

March 4, 1998

FOR: The Commissioners
FROM: L. Joseph Callan /s/
Executive Director for Operations
SUBJECT: RULEMAKING TO MODIFY EVENT REPORTING REQUIREMENTS FOR
POWER REACTORS

PURPOSE:

The purpose of this paper is to provide the staff's proposed rulemaking plan to modify the event reporting requirements in 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," and 10 CFR 50.73, "Licensee event report system."

BACKGROUND:

The current rules have been in place with little modification since 1983. Experience has shown a need for change in several areas to: (1) correct weaknesses in the current rules, including reducing the reporting burden associated with events of little or no safety significance, and (2) better align the rules with the NRC's current needs, including (a) obtaining information better related to risk and (b) reconsidering the required reporting times in relation to the need for prompt NRC action.

DISCUSSION:

Management Directive 6.3, "The Rulemaking Process," requires the rulemaking plan to address the following areas:

1. Define the regulatory problem or issue to be resolved, and describe a preliminary concept of actions needed to resolve the problem.

In summary, the current rules are in need of change in several areas to (1) correct weaknesses, including reducing the reporting burden associated with events of little or no safety significance, and (2) better align them with the NRC's current needs, including (a) obtaining information better related to risk and (b) reconsidering the required reporting times in relation to the need for prompt NRC action. For example, there is some confusion and controversy about what must be reported as a condition outside the plant's design basis. In another example, the requirement to report actuation of any engineered safety feature (ESF) sometimes requires reporting for systems and/or events with minimal risk significance. The staff will publish an advanced notice of proposed rulemaking (ANPR) and conduct a public workshop to obtain substantial public input before drafting a proposed rule to address these areas.

These matters are discussed further in Attachment 1.

2. Provide the Office of the General Counsel's (OGC) legal analysis of the rulemaking.

This analysis is provided below.

The Staff proposes to institute notice and comment rulemaking to address four specific areas of concern (set forth on p. 2 of the Attachment) and potentially address five other subject matters (set forth on pp. 2-3 of the Attachment).

The primary legal issue is backfitting. OGC has taken the position that changes to record-keeping and reporting requirements are not subject to the Backfit Rule, see SECY 93-086, p. 2 (April 1, 1993), a position with which the Commission has not expressed its disagreement, see June 30, 1993 SRM. Since the proposed rulemaking is addressed solely to information collection and reporting requirements, the proposed rulemaking would not require a backfit analysis (although a regulatory analysis would have to be performed which addresses many of the same issues as a backfit analysis).

The second area of concern is with respect to overall increases in burden and compliance with the Paperwork Reduction Act of 1995. The Act requires the Director of OMB to set annual agency goals for reducing information collection burdens in accordance with the schedule and goals established in the Act. Thus, we support the Staff proposal to closely review the current, rather extensive data collection and reporting requirements in Sections 50.72 and 50.73 for the purpose of identifying information collections/reporting requirements which are unnecessary to achieving the agency's goals under a risk-informed⁽⁴⁾ regulatory regime, so that they may be removed from Section 50.72 and 50.73 as part of this rulemaking.

3. Provide the basis for believing that the rulemaking will be cost-effective and will meet backfit rule criteria, where appropriate.

The rulemaking is expected to be cost-effective because it is expected to improve the reactor event reporting process without a net increase in the industry's reporting burden or the NRC's review costs. The improvements will be obtained by (1) correcting weaknesses in the current rules, including reducing the reporting burden associated with events of little or no safety significance, and (2) better aligning the rules with the Nuclear Regulatory Commission's current needs, including (a) obtaining information better related to risk and (b) reconsidering the required reporting times in relation to the need for prompt NRC action. The backfit rule criteria do not apply because the scope of the rulemaking is limited to information gathering requirements.

4. Indicate whether any known Agreement State problems exist.

The staff does not believe that any Agreement State problems exist because the proposed rule would only involve reports concerning events at power reactors.

