end of the 10th year of a projected 40 years of the nuclear plant's operation.

As I have already stated, the NRC traditionally has relied on rate regulators--the FERC and the State PUCs--for responsibilities such as setting the amortization schedule under which decommissioning funds are collected. Although 10 CFR 50.75 requires licensees to revise annually the estimate of total decommissioning funds needed, it does not require licensees to adjust immediately the amount of funds set aside based on changes in these estimates. Those commenters who advocate "benchmarking" believe that the NRC should take a stronger role in requiring, at periodic junctures, that licensees evaluate the status of their decommissioning funds relevant to current economic factors and the projected remainder of operational life, and to make adjustments in funds set aside, as necessary. Considering the existing approaches to economic deregulation and the responsible actions of State PUCs, the NRC continues to believe that reliance on and coordination with the PUCs is well-founded. However, we will continue to monitor changes stemming from economic deregulation, to ensure that our responsibilities are met with regard to ensuring the availability of decommissioning funding.

Based on a rigorous review of these and other public comments, as well as ongoing analysis of emerging industry developments, the staff has drafted a proposed rule, which currently is undergoing Commission review and should be released shortly for public comment. As drafted, the proposed rule would modify NRC decommissioning regulations in three areas. First, it would additionally refine the proposal given in the Advance Notice concerning the revised definition of "electric utility," and the need for additional funding assurance for power reactor licensees not covered under the new definition. This refinement would clarify that, for entities within the definition of electric utility, rates must be established by a regulatory authority, either directly through traditional "cost of service" regulation, or indirectly through another non-bypassable charge mechanism. Distinctions would also be made for those entities whose rate-related costs are only partially covered by existing regulatory mechanisms.

Second, under the current draft of the proposed rule, we are considering the allowance of credit on earnings on the decommissioning trust funds.

Third, to keep the NRC informed of licensee decommissioning funding assurance, the proposed rule would require licensee reporting of the status of decommissioning funding and any changes to trust agreements. While the proposed rule does not contain any benchmarking requirements, this reporting requirement would provide the NRC the information needed to assess whether licensee contributions to their decommissioning funds are adequate relative to the life of their plants. Following a review of initial licensee reports in this area, it may be prudent to consider again the appropriateness of a benchmarking requirement. I encourage you to review the proposed rule, and to take this opportunity to provide us your insights.

The NRC also is finalizing its policy statement on the Restructuring and Economic Deregulation of the Electric Utility Industry. The policy guidance provides a framework for our approach to future reviews. Under this approach, the NRC will continue to conduct financial qualifications, decommissioning funding, and antitrust reviews. Under the approach outlined in the draft policy statement, the NRC will also continue to identify all owners, indirect as well as direct, of nuclear power plants; to evaluate the relative responsibilities of power plant co-owners and co-licensees; and to re-evaluate our regulations for their adequacy in addressing the changes caused by rate deregulation.

On December 27 of last year, the NRC issued for public comment the draft Standard Review Plans on Antitrust and Financial Qualifications and Decommissioning Funding Assurance. These plans are intended to ensure that the NRC clearly communicates its expectations concerning existing requirements and relevant owner/operator responsibilities in these areas. The NRC staff is currently is finalizing these documents, with due consideration of public comments, and expects to issue the final Standard Review Plans later this summer.

III. ELECTRICAL GRID RELIABILITY

An equally important area of NRC focus has been electrical grid reliability, or security. As many of you know, the term "Station Blackout" is used, in the nuclear power industry, to refer to an event in which a loss of offsite power is coupled with the inability of the onsite emergency diesel generators to provide vital power to plant safety equipment. In recent years, NRC probabilistic risk assessments have made it clear that a Station Blackout at a nuclear power station is a major contributor to a particular measure of risk known as reactor "core damage frequency" (that is, the probability per year per reactor that core damage will occur). Although Station Blackouts have been extremely rare to date, there have been a number of times when offsite power was lost, and there have been separate instances in which facility diesel generators have not been operable for sustained periods. Therefore, the possibility of a Station Blackout continues to be an area of NRC focus.

In 1996, within a 5-week period, two electrical disturbances on the United States' Western Grid caused 190 power generating plants to trip off-line, including several nuclear units. This set of occurrences illustrated an interesting two-sided coin. On the one side, nuclear plants are designed to withstand unexpected trips. However, events of this type cause unnecessary challenges to plant safety systems. On the other side of the coin, the nuclear plants themselves are an important element of maintaining electrical network stability.

In reviewing the electrical disturbances, the Western Systems Coordinating Council listed the following contributing factors: high Northwest transmission loads; equipment out of service; inadequate maintenance of right-of-way; operation in a condition in which a single failure would overload parallel lines, triggering cascading outages; communication failures to neighboring utilities, prior to the disturbances; and the lack of response to earlier events.

