

AUG 24 1983

The Honorable Alan Simpson, Chairman
Subcommittee on Nuclear Regulations
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

FOIA-86-729
C/87

Dear Mr. Chairman:

Enclosed for your information is a copy of a notice of rulemaking to be published in the Federal Register.

The Nuclear Regulatory Commission is publishing a rule that amends its regulations which require timely and accurate information from licensees following significant events at licensed commercial nuclear power plants. The amended regulation (10 CFR 50.72) will clarify the list of reportable events and provide the Commission with more useful reports regarding the safety of operating nuclear power plants.

As part of this rulemaking, the Commission is also promulgating an amendment to 10 CFR 50.54, "Conditions of Licenses," in order to satisfy the intent of Congress as expressed in Section 201 of the Nuclear Regulatory Commission Authorization Act for Fiscal Year 1980 (Pub. L. 96-295.) This amendment would make the notification requirements of 10 CFR 50.72 a condition of each license for operating commercial nuclear power plants.

Sincerely,

***Original Signed By**
R. C. DeYoung*

Richard C. DeYoung, Director
Office of Inspection and Enforcement

Enclosure:
Notice of Rulemaking

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IDENTICAL LETTER SENT TO:
The Honorable Richard L. Ottinger
The Honorable Mike Synar
The Honorable Morris K. Udall

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FEDERAL REGISTER NOTICE

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

Immediate Notification Requirements of Significant Events
At Operating Nuclear Power Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations which require timely and accurate information from licensees following significant events at commercial nuclear power plants. Experience with existing requirements and public comments on a proposed revision of the rule indicate that the existing regulation should be amended to clarify reporting criteria and to require early reports only on those matters of value to the exercise of the Commission's responsibilities. The amended regulation will clarify the list of reportable events and provide the Commission with more useful reports regarding the safety of operating nuclear power plants.

EFFECTIVE DATE: January 1, 1984.

FOR FURTHER INFORMATION CONTACT: Eric W. Weiss, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555; Telephone (301) 492-4973.

SUPPLEMENTARY INFORMATION:

I. BACKGROUND

On February 29, 1980, the Commission amended its regulations without prior notice and comment to require timely and accurate licensee reporting of information following significant events at operating nuclear power reactors (45 FR 13434). The purpose of the rule was 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 accurate and timely information to respond to heightened public concern. Although the rule was made immediately effective, comments were solicited. Many commenters believed the rule was in some respects either vague and ambiguous or overly broad.

After obtaining experience with notifications required by the rule, the Commission published in the Federal Register a notice of proposed rulemaking on December 21, 1981 (46 FR 61894) and invited public comment. The proposal was made to meet two objectives: change 10 CFR 50.54 to implement Section 201 of the NRC's 1980 Fiscal Year Authorization Act and change 10 CFR 50.72 to more clearly specify the significant events requiring licensees to immediately notify NRC.

The problems and issues which this rulemaking addresses and the solutions that it provides can be summarized in five broad areas:

1. Authorization Act for FY80

Section 201 of the Nuclear Regulatory Commission Authorization Act for Fiscal Year 1980 (Pub. L. 96-295) provides:

"(a) Section 103 of the Atomic Energy Act of 1954 is amended by adding at the end thereof the following new subsections:
"f. Each license issued for a utilization facility under this section or section 104b. shall require as a condition thereof that in case of any accident which could result in an unplanned release of quantities of fission products in excess of allowable limits for normal operation established by the Commission, the licensee shall immediately so notify the Commission. Violation of the condition prescribed by this subsection may, in the Commission's discretion, constitute grounds for license revocation. In accordance with section 187 of this Act, the Commission shall promptly amend each license for a utilization facility issued under this section or section 104b. which is in effect on the date of enactment of this subsection to include the provisions required under this subsection."

Accordingly, this rulemaking includes an amendment to 10 CFR 50.54 that would add an appropriate notification requirement as a condition in the operating license of each nuclear utilization facility licensed under section 103 or 104b. of the Atomic Energy Act of 1954, as amended, 42 U.S.C. §§2133, 2134b. These facilities generally are the commercial nuclear power facilities which produce electricity for public consumption. Research and test reactors are not subject to the license condition as they are licensed under section 104a. or 104c. of the Act. Under the amendment to 10 CFR 50.54, licensees falling under sections 103 or 104b. would be required, as a condition of their respective operating licenses, to notify the NRC immediately of events specified in 10 CFR 50.72.

2. Unnecessary Reports

Several categories of reports required by §50.72 are not useful to the NRC. Among these categories are reports of: worker injury, small radioactive releases,

and minor security problems. For example, reports are presently required if a worker onsite experiences chest pains or another illness not related to radiation and is sent to a hospital for evaluation; or if the vent stack monitor moves upward a few percent yet radiation levels remain 100,000 times below technical specification limits; or if the security computer malfunctions for a few minutes.

This rulemaking eliminates such reporting requirements from §50.72 and in general clarifies and narrows the scope of reporting. However, revision of Part 73 of the Commission's regulations is necessary to resolve all problems with security reports.

3. Terminology, Phrasing, and Reporting Thresholds

The various sections of 10 CFR 50 have different phrasing, terminology, and thresholds in the reporting criteria. Even when no different meaning is intended a change in wording can cause confusion.

This rulemaking has been carefully written to use terminology, phrasing, and reporting thresholds that are either identical to or similar to those in §50.73, whenever possible. Other conforming amendments to Parts 20, 21, 73, and in §50.55 and Appendix E of Part 50 are under development.

As a parallel activity to the preparation of §50.72, on July 26, 1983, the Commission has published a Licensee Event Report (LER) Rule (§50.73) which requires licensees for operating nuclear power plants to prepare detailed written reports for certain events (48 FR 33850).