5. Identify supporting documents.

Supporting documents include:

- a. Draft regulatory analyses, to be prepared in conjunction with the proposed rules.
- b. Draft regulatory guidance, to be prepared in conjunction with the rules, in the form of a revision to NUREG-1022

c. Draft OMB clearance package to be prepared in conjunction with the proposed rules

6. Identify resources required to complete and implement the rulemaking.

In order to complete the rulemaking, the Office for Analysis and Evaluation of Operational Data (AEOD) estimates that it will devote about 2 FTE to the rulemaking effort during the next 24 months. OGC, the Office of Nuclear Reactor Regulation (NRR), the Office of Nuclear Regulatory Research (RES), and the four regional offices are expected to devote a total of about 2 FTE among them during the same period. The revised reporting requirements are not expected to increase the effort expended by the NRC in reviewing reactor events. Specific resource estimates will be addressed in the regulatory analyses which are yet to be performed.

7. Indicate whether the sponsoring office recommends that the Executive Director for Operations (EDO) issue the rulemaking under the rulemaking authority delegated to the EDO by the Commission.

AEOD does not recommend that the EDO issue the resulting rule under the rulemaking authority delegated to the EDO by the Commission.

8. Identify the lead office staff and staff of participating offices, including the office representatives and an alternate, who will be involved in the rulemaking process.

AEOD will be the lead office in this rulemaking effort. Dennis Allison, 415-6835, will serve as the AEOD project manager for these rules. The alternate will be Bennett Brady, 415-6363.

Other offices, including NRR, RES, and the regional offices, will designate office representatives and alternates to provide input and review working drafts to help ensure that the rulemaking packages are ready for office concurrence when they are forwarded for that purpose.

9. Identify, if appropriate, members of a steering group or working group.

The staff does not plan to use a formal steering group or working group format to develop the contemplated rules. The office representatives discussed above will constitute an informal working group to provide input and review working drafts to help ensure that the rulemaking packages are ready for office concurrence when they are forwarded for that purpose.

10. Consider whether enhanced public participation should be employed in the rulemaking process and also describe special measures or procedures, to be employed (e.g., whether the rulemaking is a direct final rule or a negotiated rulemaking).

The staff will publish an advanced notice of proposed rulemaking (ANPR) and conduct a public workshop to obtain substantial public input before drafting a proposed rule.

11. Include schedules for preparing supporting information and completing the proposal and comments process.

The current schedule is provided in Attachment 2.

COORDINATION:

OGC has reviewed this paper and has no legal objections. The Office of the Chief Information Officer has reviewed the proposed rulemaking plan for information technology and information management implications and concurs in it. The resources to complete and implement this rulemaking have been coordinated with each office and are within each offices' respective budgets. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

RECOMMENDATIONS:

That the Commission note that, unless otherwise directed:

(1) I intend to direct the staff to implement the proposed rulemaking plan ten working days after the date of this paper.

(2) In accordance with Management Directive 6.3, ADM will make this information available to the advisory committees, to the NRC staff through the internal NRC rulemaking bulletin board, and to the Agreement States through the external rulemaking bulletin board.

CONTACT: Dennis P. Allison (DPA),
AEOD/SPD/RRAB
(301) 415-6835

Attachments 1. Regulatory Issues and Preliminary Concept of Actions Needed
: 2. Schedule

Attachment 1

**REGULATORY ISSUES AND PRELIMINARY CONCEPT OF ACTIONS NEEDED
EXISTING REGULATORY FRAMEWORK:**

The current event reporting requirements in 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," and 50.73, "Licensee event report system," are summarized in Table 1 at the end of this attachment.⁽²⁾

Section 50.72 has been in effect, with minor modifications, since 1983. Its essential purpose is "... to provide the Commission with immediate reporting of twelve types of significant events where immediate Commission action to protect the public health and safety may be required or where the Commission needs timely and accurate information to respond to heightened public concern."⁽³⁾ As described in Table 1 at the end of this attachment, defined events are reported by telephone in the following time frames:

