

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

October 5, 1990

R E V I S E D

MEMORANDUM FOR: James M. Taylor
Executive Director for Operations

FROM: Samuel J. Chilk, Secretary

SUBJECT: SECY-90-288 - POLICY STATEMENT ON ECONOMIC
PERFORMANCE INCENTIVE REGULATION AND
ASSOCIATED MONITORING ACTIVITIES

The Commission (with all Commissioners agreeing) has approved publication of the proposed Policy Statement for public comment in the Federal Register. The attached editorial changes should be entered prior to publication. The change in the revised SRM from the previous version is indicated by a double bar in the right margin.

(EDO) (SECY Suspense: 11/16/90)

Chairman Carr believes this policy statement is not necessary at this time, but has approved its publication for public comment. He intends to reserve judgment on the final policy statement until public comments are received and evaluated and a final recommendation is forwarded to the Commission.

Attachments:
As stated

cc: Chairman Carr
Commissioner Rogers
Commissioner Curtiss
Commissioner Remick
OGC
GPA

SECY NOTE: THIS SRM, SECY-90-288 AND THE VOTE SHEET OF
COMMISSIONER CURTISS WILL BE MADE PUBLICLY AVAILABLE
10 WORKING DAYS FROM THE DATE OF THIS SRM

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Commission Draft Policy Statement on the Possible Safety Impacts of Economic
Performance Incentives

AGENCY: Nuclear Regulatory Commission

ACTION: Draft policy statement

SUMMARY: This statement presents the policy of the Nuclear Regulatory Commission (NRC) with respect to the possible safety impacts of economic performance incentive programs established by State commissions regulating electric utilities. The policy statement (I) contains a discussion of the potential impact of the policies and actions of State regulatory bodies, emphasizing that such actions can have either a positive or negative impact on public health and safety; (2) reflects the Commission's concern that certain forms of economic performance incentive regulation have the potential for adversely affecting nuclear plant operation and public health and safety; (3) specifically identifies those methods or approaches that are of particular concern (e.g. use of sharp thresholds, measurement of performance over very short time intervals, lack of "null zone," and inappropriate reliance on SALP scores); (4) indicates that the NRC will continue to monitor the application of economic performance incentives and performance criteria to nuclear power plant operations; and (5) urges licensees and State regulatory commissions to apprise the NRC of economic performance incentive programs that are being considered for application to NRC licensees.

DATES: The comment period expires 45 days after publication in the Federal Register. Comments received after this time will be considered if it

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is practical to do so, but assurance of consideration cannot be given except for comments received on or before this date.

ADDRESSES: Mail written comments to the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Deliver comments to One White Flint North, 11555 Rockville Pike, Rockville, Maryland between 7-30 a.m. and 4:15 p.m. Federal workdays. Comments may also be delivered to the NRC Public Document Room, 1220 L Street NW, Washington, D.C., between 7:45 a.m. and 4:15 p.m. Copies of comments received may be examined at the NRC Public Document Room.

FOR FURTHER INFORMATION CONTACT: Martin J. Virgilio, Chief, Policy Development and Technical Support Branch, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone: (301) 492-1254.

SUPPLEMENTARY INFORMATION:

Introduction: After reviewing the information on economic performance incentive programs put in place by State regulatory commissions that regulate the economic returns of utilities operating nuclear power plants, the Commission has decided that it would be appropriate to set forth its views on the possible safety impacts of such programs in a Commission Policy Statement.

Background: In the exercise of their jurisdiction over the economics of the generation of electricity, a number of State regulatory commissions and the Federal Energy Regulatory Commission have established economic performance incentive programs relating to electric power plants. Some programs

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have existed unchanged for a number of years, whereas others have been substantially modified or are newly established. They can, play an important role in improving the economic performance of electric power plants. They can also have an impact on the safety of nuclear power plants. The NRC monitors and evaluates these incentive programs to determine their possible impact on the safe operation of nuclear power reactors. The NRC firmly believes that these programs should not create incentives to operate a plant when it should be shut down for safety reasons.

Policy statement: The Commission's views on economic performance incentive programs are as follows:

Potential Impacts

The NRC recognizes that the existing programs vary considerably from State to State and that the plans are not easily classified, especially as to their possible impact on safe plant operations. However, certain general characteristics of programs can be evaluated and found to be either desirable (or at least neutral) or undesirable in their safety impact.

A desirable plan provides incentives to make improvements in operation and maintenance that result in long-term improvement in the reliability of the reactor, main generator and their support systems. An undesirable plan provides incentives to operate a facility with potential safety problems or to start up before fully ready merely to meet an operational goal.

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A desirable economic performance incentive rewards a utility for a sound operations and maintenance program and for correcting recurrent or predictable failures or other potential problems that could lead to an operational transient, unplanned plant outage or derating. Such an incentive is a desirable because a well run plant and prompt correction of problems enhance safety. Unanticipated transients and shutdowns challenge operators and safety systems and, although a low probability, could initiate a more serious event. Improved performance in a utility's operational organization, which can be encouraged by economic performance incentives, can be conducive to improving both safety and economic performance.

The current influence of incentive plans on reactor safety is believed to be small. However, the Commission's concern with incentive plans is that, in the interest of real or perceived short-term economic benefit, utilities might hurry work, take short cuts, or delay a shutdown for maintenance in order to meet a deadline, a cost limitation, or other incentive plan factor. Such a program could encourage, directly or indirectly, the adoption of actions designed to maximize measured performance in the short term at the expense of plant safety (public health and safety. If a licensee keeps a reactor online when it should be taken down for preventive or corrective maintenance and uses shortcuts or compressed work schedules to minimize down time, these actions could adversely impact safety.