4. Coordination with Licensee's Emergency Plan

The current scheme for licensees' emergency plans includes four Emergency Classes. When the licensee declares one of the four Emergency Classes, it must report this to the Commission as required by §50.72. The lowest of the four Emergency Classes, Notification of Unusual Event, has resulted in unnecessary emergency declarations. Events that fall within the Unusual Event class have been neither emergencies in themselves nor precursors of more serious events that are emergencies.

Although changes to the definition of the Emergency Classes are not being made in this rulemaking, a new reporting scheme that would ultimately eliminate "Unusual Event" as an Emergency Class requiring notification can be adopted consistent with this rule. A proposed rulemaking which would redefine the Emergency Classes in §50.47 is in preparation and may soon be published for public comment. This final rulemaking makes possible the elimination of "Unusual Event" as an emergency class without further amendment of §50.72 by including in the category of non-Emergencies the subcategory of "one-hour reports."

5. Vague or Ambiguous Reporting Criteria

The reporting criteria in §50.72 have been revised in order to clarify their scope and intent. The criteria were revised for the proposed rule and in response to public comment. The "Analysis of Comments" portion of this Federal Register notice describes in more detail specific examples of changes in wording intended to eliminate vagueness or ambiguity.

II. ANALYSIS OF COMMENTS

Twenty letters of comment were received in response to the Federal Register notice published on December 21, 1981 (46 FR 61894)¹. Of the twenty letters of comment received, the vast majority (15 of 20) were from utilities owning or operating nuclear power plants. This Federal Register notice described the proposed revision of 10 CFR 50.72, "Notification of Significant Events," and 10 CFR 50.54, "Conditions of Licenses." A discussion of the more significant comments follows:

Conditions of Licenses (§50.54)

A few commenters said that the "Commission already has the ability to enforce its regulations and does not need to incorporate the items as now proposed into conditions of license."

The Commission has decided to promulgate the proposed revision of §50.54, "Conditions of Licenses," in order to satisfy the intent of Congress as expressed in Section 201 of the Nuclear Regulatory Commission Authorization Act for Fiscal Year 1980. This Act and its relationship to §50.54 are discussed in detail in the Federal Register notice for the proposed rule (46 FR 61894).

Coordination with other Reporting Requirements (Final Rule §50.72)

Seven commenters said that the NRC should coordinate the requirements of 10 CFR 50.72 with other rules, with NUREG-0654, "Criteria for Preparation and

¹Copies of these documents are available for public inspection and copying for a fee the NRC Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555

Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Plants," and with Regulatory Guide 1.16, "Reporting of Operating Information..." Many of these letters identified overlap, duplication, and inconsistency among NRC's reporting requirements.

The Commission is making a concerted effort to ensure consistent and coordinated reporting requirements. The requirements contained in the revision of 10 CFR 50.72 are being coordinated with revision of §50.73, §50.55(e), Appendix E of Part 50, §20.402, §73.71, and Part 21.

Citing 10 CFR 50.72 as a Basis for Notification (Final Rule §50.72(a)(4))

A few commenters objected to citing §50.72 as a basis when making a telephone notification. The letters of comment questioned the purpose, legal effect, and burden on the licensee.

The Commission does not believe that it is an unnecessary burden for a licensee to know and identify the basis for a telephone notification required by §50.72. There have been many occasions when a licensee could not tell the NRC whether the telephone notification was being made in accordance with Technical Specifications, 10 CFR 50.72, some other requirement, or was just a courtesy call. Unless the licensee can identify the nature of the report, it is difficult for the NRC to know what significance the licensee attaches to the report, and it becomes more difficult for the NRC to respond quickly and properly to the event.

Immediate Shutdown (Final Rule §50.72(b)(1)(i))

Several commenters objected to the use of the term, "immediate shutdown," saying that Technical Specifications do not use such a term.

The term is used in some but not all Technical Specifications. Consequently, the Commission has revised the reporting criterion in question. The final rule requires a report upon the initiation of any nuclear power plant shutdown required by Technical Specifications.

Plant Operating and Emergency Procedures (Final Rule §50.72(b)(1)(ii))

Several commenters said that the reporting criteria should not make reference to plant operating and emergency procedures because:

- a. It would take operators too long to decide whether a plant condition was covered by the procedures,
- b. The procedures cover events that are not of concern to the NRC, and
- c. The procedures vary from plant to plant.

While the plant operating personnel should be familiar with plant procedures, it is true that procedures vary from plant to plant and cover events other than those which compromise plant safety. However, the wording of the reporting criteria has been modified (§50.72(b)(1)(ii) in the final rule) to narrow the reportable events to those that significantly compromise plant safety. Notwithstanding the fact that the procedures vary from plant to plant, the Commission has found that this criterion results in notifications indicative of serious events. The narrower, more specific wording will make it possible for plant operating personnel to identify reportable events under their specific operating procedures.

Building Evacuation (Final Rule §50.72(b)(1)(iii))

Ten commenters said that the proposed §50.72(b)(6)(iii) regarding "any accidental, unplanned or uncontrolled release resulting in evacuation of a building" was unclear and counterproductive in that it could cause reluctance to evacuate a building. Many of these commenters stated that the reporting of in-plant releases of radioactivity that require evacuation of individual rooms was inconsistent with the general thrust of the rule to require reporting of significant events. They noted that minor spills, small gaseous waste releases, or the disturbance of contaminated particulate matter (e.g., dust) may all require the temporary evacuation of individual rooms until the airborne concentrations decrease or until respiratory protection devices are utilized. They noted that these events are fairly common and should not be reportable unless the required evacuation affects the entire facility or a major part of it.

The Commission agrees. The wording of this criterion has been changed to include only those events which significantly hamper the ability of site personnel in performance of duties necessary for safe operation.