- Declaration of an emergency class is reported immediately after notification of appropriate State or local agencies and not later than 1-hour after declaration.
- Non-emergency, 1-hour events are reported as soon as practical and in all cases within 1 hour of occurrence.
- Non-emergency, 4-hour events are reported as soon as practical and in all cases within 4 hours of occurrence.
- Section 50.73 has also been in effect, with minor modification, since 1983. Its essential purpose is to identify "... the types of reactor events and problems that are believed to be significant and useful to the NRC in its effort to identify and resolve threats to public safety. It is designed to provide the information necessary for engineering studies of operational anomalies and trends and patterns analysis of operational occurrences. The same information can be used for other analytic procedures that will aid in identifying accident precursors."⁽⁴⁾ As described in the summary table at the end of this attachment, defined events are reported, in writing, within 30 days of discovery.

ISSUES:

Experience has shown a need for change in several areas to: (1) correct weaknesses in the current rules, including reducing the reporting burden associated with events of little or no safety significance, and (2) better align the rules with the NRC's current needs, including (a) obtaining information better related to risk and (b) reconsidering the required reporting times in relation to the need for prompt NRC action. Some examples of items under consideration for review are provided below.

1. *One-hour time limit for reporting conditions outside the plant's design basis.* Section 50.72 requires reporting a condition outside the plant's design basis within 1 hour of occurrence. Many of these events involve engineering evaluations rather than operational occurrences. These types of events are difficult to analyze and report on a short time frame and to the best of our knowledge, they have not involved an *immediate* need for NRC action to protect public safety or information to address heightened public concern.
2. *Reporting of missed or late equipment surveillance tests.* Section 50.73 requires reporting a condition or operation prohibited by the plant's technical specifications (T.S.). This leads, in some cases, to reporting events that consist solely of missed or late surveillance tests. That is, when the oversight is corrected and the equipment is tested it is still functional. These events have proven to be of little or no risk-significance when the equipment is found to be functional and no systematic breakdown of compliance with the T.S. is involved.
3. *Reporting of events that result in actuation of any ESF.* The current requirement is to report "Any event or condition that results in a manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS) except when" This leads to confusion and variability in reporting because there are varying definitions of what constitutes an ESF. It also leads to reporting for systems of little risk-significance, such as reactor building closed cooling water system (RBCCW) isolation.
4. *Reporting conditions outside the plant's design basis.* There has been some confusion and controversy about the meaning of the requirement to report conditions outside the design basis of the plant. For instance, design basis information often provides both lower level and higher level design bases, and there is not general agreement about which level should trigger a report to the NRC. In one example, the Final Safety Analysis Report (FSAR) stated that a building design basis is as follows: pressure relief panels will relieve at about 45 psf in order to ensure that building pressure does not exceed its design pressure of 80 psf. When it was found that the panel would not relieve at 45 psf but 80 psf was still met, controversy ensued within the staff as well as between the staff and licensee regarding whether a report was required.

PRELIMINARY CONCEPT OF ACTIONS NEEDED TO RESOLVE THE ISSUES:

Generally, 10 CFR 50.72 and 50.73 would be revised to (1) correct weaknesses in the current rules, including reducing the reporting burden associated with events of little or no safety significance, and (2) better align the rules with the NRC's current needs, including (a) obtaining information better related to risk and (b) reconsidering the required reporting times in relation to the need for prompt NRC action. The staff would publish an advanced notice of proposed rulemaking (ANPR) and conduct a public workshop to obtain substantial public input before drafting a proposed rule. Issues to be considered would include the following.

1 Whether and how the NRC should revise the requirement to report ESF actuations in order to focus on risk-significant systems and/or events. For example, should the rule be revised to drop systems that are not risk-significant such as RBCCW isolation? Should the rule be revised to add systems that are risk-significant such as reactor core isolation cooling (RCIC) and anticipated transient without scram (ATWS) mitigation systems?

2 Whether and how the NRC should revise the requirement to report conditions outside the design basis of the plant in order to make it clear what is to be reported. For example, should the rule be revised to state clearly whether the reporting requirement applies only to design bases in the FSAR? Also should the rule be revised to state clearly whether the reporting requirement applies to the design objective or subordinate design basis information? Should the rule be revised to provide different required reporting times for various types of conditions outside the design basis?