At about the time these events were occurring last year, I reviewed a status report on the NRC accident sequence precursor program. This program was established in 1979 to review operational events and to provide a reasonable estimate of their significance. The program assesses the extent to which a given event is a potential contributor to a serious accident sequence. It uses probabilistic risk assessment techniques to provide quantitative estimates of the operating event significance in terms of the potential for reactor core damage. The report indicated that, in 1995, six of the ten precursor events involved problems with electrical equipment.

These events and studies tell us that, while nuclear generating stations are robust in design and operational standards, they also are vulnerable to grid disturbances, and especially to Loss-of-Offsite-Power events.

Let me add a practical perspective. The North American Electric Reliability Council (NERC) has prepared an independent assessment of the reliability of electric supply in North America for this summer. The peak summer demand for electricity in the United States is projected to increase by 5.3% from the actual 1996 summer peak. Electric utilities in Illinois, Wisconsin, and the New England area anticipate that electrical supply shortages may occur due to the prolonged unavailability of several thousand megawatts of nuclear capacity. The different geographic areas have made extensive preparations to mitigate these problems. However, such shortages, if realized, could require controlled interruption (or "rotating blackouts") to customer facilities for short periods.

As I stated in January, in a speech to the National Association of Regulatory Utility Commissioners (NARUC): from the perspective of a nuclear safety regulator--the NRC--economic deregulation must proceed with a sensitivity to, and an understanding of, the vulnerability of nuclear plants to Loss-of-Offsite-Power events. This means that transmission network governance structures must reflect that standards of performance, operational criteria, and training of personnel are critical oversight issues, which must be considered and addressed as deregulation proceeds. Whatever form network governance structures assume, their authority must be strong enough to ensure that these factors are addressed.

Although grid reliability is a voluntary function under the North American Electric Reliability Council (NERC) and the regional councils, Federal oversight currently is handled by the FERC and at the Department of Energy (DOE). The DOE has created a working advisory committee on the reliability of the U.S. electric system. The NRC has been coordinating with DOE, and will remain abreast of this effort, participating as appropriate. We know that under discussion is the question of whether a Federal entity, such as the FERC, should be vested with more authority to police grid reliability, or whether a voluntary organization such as the North American Electric Reliability Council should be given enforceability teeth. What is important to the NRC is that grid reliability is not left to chance, but is explicitly addressed as electric industry restructuring unfolds.

In April, at my request, the Commission held two public meetings on aspects of electric power industry restructuring. The first meeting focused on grid performance and reliability, and the

second meeting addressed electric utility restructuring, with a significant amount of discussion on independent system operators (ISOs). These meetings brought together representatives of the nuclear power industry, as well as economic regulators, from both the Federal and State governments. The meetings were intended to improve both NRC and public understanding of the progress of economic deregulation and industry restructuring, to explore related safety questions, and to ensure that we are taking the right actions, at the right time, in the appropriate manner.

Based on the insights gained at those meetings, the Commission has asked the NRC staff to give greater urgency to ensuring that health and safety issues within NRC jurisdiction are addressed--particularly in reviewing terms of the licensing basis for nuclear power licensees, and in validating grid reliability assumptions. The staff was asked specifically to inform the Commission of actions by Federal and State economic regulators in establishing membership requirements for the North American Electric Reliability Council (NERC). The Commission is especially interested in the effectiveness of such requirements and enforcement policies as they relate to grid reliability. Finally, the Commission asked that appropriate NRC regional staff visit a power pool and a reliability council within their jurisdiction--to improve NRC understanding of regional grid reliability issues.

IV. SAFE NUCLEAR OPERATIONS

My third topic of discussion today is safe nuclear operations. The NRC traditionally has relied on inspection and plant assessment programs to identify any adverse trends in safety performance. Based on inspection program results, plant performance reviews, and other evaluative mechanisms, the NRC takes the action it deems appropriate to protect public health and safety.

While the overall safety performance of the U.S. nuclear power industry continues to improve, we have seen events that may signal a need for heightened concern. NRC safety assessments at several reactor facilities have identified deficiencies stemming from common root causes--both of which are receiving increased NRC focus. The first root cause is the economic pressure on a licensee to be a low-cost energy producer, which has limited the resources available for corrective actions and plant improvements. The second is the licensee failure to identify and correct promptly problems arising in areas that licensee management has viewed--not always correctly--as having low safety significance.