One commenter was concerned that events occurring on land owned by the utility adjacent to its plant might be reportable. This is not the intent of this reporting requirement. The NRC is concerned with the safety of plant and personnel on the utility's site and not with non-nuclear activities on land adjacent to the plant.

Explicit Threats (Final Rule §50.72 (b)(1)(vi))

A few commenters said that the intent of the term, "explicitly threatens," was unclear. Those commenting wondered what level of threat was involved. The

term, "explicitly threatens," has been deleted from the final rule. Instead, the final rule refers to "any event that poses an actual threat to the safety of the nuclear power plant" [§50.72(b)(1)(vi)] and gives examples so that it is clear the Commission is interested in real or actual threats as opposed to threats without credibility.

Notification Timing (Final Rule §50.72(b)(2))

The commenters generally had two points to make regarding the timing of reports to the NRC. First, the comments supported notification of the NRC after appropriate State or local agencies have been notified. Second, two commenters requested a new four-to six-hour report category for events not warranting a report with one hour.

Allowing more time for reporting some non-Emergency events would lessen the impact of reporting on the individuals responsible for maintaining the plant in a safe condition. Limiting the extension of the deadline to four hours ensures that the report is made when the information is fresh in the minds of those involved and that it is more likely to be made by those involved rather than by others on a later shift.

Other, more significant non-Emergency events and all declarations of an Emergency must continue to be reported within one hour. The one-hour deadline is necessary if the Commission is to fulfill its responsibilities during and following the most serious events occurring at operating nuclear power plants. A deadline shorter than one hour was not adopted because the Commission does not want to interfere with the operator's ability to deal with an accident or transient in the first few critical minutes.

Therefore, based on these comments and its experience, the NRC has established a "four-hour report," as was suggested.

Reactor Scrams (Final Rule §50.72(b)(2)(ii))

Several commenters said that reactor scrams, particularly, those scrams below power operation, should not require notification of the NRC within one hour.

In response to these comments, the Commission has changed the reporting deadline to four hours. However, the Commission does not regard reactor scrams as "non-events," as stated in some letters of comment. Information related to reactor scrams has been useful in identifying safety-related problems. The Commission agrees that four hours is an appropriate deadline for this reporting requirement because these events are not as important to immediate safety as are some other events.

Radioactive Release Threshold (Final Rule §50.72(b)(2)(iv))

Several commenters said that the threshold of 25% of allowable limits for radioactive releases was too low for one-hour reporting.

Based upon these comments and its experience, the Commission has changed the threshold of reporting to those releases exceeding two times Part 20 concentrations when averaged over a period of one hour. This will eliminate reports of releases that represent negligible risk to the public.

The Commission has found that low level radioactive releases below two times Part 20 concentrations do not, in themselves, warrant immediate radiological response.

This paragraph requires the reporting of those events that cause an unplanned or uncontrolled release of a significant amount of radioactive material to offsite areas. Unplanned releases should occur infrequently; however, when they occur, at least moderate defects have occurred in the safety design or operational control established to avoid their occurrence and, therefore, these events should be reported.

Personnel Radioactive Contamination (Final Rule §50.72(b)(2)(v))

Several commenters objected to the use of vague terms such as "extensive onsite contamination" and "readily removed" in one of the reporting criteria of the proposed rule.

Based on this comment, new criteria have been prepared that use more specific terms. For example, one new criterion requires reporting of "Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment." Experience with telephone notifications made to the NRC Operations Center suggests that this new criterion will be easily understood.

III. PARAGRAPH-BY-PARAGRAPH EXPLANATION OF THE RULE

Paragraph 50.72(a) reflects some consolidation of language that was repeated in various subparagraphs of the proposed rule. In general, the intent and scope of this paragraph do not reflect any change from the proposed rule.

Several titles were added to this and subsequent sections. For example, paragraph 50.72(b) is titled "Non-Emergency Events" and it has two subparagraphs: (b)(1), titled, "One-Hour Reports" and (b)(2), "Four-Hour Reports." The events which have a one-hour deadline are those having the potential to escalate to an Emergency Class. The four-hour deadline is explained in the analysis of paragraph(b)(2).

Paragraph 50.72 (b)(1)(i)(A) requires reporting of "The initiation of any nuclear plant shutdown required by Technical Specifications." Although the intent and scope have not changed, the change in wording between the proposed and final rule is intended to clarify that prompt notification is required once a shutdown is initiated.

In response to public comment, the term "immediate shutdown" that was used in the proposed rule is not used in the final rule. The term was vague and unfamiliar to those licensees who did not have Technical Specifications using the term.

This reporting requirement is intended to capture those events for which Technical Specifications require the initiation of reactor shutdown. This will provide the NRC with early warning of safety significant conditions serious enough to warrant shutdown of the plant.

Paragraph 50.72(b)(1)(i)(B) was added to be consistent with existing requirements in §50.54(x) and the existing §50.72(c) as published in the Federal Register on April 1, 1983 (48 FR 13966) which require the licensee to notify the NRC Operations Center by telephone when the licensee departs from a license condition or technical specification.

Paragraph 50.72(b)(1)(ii), encompassing events previously classified as Unusual Events and some events captured by proposed §50.72(b)(1) was added to provide for consistent, coordinated reporting requirements between this rule and 10 CFR 50.73 which has a similar provision. Public comment suggested that there should be similarity of terminology, phrasing, and reporting thresholds between §50.72 and §50.73. The intent of this paragraph is to capture those events where the plant, including its principal safety barriers, was seriously degraded or in

an unanalyzed condition. For example, small voids in systems designed to remove heat from the reactor core which have been previously shown through analysis not to be safety significant need not be reported. However, the accumulation of voids that could inhibit the ability to adequately remove heat from the reactor core, particularly under natural circulation conditions, would constitute an unanalyzed condition and would be reportable. In addition, voiding in instrument lines that results in an erroneous indication causing the operator to misunderstand the true condition of the plant is also an unanalyzed condition and should be reported.