Potential Adverse Impacts on Plant Operation and Public Health and Safety

Some specific features of incentive plans now used by some States could adversely affect public health and safety. These features are (1) sharp thresholds between

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rewards and penalties, (or between penalties and null zones, or rewards and null zones) and (2) performance measurements having short time intervals.

A sharp threshold occurs when a licensee misses a target capacity factor and must bear a large part or all of the resulting replacement power costs. A sharp threshold provides an incentive to continue plant operation to achieve a target capacity factor to avoid the large replacement power cost or to earn a substantial reward. This type of incentive could divert attention from safe plant operation.

Performance measurements for short-term intervals provide incentives to focus on a short-term target, such as a higher capacity factor or availability factor. This target could become the primary focus, diverting attention from long-term goals of reliability and operational safety. In contrast, performance measurements for long-term intervals provide incentives to the utility to follow sound maintenance and operational practices and make system and component changes so that the licensee improves operating performance in terms of availability and capacity factors.

Short-term measurements tend to make safety and economic goals conflict; long-term measurements tend to make the two goals complementary.

Specific Features That Cause NRC Concern

Sharp thresholds and short-term performance measures can adversely impact safety. In addition, plans that use NRC periodic performance assessments and performance indicators of the NRC or industry as a basis for rewards or penalties present

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several major concerns. First, the NRC's Systematic Assessment of Licensee Performance (SALP) was developed to assist the NRC in assessing the performance relative to the safety of individual facilities and to serve as a basis for communicating to the licensee. It therefore addresses selected areas of licensee activity, but does not necessarily cover all significant performance areas. Further, the scores are not based on absolute quantitative considerations, and therefore the significance of the actual numerical score is limited. The NRC staff expects licensees to focus on the facts in the SALP report, the issues identified, and the apparent root causes of problems. The prospect of financial rewards or punishments for licensees based on SALP ratings causes concern in that it may change the focus of the SALP process from the underlying issues, where it should properly be, to the numerical ratings themselves. If the issues identified in a SALP report are obscured by concerns over the financial consequences incurred as a result of that rating, the process may not achieve the desired objective and may instead result in a licensee adopting corrective actions which produce rapid results rather than those which yield the highest increase in safety in the long term.

Similarly, performance indicators were developed to assist the NRC and the licensees in identifying trends and areas of performance that should receive a more detailed assessment. Inappropriate emphasis on these indicators in an incentive program could direct a licensee's attention toward improving the scores by possibly

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inappropriate means rather than toward identifying and correcting underlying safety conditions.^{1/}

Continued NRC Monitoring Program

The NRC will periodically survey State regulatory commissions having rate regulation over power reactors and the Federal Energy Regulatory Commission (FERC) to identify any new programs or substantial changes in existing programs and to ascertain how the programs have been implemented, in particular whether large penalties have been imposed.

We plan to update the survey annually. We will periodically assess the frequency of the surveys to determine the need for schedule adjustments.

Licensees and Utility Commissions Urged To Inform NRC of Program Initiatives

The NRC needs to be apprised of economic performance incentive programs that are being planned by State regulatory commissions and that can impact safety. Frequently, these programs are developed in coordination with regulated utilities. Therefore, the NRC will be requesting that licensees report whenever these commissions are developing or substantially revising

1/For further information on existing economic incentive programs and the possible impact Of such programs on nuclear safety, see NUREG/CR-5509, "Incentive Regulation of Nuclear Power Plants by State Public Utility Commissions", 1989.

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economic performance incentives. The NRC will be asking also FERC and the State utility regulatory commissions to discuss with the NRC initiatives to impose or change an economic performance incentive program that applies to an NRC licensee. The objective will be that the NRC be informed of the principal features of the program so that their likely impact on plant safety can be assessed. Further, the NRC will be requesting licensees to report the penalties assess through these programs as they occur. A free exchange of information between the NRC and the agencies with economic jurisdiction will assist the NRC and those agencies to work together in their pursuit of the common goal of economical arid safe operation of nuclear power plants.

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and may instead result in a licensee adopting corrective actions which produce rapid results rather than those which yield the highest increase in safety in the long term.

INSERT B

Inappropriate emphasis on these indicators in an incentive program could

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TEXT OF LETTER TO BE SENT TO THE FEDERAL ENERGY REGULATORY COMMISSION
AND TO
STATE UTILITY REGULATORY COMMISSIONS REQUESTING COMMENTS ON THE
PROPOSED
POLICY STATEMENT ON ECONOMIC PERFORMANCE INCENTIVES

(Heading)

A number of State regulatory commissions and the Federal Energy Regulatory Commission (FERC) have established economic performance incentive programs relating to commercial nuclear reactors. Some programs have existed for a number of years, whereas others have been substantially modified or are newly established. The U.S. Nuclear Regulatory Commission (NRC) has monitored these programs through periodic surveys of State commissions and licensees to determine whether they create incentives for reactor licensees to change operating or maintenance practices in such a way that safety is diminished. In reviewing the programs in effect in 1989, the Commission has determined that a few economic performance incentive programs have the potential to direct licensees' attention away from the responsibility of safe operation and toward attempting to meet an operational goal to avoid a penalty or receive a reward. As a result, the Commission directed the NRC staff to develop a proposed Policy Statement that describes desirable and undesirable features of these programs with respect to licensee's responsibilities for public health and safety. Enclosed for your consideration is a copy of the proposed Policy Statement.

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Your cooperation in providing comments to the NRC on this matter will be greatly appreciated. The NRC has indicated in the past that properly devised economic

performance incentive programs can encourage both economical and safe operation.

Sincerely,

James M. Taylor
Executive Director
for Operations