3 Whether and how the NRC should revise the time limits for reporting various types of events to better correspond to the NRC's needs. For example:

(a Should the requirement to report within 1 hour be limited to events that involve either (1) the declaration of an emergency class or (2) an emergency deviation from the plant's T.S. authorized pursuant to 10 CFR 50.54(x)? (It currently includes several other types of events, such as initiation of a shutdown required by the plant's technical specifications. However, experience indicates that events significant enough to warrant activation of the NRC Operations Center involve emergencies.)

(b Should the time limit for 4-hour reports be relaxed to 8 hours?

(c Should the time limit for reporting some types of 4-hour events be relaxed to 30 days?

4. Whether and how the NRC should revise other elements of the rules to better align them with the NRC's needs in view of its current programs, including the move toward risk-informed regulation, and in view of other sources of information currently available such as Equipment Performance and Information Exchange (EPIX) and Safety System Performance Indicator (SSPI) data.⁽⁵⁾ For example, should the rule be revised to provide additional data regarding human performance to better support analysis of human error probabilities? Should the rule be revised to provide additional data regarding the status of equipment during shutdown events to better support an assessment of the risk implications of these events? Should the rules be revised to provide additional data regarding external event initiators?

5. Whether and how the NRC should evaluate electronic forms of reporting that could more efficiently and with better consistency focus reports to capture safety- and risk-significant information.

Table 1
Summary of Reporting Requirements 10 CFR 50.72 and 50.73

Event or Condition	ENS notification as soon as practical and in all cases within 1 hour	ENS notification as soon as practical and in all cases within 4 hours	30-day LER	NUREG 1022 Sect.
EMERGENCY CLASS	Immediately after notification of State and local authorities, but no later than 1 hour after declaration of emergency class defined in licensee's emergency plan [50.72(a)(1),(a)(2),(a)(3) and (a)(4)]		Note-Although not specifically mentioned in 10 CFR 50.73, many emergency class events involve reportable situations	3.1.1
TECHNICAL SPECIFICATIONS (TS):	Initiation of S/D required by TS [50.72(b)(1)(I)(A)]		Completion of S/D required by TS [50.73(a)(2)(I)(A)]	3.2.1 3.2.2
Plant shutdown (S/D) required by TS	Deviation from TS authorized by 50.54(x) [50.72(b)(1)(I)(B)]		Operation or condition prohibited by TS [50.73(a)(2)(I)(B)]	3.2.3
TS prohibited operations or conditions			Criterion [50.73(a)(2)(I)(C)]	
TS deviation authorized by 50.54(x)			same as ENS 1 hour	
DEGRADED CONDITION; UNANALYZED CONDITION, OUTSIDE DESIGN BASIS, NOT COVERED BY PROCEDURES:	During operation, serious degradation of plant including its principal safety barriers [50.72(b)(1)	Found while shut down; had it been found in operation, would have been seriously degraded [50.72(b)(2)(I)]	Either in operation or S/D, condition of plant, including principal safety barriers, seriously degraded [50.73(a)(2)(ii)]	3.2.4, 3.3.1
Plant, including its principal safety barriers, seriously degraded				
Event or Condition	ENS notification as soon as practical and in all cases within 1 hour	ENS notification as soon as practical and in all cases within 4 hours	30-day LER	NUREG 1022 Sect.

DEGRADED...(CON

TINUED):	During operation, plant	Found while shut	Either in operation or	3.2.4,
Plant in unanalyzed	in unanalyzed	down; had it been	S/D,	3.3.1
condition significantly	condition, significantly	found in operation,	unanalyzed condition	3.2.4,
compromising plant	compromising plant	would have been	significantly	3.3.1
safety	safety	unanalyzed condition	compromising plant	3.2.4,
Plant outside design	[50.72(b)(1)(ii)(A)]	that significantly	safety	3.3.1
basis of plant	During operation, plant	compromises plant	[50.73(a)(2)(ii)(A)]	
Plant in condition not	in condition outside	safety [50.72(b)(2)(I)]	While either in	
covered by operating	design basis		operation or S/D, plant	
and emergency	[50.72(b)(1)(ii)(B)]		was in condition	
procedures	During operation, plant		outside design basis	
	in condition not		[50.73(a)(2)(ii)(B)]	
	covered by operating		While either in	
	and emergency		operation or S/D, plant	
	procedures		was in condition not	
	[50.72(b)(1)(ii)(C)]		covered by operating	
			and emergency	
			procedures	
			[50.73(a)(2)(ii)(C)]	