The Commission recognizes that the licensee may use engineering judgment and experience to determine whether an unanalyzed condition existed. It is not intended that this paragraph apply to minor variations in individual parameters, or to problems concerning single pieces of equipment. For example, at any time, one or more safety-related components may be out of service due to testing, maintenance, or a fault that has not yet been repaired. Any trivial single failure or minor error in performing surveillance tests could produce a situation in which two or more often unrelated, safety-grade components are out-of-service. Technically, this is an unanalyzed condition. However, these events should be reported only if they involve functionally related components or if they significantly compromise plant safety. When applying engineering judgement, and there is a doubt regarding whether to report or not, the Commission's policy is that licensees should make the report.

Finally, this paragraph also includes material (e.g., metallurgical or chemical) problems that cause abnormal degradation of the principal safety barriers (i.e., the fuel cladding, reactor coolant system pressure boundary, or the containment). Examples of this type of situation include:

(a) Fuel cladding failures in the reactor, or in the storage pool, that exceed expected values, or that are unique or widespread, or that are caused by unexpected factors, and would involve a release of significant quantities of fission products.

(b) Cracks and breaks in the piping or reactor vessel (steel or prestressed concrete) or major components in the primary coolant circuit that have safety relevance (steam generators, reactor coolant pumps, valves, etc.).

(c) Significant welding or material defects in the primary coolant system.

(d) Serious temperature or pressure transients.

(e) Loss of relief and/or safety valve functions during operation.

(f) Loss of containment function or integrity including:

(i) containment leakage rates exceeding the authorized limits

(ii) loss of containment isolation valve function during tests or operation,

(iii) loss of main steam isolation valve function during test or operation, or

(iv) loss of containment cooling capability.

Paragraph 50.72(b)(1)(iii), encompassing a portion of proposed 50.72(b)(2), was reworded to correspond to a similar provision of 10 CFR 50.73(a)(2)(iii). Making the requirements of 10 CFR 50.72 and 50.73 similar in language increases the clarity of these rules and minimizes confusion.

The paragraph has also been reworded to make it clear that it applies only to acts of nature (e.g., tornadoes) and external hazards (e.g., railroad tank car explosion). References to acts of sabotage have been removed, since these

are covered by §73.71. In addition, threats to personnel from internal hazards (e.g., radioactivity releases) that hamper personnel in the performance of necessary duties are now covered by paragraph 50.72(b)(1)(vi). This paragraph covers those events involving an actual threat to the plant from an external condition or natural phenomenon, and where the threat or damage challenges the ability of the plant to continue to operate in a safe manner (including the orderly shutdown and maintenance of shutdown conditions). The licensee should decide if a phenomenon or condition actually threatens the plant. For example, a minor brush fire in a remote area of the site that is quickly controlled by fire fighting personnel and, as a result, did not present a threat to the plant should not be reported. However, a major forest fire, large-scale flood, or major earthquake that presents a clear threat to the plant should be reported. As another example, an industrial or transportation accident which occurs near the site, creating a plant safety concern, should be reported.

Paragraph 50.72(b)(1)(iv), encompassing events previously classified as Unusual Events, requires the reporting of those events that result in either automatic or manual actuation of the ECCS or would have resulted in activation of the ECCS if some component had not failed or an operator action had not been taken.

For example, if a valid ECCS signal were generated by plant conditions, and the operator were to put all ECCS pumps in pull-to-lock, though no ECCS discharge occurred, the event would be reportable.

A "valid signal" refers to the actual plant conditions or parameters satisfying the requirements for ECCS initiation. Excluded from this reporting requirement would be those instances where instrument drift, spurious signals,

human error, or other invalid signals caused actuation of the ECCS. However, such events may be reportable under other sections of the Commission's regulations based upon other details; in particular, paragraph 50.72(b)(2)(ii) requires a report within four hours if an Engineered Safety Feature (ESF) is actuated.

Experience with notifications made pursuant to §50.72 has shown that events involving ECCS discharge to the vessel are generally more serious than ESF actuations without discharge to the vessel. Based on this experience, the Commission has made this reporting criterion a "One-Hour Report."

Paragraph 50.72(b)(1)(v), encompassing events previously classified as Unusual Events, covers those events that would impair a licensee's ability to deal with an accident or emergency. Notifying the NRC of these events may permit the NRC to take some compensating measures and to more completely assess the consequences of such a loss should it occur during an accident or emergency.

Examples of events that this criterion is intended to cover are those in which any of the following are not available:

1. Safety parameter display system (SPDS).
2. Emergency Response Facilities (ERF's).
3. Emergency communications facilities and equipment including the Emergency Notification system (ENS).
4. Public prompt Notification System including sirens.
5. Plant monitors necessary for accident assessment.

Paragraph 50.72(b)(1)(vi), encompassing some portions of the proposed §§50.72(b)(2) and (6), has been revised to add the phrase, "including fires, toxic gas releases, or radioactive releases." This addition covers the

"evacuation" portion of paragraph 50.72(b)(6)(iii) of the proposed rule. This change in wording for the final rule was made in response to public comments discussed above.

While paragraph 50.72(b)(1)(iii) of the final rule primarily captures acts of nature, paragraph 50.72(b)(1)(vi) captures other events, particularly acts by personnel. The Commission believes this arrangement of the reporting criteria in the final rule lends itself to more precise interpretation and is consistent with those public comments that requested closer coordination between the reporting requirements in this rule and other portions of the Commission's regulations.

This provision requires reporting of events, particularly those caused by acts of personnel, which endanger the safety of the plant or interfere with personnel in performance of duties necessary for safe plant operations.

The licensee must exercise some judgment in reporting under this section. For example, a small fire on site that did not endanger any plant equipment and that did not and could not reasonably be expected to endanger the plant, is not reportable.