The Commission has taken certain actions in response to these kinds of signals. To ensure that the NRC can detect safety degradations at licensee facilities, we are developing measures that would identify plants where economic stress may be adversely impacting safety. The NRC evaluates the safety performance of nuclear power plants using licensing information, inspection results, operating experience, performance indicators, enforcement actions, and assessments of licensee effectiveness in identifying and correcting problems. Semi-annually, these various measures and assessments are integrated into an overall review at NRC Senior Management Meetings. These meetings help to ensure that NRC resources are focused properly on facilities

that most need regulatory attention. The result of these meetings is a proposed list of facilities that have demonstrated weaknesses and warrant increased NRC attention.

To improve the effectiveness of the Senior Management Meeting process, the NRC is developing objective, meaningful, "leading" performance indicators of nuclear plant performance, as well as an enhanced approach for monitoring and assessing licensee corrective actions. In the Summer of 1996, we commissioned an outside study by Arthur Andersen to evaluate the Senior Management Meeting process, to suggest improvements to the timeliness and thoroughness of plant safety assessments, to recommend performance indicators based on objective data, and to define a methodology for assessing management and operational effectiveness.

The resulting Arthur Andersen report proposed a detailed methodology for using existing performance indicators in reaching Senior Management Meeting decisions. The Commission has endorsed significant portions of the report and its recommendations, and has asked the NRC staff to evaluate critically the Arthur Andersen approach, considering the assumptions, the weighting and the periodicity of data, and the need for appropriate validation. In addition, the methodology being developed will more effectively use existing performance indicators in NRC decision-making processes, and will phase in new risk-based indicators as they are developed.

While NRC regulatory and safety decisions must not be influenced by a perceived need to lower nuclear plant operating costs, we feel keenly our responsibility to pursue our health and safety mission within the most efficient and effective regulatory framework possible--for both the NRC and the nuclear energy industry. We have been working with the nuclear energy industry to remove unnecessary regulatory requirements through conversion to improved Standard Technical Specifications, changes to rules that are marginal to safety, and the implementation of the NRC Regulatory Review Group recommendations. These recommendations include expedited review of cost-beneficial licensing actions, as well as the development of guidelines that would permit licensees to implement changes to their quality assurance programs, emergency preparedness plans, and security plans without prior NRC review and approval, as long as the underlying regulations are met. We have continued the movement toward risk-informed, performance-based regulation through the development of Probabilistic Risk Assessment (or PRA) guidance in the form of a Regulatory Guide and Standard Review Plan, as well as through pilot processes for risk-informed regulation, out of which application-specific regulatory guides will be developed. These efforts will assist the NRC and nuclear licensees in focusing their resources on the most safety-significant aspects of nuclear operations, while maintaining defense-in-depth--which in turn should both enhance safety and improve cost-competitiveness.

V. INTERNATIONAL PERSPECTIVE

This overall topic--trends in electric generation and their effect on nuclear safety--is not only an issue for the U.S. Just last month, the International Nuclear Regulators Association was created, a new body designed to enhance nuclear safety worldwide. I am pleased to serve as the first Chairman of this group. During our two-day meeting in Paris, the issue of trends in electrical generation was one of two broad topics discussed at length. Each country has seen, or foresees, potential impact from changes in electric utility structure or markets.

VI. CONCLUSION

In closing, let me reiterate that the NRC will continue to take seriously its responsibility as a safety regulator. I firmly believe that ensuring safety is in no way inconsistent with economic deregulation and competition. A focus on the bottom line is not, in itself, a bad thing, so long as our vision is not narrowly focused on short-term returns.

As the Chairman of the NRC, I have the Chief Financial Officer (CFO) reporting directly to me. Working with the CFO and the Executive Director for Operations, I have the responsibility of developing the NRC budget for Commission consideration. Right now the NRC, like all government agencies, is in the final planning stages for the Fiscal Year 1999 budget. I know how difficult it is to take a long-term view when many needs are competing for resources today. Making judgments based on cost-benefit analyses can be difficult, especially when the pay-off is far in the future. But understanding and valuing long-term returns is an important part of the planning process.

My own view is that adequate protection of public health and safety is entirely compatible with a deregulated environment, provided that the economic restructuring of the electric power industry addresses the elements that are necessary for that protection. As I have outlined this morning, those entities responsible for economic deregulation must recognize the safety implications of change, and those of you in the nuclear energy industry must recognize that there are no economic short cuts to safely operated, economically viable nuclear power facilities. The many players who have a role in the interesting and challenging environment of electric power industry restructuring must work together--including the NRC as safety regulator, the FERC and the State regulatory commissions as rate regulators, and industry underwriters, owners, operators, and licensees. Each must understand the concerns of the other parties involved in order to ensure that we will continue to enjoy the benefit of safely operated, soundly regulated nuclear-generated electricity, together with the economic benefits of deregulation.

Thank you for the opportunity to address you. I wish you a very successful annual meeting. I do appreciate your interest in the NRC perspective, and I would be happy to respond to your questions at this time.