EXTERNAL	Any natural		Criterion	3.2.5
THREAT TO PLANT	phenomenon or other		[50.73(a)(2)(iii)] same	
SAFETY	external condition that		as ENS 1 hour	
	poses an actual threat			
	to the safety of the			
	plant or significantly			
	hampers site personnel			
	in performance of			
	duties necessary for its			
	safe operation			
	[50.72(b)(1)(iii)]			

EMERGENCY	A valid ECCS signal	Manual or automatic	Criterion	3.2.6,
CORE COOLING	that results, or should	actuation of any ESF,	[50.73(a)(2)(iv)]	3.3.2
SYSTEM (ECCS)	have resulted, in ECCS	including the reactor	encompasses both	
DISCHARGE;	discharge into the	protection system	ENS 1 hour and 4	
ACTUATION OF	reactor coolant system	(RPS), occurs and was	hours	
ANY ENGINEERED	[50.72(b)(1)(iv)]	not preplanned as part		
SAFETY (ESF)		of a test or reactor		
		operation		
		[50.72(b)(2)(ii)]		

Event or Condition	ENS notification as	ENS notification as	30-day LER	NUREG
	soon as	soon as		1022
	practical and in all	practical and in all		Sect.
	cases	cases		
	within 1 hour	within 4 hours		

EVENT THAT ALONE COULD HAVE PREVENTED FULFILLMENT OF A SAFETY FUNCTION

Event or condition alone would have prevented fulfillment of safety function of system needed for S/D of the reactor, maintenance of a safe S/D condition, residual heat removal (RHR), control of release of radioactive material, or mitigation of the consequences of an accident
[50.72(b)(2)(iii)]

Criterion [50.73(a)(2)(v)] same as ENS 4 hours. Need not report individual component failures under this paragraph if redundant equipment in same system was operable and available
[50.73(a)(2)(vi)]

3.3.3

COMMON CAUSE OR CONDITION RESULTING IN INDEPENDENT TRAINS OR CHANNELS BECOMING INOPERABLE

Single cause or condition caused inoperability of at least one independent train or channel in multiple systems or two independent trains and channels in a single system designed for safe S/D, RHR, radiation release control, or accident mitigation
[50.73(a)(2)(vii)]

3.3.4

RADIOACTIVE RELEASES:
Airborne radioactivity releases

Airborne radioactivity released to an unrestricted area exceeds 20x the concentration specified in 10 CFR 20, Appendix B, Table 2, averaged over 1 hour
[50.72(b)(2)(iv)(A)]

Criterion [50.73(a)(2)(viii)(A)] same as ENS 4 hours.

3.3.5

Event or Condition

ENS notification as soon as practical and in all cases within 1 hour

ENS notification as soon as practical and in all cases within 4 hours

30-day LER

NUREG 1022 Sect.

RELEASES (CONTINUED): Liquid effluent releases		Liquid effluent released to an unrestricted area exceeds 20x the concentration specified in 10 CFR 20, Appendix B, Table 2, for all radionuclides except tritium and dissolved noble gases, averaged over 1 hour [50.72(b)(2)(iv)(B)].	Criterion [50.73(a)(2)(viii)(B)] same as ENS 4 hours.	3.3.5
INTERNAL THREAT TO PLANT SAFETY	Any event that poses an actual threat to the safety of the plant or significantly hampers site personnel in the conduct of safe operation [50.72(b)(1)(vi)]		Criterion [50.73(a)(2)(x)] same as ENS 1 hour	3.2.8
LOSS OF EMERGENCY ASSESSMENT, OFFSITE RESPONSE, OR COMMUNICATIONS CAPABILITY	A major loss of capability occurs for emergency assessment, offsite response, or communications [50.72(b)(1)(v)]			3.2.7
TRANSPORT OF CONTAMINATED PERSON TO OFFSITE MEDICAL FACILITY		A radioactively contaminated person is transported to an offsite medical facility [50.72(b)(2)(v)]		3.3.6
Event or Condition	ENS notification as soon as practical and in all cases within 1 hour	ENS notification as soon as practical and in all cases within 4 hours	30-day LER	NUREG 1022 Sect.