Paragraph 50.72(b)(1) of the proposed rule was split into §50.72(b)(1)(ii) and §50.72(b)(2)(i) in the final rule in order to permit some type of reports to be made within four hours instead of one hour because these reports have less safety significance. In terms of their combined effect, the overall intent and scope of these paragraphs have not changed from those in the proposed rule. Since the types of events intended to be captured by this reporting requirement are similar to §50.72(b)(1)(ii), except that the reactor is shut down, the reader should refer to the explanation of §50.72(b)(1)(ii) for more details on intent.

Paragraph 50.72(b)(2)

Although the reporting criteria contained in the subparagraphs of §50.72(b)(2) were in the proposed rule, in response to public comment the Commission established this "Non-Emergency" category for those events with slightly less urgency and less safety significance that may be reported within four hours instead of one hour.

The Commission wants to obtain such reports from personnel who were on shift at the time of the event, when this is possible, because these personnel will have a better knowledge of the circumstances associated with the event. Reports made within four hours of the event should make this possible while not imposing the more rigid more one hour requirements.

The reporting requirement in paragraph 50.72(b)(2)(i) is similar to a requirement in §50.73. Moreover, except for referring to a shutdown reactor, this reporting requirement is also similar to the "One-Hour Report" in §50.72(b)(1)(ii). However this paragraph applies to a reactor in shutdown condition. Events within this requirement have less urgency and can be reported within four hours as a "Non-Emergency."

Paragraph 50.72(b)(2)(ii) (proposed 50.72(b)(5)) is made a "Non-Emergency" in response to public comment, because the Commission agrees that the covered events generally have slightly less urgency and safety significance than those events included in the "One-Hour Reports."

The intent and scope of this reporting requirement have not changed from the proposed rule. This paragraph is intended to capture events during which an ESF actuates, either manually or automatically, or fails to actuate. ESFs are provided to mitigate the consequences of the event; therefore, (1) they

should work properly when called upon and (2) they should not be challenged unnecessarily. The Commission is interested both in events where an ESF was needed to mitigate the consequences of the event (whether or not the equipment performed properly) and events where an ESF operated unnecessarily.

"Actuation" of multichannel ESF Actuation Systems is defined as actuation of enough channels to complete the minimum actuation logic. Therefore, single channel actuations, whether caused by failures or otherwise, are not reportable if they do not complete the minimum actuation logic.

Operation of an ESF as part of a planned test or operational evolution need not be reported. However, if during the test or evolution the ESF actuates in a way that is not part of the planned procedure, that actuation should be reported. For example, if the normal reactor shutdown procedure requires that the control rods be inserted by a manual reactor trip, the reactor trip need not be reported. However, if conditions develop during the shutdown that require an automatic reactor trip, such a reactor trip should be reported. The fact that the safety analysis assumes that an ESF will actuate automatically during an event does not eliminate the need to report that actuation. Actuations that need not be reported are those initiated for reasons other than to mitigate the consequences of an event (e.g., at the discretion of the licensee as part of a planned procedure).

Paragraph 50.72(b)(2)(iii) (proposed 50.72(b)(4)) has been revised and simplified.

The words "any instance of personal error, equipment failure, or discovery of design or procedural inadequacies" that appeared in the proposed rule have been replaced by the words "event or condition." This simplification in language

is intended to clarify what was a confusing phrase to many of those who commented on the proposed rule. Also in response to public comment, this reporting requirement is a "Non-Emergency" to be reported within four hours instead of within one hour.

This paragraph is based on the assumption that safety-related systems and structures are intended to mitigate the consequences of an accident. While paragraph 50.72(b)(2)(ii) applies to actual demands for actuation of an ESF, paragraph 50.72(b)(2)(iii) covers an event where a safety system could have failed to perform its intended function because of one or more personnel errors, including procedure violations; equipment failures; or design, analysis, fabrication, construction, or procedural deficiencies. The event should be reported regardless of the situation or condition that caused the structure or system to be unavailable.

This reporting requirement is similar to one contained in §50.73, thus reflecting public comment identifying the need for closer coordination of reporting requirements between §50.72 and §50.73.

This paragraph includes those safety systems designed to mitigate the consequences of an accident (e.g., containment isolation, emergency filtration). Hence, minor operational events such as valve packing leaks, which could be considered a lack of control of radioactive material, should not be reported under this paragraph. System leaks or other similar events may, however, be reportable under other paragraphs.

This paragraph does not include those cases where a system or component is removed from service as part of a planned evolution, in accordance with an approved procedure, and in accordance with the plant's Technical Specifications.

For example, if the licensee removes part of a system from service to perform maintenance, and the Technical Specifications permit the resulting configuration, and the system or component is returned to service within the time limit specified in the Technical Specifications, the action need not be reported under this paragraph. However, if, while the component is out of service, the licensee identifies a condition that could have prevented the system from performing its intended function (e.g., the licensee finds a set of relays that is wired incorrectly), that condition must be reported.

It should be noted that there are a limited number of single-train systems that perform safety functions (e.g., the High Pressure Coolant Injection System in BWRs). For such systems, loss of the single train would prevent the fulfillment of the safety function of that system and, therefore, must be reported even though the plant Technical Specifications may allow such a condition to exist for a specified length of time. Also, if a potentially serious human error is made that could have prevented fulfillment of a safety function, but recovery factors resulted in the error being corrected, the error is still reportable.

The Commission recognizes that the application of this and other paragraphs of this section involves a technical judgment by licensees. In this case, a technical judgment must be made whether a failure or operator action that disabled one train of a safety system could have, but did not, affect a redundant train. If so, this would constitute an event that "could have prevented" the fulfillment of a safety function, and, accordingly, must be reported.

