

NUCLEAR REGULATORY COMMISSION

'90 OCT 23 P3:08

Possible Safety Impacts of Economic Performance Incentives; Draft Policy Statement

OFFICE OF SECRETARY
DOCKETING DIVISION

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 (1) 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

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, 2120 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: Anthony T. Gody, Sr., 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 Regulatory Commission have established economic performance incentive programs relating to electric power plants. Some programs 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.

Statement of Policy

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.

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 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 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.

Similarly, performance indicators were developed to assist the NRC and 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 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.

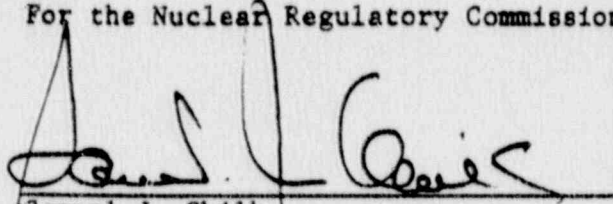
¹ For further information on existing economic incentive programs and the possible impact of such programs on nuclear safety, see NUREG/CR-5509, "Incentive Regulation of Nuclear Power Plants by State Public Utility Commissions", 1989. Copies of NUREG/CR-5509 may be purchased from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20013-7082. Copies are also available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. A copy is also available for public inspection and/or copying at the NRC Public Document Room, 2120 L. St., NW., Washington, DC.

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 economic performance incentives. The NRC also will be asking 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 its likely impact on plant safety can be assessed. Further, the NRC will be requesting licensees to report the penalties assessed 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 goals of safe and economical operation of nuclear power plants.

Dated at Rockville, Maryland, this *22nd* day of *October*, 1990.

For the Nuclear Regulatory Commission.



Samuel J. Chilk,
Secretary of the Commission.