NEWS RELEASE/OTHER GOVERNMENT NOTIFICATIONS	A news release is planned or other government agencies have been or will be notified of an event related to the health and safety of the public or onsite personnel, or the protection of the environment [50.72(b)(2)(vi)]	3.3.7
DEGRADED SPENT FUEL STORAGE CASK OR CONFINEMENT SYSTEM	A defect in any spent fuel storage cask structure, system, or component that is important to safety [50.72(b)(2)(vii)(A)]. A significant reduction in the effectiveness of any spent fuel storage cask confinement system during use of the storage cask under a general licensee issued under 10 CFR 72.210 [50.72(b)(2)(vii)(B)]	3.3.8

Follow up Notification (Section 3.4):

After making a 1-hour or 4-hour notification, licensees are required to immediately notify the NRC Operations Center if any of the following occur:

- plant conditions worsen [50.72(c)(1)(I)], emergency classification changed [50.72(c)(1)(ii)], or emergency class terminated [50.72(c)(1)(iii)];
- the results of ensuing evaluations or assessments of plant conditions are obtained [50.72(c)(2)(I)];
- the effectiveness of response or protective measures taken becomes known [50.72(c)(2)(ii)];
- information related to plant behavior is not understood [50.72(c)(2)(iii)];

In addition, if requested by the NRC, maintain an open, continuous communication channel with the NRC Operations Center [50.72(c)(3)].

Attachment 2

SCHEDULE

- 2/27/98 Obtain EDO approval and forward rulemaking plan to Commission for negative consent
- 3/20/98 Provide ANPR to rulemaking group for comment
- 4/24/98 Provide ANPR to formal concurrence chain
- 5/29/98 Provide ANPR to CRGR and ACRS

7/10/98 Complete briefing of CRGR and ACRS

7/24/98 Publish ANPR in *Federal Register*

8/21/98 Conduct public workshop to discuss ANPR

9/18/98 Receive public comments on ANPR

10/16/98 Provide proposed rule package to rulemaking group for comment

11/27/98 Provide proposed rule package to formal concurrence chain

1/8/99 Provide proposed rule package to CRGR and ACRS

2/5/99 Complete briefing of CRGR and ACRS

2/26/99 Provide proposed rule package to Commission

4/2/99 Publish proposed rule

5/2/99 Initial public comments due to OMB (with copies to NRC) 30 days after publication

6/1/99 Receive OMB approval, 60 days after publication

6/15/99 Public comments due to NRC, 75 days after publication

7/2/99 Provide final rule package to rulemaking group for comment

8/13/99 Provide final rule package to formal concurrence chain

9/17/99 Provide final rule package to CRGR and ACRS

11/5/99 Complete briefing of CRGR and ACRS

11/26/99 Provide final rule package to Commission

1/7/00 Publish final rule

1. Thus, removing information collection requirements which are unnecessary to a risk-informed regulatory regime should result in removal of information collection requirements which are not essential for either the current deterministically-based regulatory oversight or risk-informed regulatory oversight.

2. Further discussion and staff guidance on implementing the requirements is provided in NUREG-1022, Revision 1, *Event Reporting Guidelines*, 10 CFR 50.72 and 50.73.

3. 48 FR 39039, August 29, 1983

4. 48 FR 33851, July 26, 1983

5. Certain reports required by the LER rule, such as spurious actuation of an ESF, are used by the NRC staff to work around difficulties involved in using EPIX and SSPI data to develop estimates of reliability parameters. Such reports would not be proposed for deletion.