If a component fails by an apparently random mechanism, it may or may not be reportable if the functionally redundant component could fail by the same mechanism. To be reportable, it is necessary that the failure constitute a

condition where there is reasonable doubt that the functionally redundant train or channel would remain operational until it completed its safety function or is repaired. For example, if a pump fails because of improper lubrication, there is a reasonable expectation that the functionally redundant pump, which was also improperly lubricated, would have also failed before it completed its safety function, then the failure is reportable and the potential failure of the functionally redundant pump must be reported.

Interaction between systems, particularly a safety system and a non-safety system, is also included in this criterion. For example, the Commission is increasingly concerned about the effect of a loss or degradation of what had been assumed to be nonessential inputs to safety systems. Therefore, this paragraph also includes those cases where a service (e.g., heating, ventilation, and cooling) or input (e.g., compressed air) which is necessary for reliable or long-term operation of a safety system is lost or degraded. Such loss or degradation is reportable, if the proper fulfillment of the safety function is not or can not be assured. Failures that affect inputs or services to systems that have no safety function need not be reported.

Finally, the Commission recognizes that the licensee have to decide when personnel actions could have prevented fulfillment of a safety function. For example, when an individual improperly operates or maintains a component, that person might conceivably have made the same error for all of the functionally redundant components (e.g., if an individual incorrectly calibrates one bistable amplifier in the Reactor Protection System, that person could conceivably incorrectly calibrate all bistable amplifiers). However, for an event to be reportable it is necessary that the actions actually affect or involve components

in more than one train or channel of a safety system, and the result of the actions must be undesirable from the perspective of protecting the health and safety of the public. The components can be functionally redundant (e.g., two pumps in different trains) or not functionally redundant (e.g., the operator correctly stops a pump in Train "A" and, instead of shutting the pump discharge valve in Train "A," he mistakenly shuts the pump discharge valve in Train "B").

Paragraphs 50.72(b)(2)(iv) (proposed 50.72(b)(6)) has been changed to clarify the requirement to report releases of radioactive material. The paragraph is similar to §20.403 but places a lower threshold for reporting events at commercial power reactors. The lower threshold is based on the significance of the breakdown of the licensee's program necessary to have a release of this size, rather than on the significance of the impact of the actual release. The existing licensee radioactive material effluent release monitoring programs and their associated assessment capabilities are sufficient to satisfy the intent of 50.72(b)(2)(iv).

Based upon public comment and a reevaluation by the Commission staff, the reporting threshold has been changed from "25%" in the proposed rule to "2 times" in the final rule and has been reclassified as a "Non-Emergency" to be reported within four hours instead of within 1 hour.

Also this reporting requirement has been changed to make a more uniform requirement by referring to specific release criteria instead of referring only to Technical Specifications that may vary somewhat among facilities.

This reporting requirement is intended to capture those events that may lead to an accident situation where significant amounts of radioactive material

could be released from the facility. Unplanned releases should occur infrequently; however, if they occur at the levels specified, at least moderate defects have occurred in the safety design or operational control established to avoid their occurrence and, therefore, such events should be reported.

Normal operating limits for radioactive effluent releases are based on the limits of 10 CFR Part 20 which establishes maximum annual average concentrations in unrestricted areas. This reporting requirement addresses concentrations averaged over a one hour period and represents less than 0.1% of the annual quantities of radioactive materials permitted to be released by 10 CFR Part 20.

Paragraph 50.72(b)(2)(v) (proposed rule 50.72(b)(7)) has three changes. The first eliminates the phrase "occurring onsite" because it is implied by the scope of the rule. The second replaces "injury involving radiation" with "radioactively contaminated person." This change was made because of the difficulty in defining injury due to radiation, and more importantly, because 10 CFR Part 20 captures events involving radiation exposure.

The third change, in response to public comment, was to make this reporting requirement a four-hour notification, instead of one-hour notification. This change was made because these events have slightly less safety significance than those required to be reported within one hour.

Paragraph 50.72(b)(2)(vi) (not in proposed rule) besides covering some events such as release of radioactively contaminated tools or equipment to the public that may warrant NRC attention, also covers those events that would not otherwise warrant NRC attention except for the interest of the news media, other government agencies, or the public. In terms of its effect on licensees,

this is not a new reporting requirement because the threshold for reporting injuries and radioactive releases was much lower under the proposed rule. This criterion will capture those events previously reported under other criteria when such events require the NRC to respond because of media or public attention.

Paragraph 50.72(c) (proposed 50.72(c)) has remained essentially unchanged from the proposed rule, except for addition of the title "Followup Notification" and some renumbering.

This paragraph is intended to provide the NRC with timely notification when an event becomes more serious or additional information or new analyses clarify an event.

This paragraph also permits the NRC to maintain a continuous communications channel because of the need for continuing follow-up information or because of telecommunications problems.

IV. REGULATORY ANALYSIS

The Commission has prepared a regulatory analysis on this regulation. The analysis examines the costs and benefits of the Rule as considered by the Commission. A copy of the regulatory analysis is available for inspection and copying for a fee at the NRC Public Document Room, 1717 H Street, NW., Washington, D.C. Single copies of the analysis may be obtained from Eric W. Weiss, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone (301) 492-4973.

V. PAPERWORK REDUCTION ACT STATEMENT

The information collection requirements contained in this final rule have been approved by the Office of Management and Budget pursuant to the Paperwork Reduction Act, Pub. L. 96-511 (clearance number 3150-0011).

VI. REGULATORY FLEXIBILITY CERTIFICATION

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605 (b), the Commission hereby certifies that this regulation will not have a significant economic impact on a substantial number of small entities. This final rule affects electric utilities that are dominant in their respective service areas and that own and operate nuclear utilization facilities licensed under sections 103 and 104b. of the Atomic Energy Act of 1954, as amended. The amendments clarify and modify presently existing notification requirements. Accordingly, there is no new, significant economic impact on these licensees, nor do the affected licensees fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or within the Small Business Size Standards set forth in regulations issued by the Small Business Administration at 13 CFR Part 121.

VII. LIST OF SUBJECTS IN 10 CFR PART 50

Antitrust, Classified information, Fire prevention, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors. Penalty, Radiation Protection, Reactor siting criteria, Reporting requirements.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and section 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 50 are published as a document subject to codification.

PART 50 - DOMESTIC LICENSING OF
PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 continues to read as follows:

AUTHORITY: Secs. 103, 104, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2133, 2134, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, 202, 206, 88 Stat. 1242, 1244, 1246, as amended (42 U.S.C. 5841, 5842, 5846), unless otherwise noted.

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Sections 50.58, 50.91 and 50.92 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80-50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Sections 50.100-50.102 also issued under sec. 186, 68 Stat. 955 (42 U.S.C. 2236).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273), §§50.10(a), (b), and (c), 50.44, 50.46, 50.48, 50.54, and 50.80(a) are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§50.10(b) and (c) and 50.54 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§50.55(e), 50.59(b), 50.70, 50.71, 50.72, and 50.78 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

2. A new paragraph (z) is added to §50.54 to read as follows:

§50.54 Conditions of licenses.

* * * * *

(z) Each licensee with a utilization facility licensed pursuant to sections 103 or 104b. of the Act shall immediately notify the NRC Operations Center of the occurrence of any event specified in §50.72 of this part. "

3. Section 50.72 is revised to read as follows:

§50.72 Immediate notification requirements for operating nuclear power reactors.

(a) General Requirements.¹

(1) Each nuclear power reactor licensee licensed under §50.21(b) or §50.22 of this part shall notify the NRC Operations Center via the Emergency Notification System of:

- (i) The declaration of any of the Emergency Classes specified in the licensee's approved Emergency Plan;² or
 - (ii) Of those non-Emergency events specified in paragraph (b) of this section.
- (2) If the Emergency Notification System is inoperative, the licensee shall make the required notifications via commercial telephone service, other dedicated telephone system, or any other method which will ensure that a report is made as soon as practical to the NRC Operations Center.³

¹Other requirements for immediate notification of the NRC by licensed operating nuclear power reactors are contained elsewhere in this chapter, in particular, §20.205, §20.403, §50.36, and §73.71.

²These Emergency Classes are addressed in Appendix E of this Part.

³Commercial telephone number of the NRC Operations Center is (202) 951-0550.

- (3) The licensee shall notify the NRC immediately after notification of the appropriate State or local agencies and not later than one hour after the time the licensee declares one of the Emergency Classes.
- (4) When making a report under paragraph(a)(3) of this section, the licensee shall identify:
 - (i) The Emergency Class declared; or
 - (ii) Either paragraph (b)(1), "One-Hour Report," or paragraph (b)(2), "Four-Hour Report," as the paragraph of this section requiring notification of the Non-Emergency Event.
- (b) Non-Emergency Events.
 - (1) One-Hour Reports. If not reported as a declaration of an Emergency Class under paragraph (a) of this section, the licensee shall notify the NRC as soon as practical and in all cases within one hour of the occurrence of any of the following:
 - (i) (A) The initiation of any nuclear plant shutdown required by the plant's Technical Specifications.
 - (B) Any deviation from the plant's Technical Specifications authorized pursuant to §50.54(x) of this part.
 - (ii) Any event or condition during operation that results in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or results in the nuclear power plant being:
 - (A) In an unanalyzed condition that significantly compromises plant safety;
 - (B) In a condition that is outside the design basis of the plant; or
 - (C) In a condition not covered by the plant's operating and emergency procedures.

- (iii) Any natural phenomenon or other external condition that poses an actual threat to the safety of the nuclear power plant or significantly hampers site personnel in the performance of duties necessary for the safe operation of the plant.
 - (iv) Any event that results or should have resulted in Emergency Core Cooling System (ECCS) discharge into the reactor coolant system as a result of a valid signal.
 - (v) Any event that results in a major loss of emergency assessment capability, offsite response capability, or communications capability (e.g., significant portion of control room indication, Emergency Notification System, or offsite notification system).
 - (vi) Any event that poses an actual threat to the safety of the nuclear power plant or significantly hampers site personnel in the performance of duties necessary for the safe operation of the nuclear power plant including fires, toxic gas releases, or radioactive releases.
- (2) Four-Hour Reports. If not reported under paragraphs (a) or (b)(1) of this section, the licensee shall notify the NRC as soon as practical and in all cases, within four hours of the occurrence of any of the following:
- (i) Any event, found while the reactor is shutdown, that, had it been found while the reactor was in operation, would have resulted in the nuclear power plant, including its principal safety barriers, being seriously degraded or being in an unanalyzed condition that significantly compromises plant safety.
 - (ii) Any event or condition that results in manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection

System (RPS). However, actuation of an ESF, including the RPS, that results from and is part of the preplanned sequence during testing or reactor operation need not be reported.

- (iii) Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to:
 - (A) Shut down the reactor and maintain it in a safe shutdown condition,
 - (B) Remove residual heat,
 - (C) Control the release of radioactive material, or
 - (D) Mitigate the consequences of an accident.
- (iv) (A) Any airborne radioactive release that exceeds 2 times the applicable concentrations of the limits specified in Appendix B, Table II of Part 20 of this chapter in unrestricted areas, when averaged over a time period of one hour.
(B) Any liquid effluent release that exceeds 2 times the limiting combined Maximum Permissible Concentration (MPC) (see Note 1 of Appendix B to Part 20 of this chapter) at the point of entry into the receiving water (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases, when averaged over a time period of one hour. (Immediate notifications made under this paragraph also satisfy the requirements of paragraphs (a)(2) and (b)(2) of §20.403 of Part 20 of this chapter.)
- (v) Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.
- (vi) Any event or situation, related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other government agencies has been or will be made. Such an event may include an onsite fatality

or inadvertent release of radioactively contaminated materials.

- (c) Followup Notification. With respect to the telephone notifications made under paragraphs (a) and (b) of this section, in addition to making the required initial notification, each licensee, shall during the course of the event:
- (1) Immediately report: (i) any further degradation in the level of safety of the plant or other worsening plant conditions, including those that require the declaration of any of the Emergency Classes, if such a declaration has not been previously made, or (ii) any change from one Emergency Class to another, or (iii) a termination of the Emergency Class.
 - (2) Immediately report: (i) the results of ensuing evaluations or assessments of plant conditions, (ii) the effectiveness of response or protective measures taken, and (iii) information related to plant behavior that is not understood.
 - (3) Maintain an open, continuous communication channel with the NRC Operations Center upon request by the NRC.

Dated at Washington, D.C., this day of , 198 .

For the Nuclear Regulatory Commission,

Samuel J. Chilk,
Secretary of the Commission.

PUBLIC ANNOUNCEMENT

NRC ADOPTS CHANGES TO IMMEDIATE REPORTING REQUIREMENTS
FOR SIGNIFICANT EVENTS AT NUCLEAR POWER PLANTS

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The Nuclear Regulatory Commission is changing its regulations to provide further guidance to operators of nuclear power plants on significant events that must be reported immediately by telephone to the NRC Operations Center in Bethesda, Maryland.

On December 21, 1981, the Commission published a proposed rule to revise and clarify its notification requirements issued on February 29, 1980. Experience with the existing requirements and public comments on the changes proposed in 1981 indicate that the regulations should be amended to clarify reporting criteria and require early reports only on matters of value to the exercise of the Commission's responsibilities.

Several categories of events required to be reported within one hour have been found to be not useful on an immediate basis. Examples include worker injury not related to radiation, small releases of radioactive material below the limits permitted by the license and minor security problems such as a short malfunction of the security computer.

Under the new regulations, a licensee must notify the NRC Operations Center within one hour after it declares an emergency or takes actions that deviate from license conditions or technical specifications but are immediately needed to protect the public health and safety during an emergency. The licensee also must notify the Operations Center within one hour after one of the following non-emergency conditions occurs:

(1) The initiation of any nuclear power plant shutdown required by the plant's operating license;

(2) Any event or condition during operation that results in the condition of the plant being seriously degraded or in an unanalyzed condition that significantly compromises plant safety, a condition outside the design basis of the plant or a condition not covered by the plant's operating and emergency procedures;

(3) Any natural phenomenon or other external condition that poses an actual threat to the safety of the nuclear power plant or significantly hampers site personnel in the performance of duties necessary for the safe operation of the plant;

(4) Any event that results or should have resulted in an emergency core cooling system discharge into the reactor coolant system as a result of a valid signal;

(5) Any event that results in a major loss of emergency assessment, off-site response or communications capability;

(6) Any event that threatens the safety of the plant or significantly hampers site personnel in the performance of duties necessary for the safe operation of the plant, including fires, toxic gas releases or radioactive releases.

In addition, the licensee must notify the NRC within four hours of certain other events, such as an occurrence requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.

Further details on the revised requirements, which are contained in Part 50 of the Commission's regulations, are provided in a Federal Register notice published on _____.



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

NOV 15 1983

E. Jordan
K. ROSE
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MEMORANDUM FOR: Robert Greger, Section Chief
Emergency Preparedness & Radiological
Safety Branch
Region III

FROM: LeMoine J. Cunningham, Section Chief
Section 2, Operating Reactor Programs Branch
Division of Quality Assurance, Safeguards,
and Inspection Programs, IE

SUBJECT: INSPECTION GUIDANCE - 50.72

On October 20, 1983, Paul Lovendale requested clarification of several aspects of the new 50.72 notification requirements. The questions related to the requirement that licensees call in notification of radioactive releases that exceed the specified concentrations. Specifically, the questions were: 1) what meteorological data should be used in determining offsite concentrations? (e.g., annual average, real time or worse case?) and 2) what location should be used? (e.g., unrestricted area as defined by Part 20 or the expanded definition as specified in NUREG-0133?).

In addition, you noted that the revised 50.72 was incorporated into the 10 CFR by Supplement No. 12 issued September 20, 1983, although the rule change is not effective until January 1, 1984. You note that a currently effective version is not in the 10 CFR.

Inspection guidance for operating nuclear power reactors concerning 50.72 is as follows:

1. Annual average meteorological data should be used for determining offsite airborne concentrations of radioactivity. This is to maintain consistency with the tech specs.
2. The expanded definition of an unrestricted area as specified in NUREG-0133 should be used. This is to maintain consistency with the tech specs.

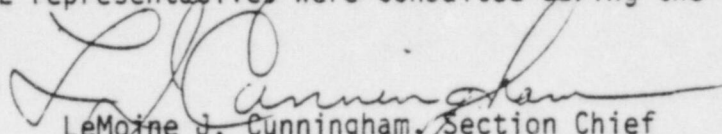
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3. The lack of a currently effective version of 50.72 in the 10 CFR loose-leaf version is an administrative problem only. Licensees and inspectors should keep the old pages for reference until January 1, 1984. The old version is still the effective rule until January and deviation from those requirements in favor of the new requirements would be a technical violation. However, in such a case, notation in the inspection report without further enforcement action would be the appropriate approach.

Appropriate NRR, Admin, ELD and IE representatives were consulted during the formulation of this guidance.



LeMoine J. Cunningham, Section Chief
Section 2, Operating Reactor Programs Branch
Division of Quality Assurance, Safeguards,
and Inspection Programs, IE

cc: J. Partlow, IE
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

11/21/83

To: Eric Weiss

From: E. Rossi

For your info and files.