

FR 9990002



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, D.C. 20555-0001

**FACA  
(CF ONLY)**

January 27, 2000

MEMORANDUM TO: ACRS Members  
FROM: Noel Dudley, Senior Staff Engineer  
SUBJECT: PROPOSED FINAL AMENDMENT TO 10 CFR 50.72 AND 50.73  
REGARDING REPORTING REQUIREMENTS

The ACRS is scheduled to hear a briefing from representatives of the staff and the Nuclear Energy Institute (NEI) at the February 3-5, 2000 ACRS meeting, concerning the proposed final amendment to 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," and 50.73, "Licensee event reporting system." Attached is the latest draft of the *Federal Register* Notice and a summary of the latest staff positions on noteworthy issues. The issues include:

- Reporting failures that may be precursors to common mode failures,
- Extending the reporting time for several events,
- Including a list of systems in the rule for which actuations must be reported,
- Eliminating requirement to report invalid engineered safety feature actuations, and
- Eliminating requirement to report entry into Technical Specification 3.0.3.

The staff does leave open the option of developing site-specific lists of the most risk-significant systems as part of risk-informing 10 CFR Part 50.

- Attachments: 1. Noteworthy Issues, received January 24, 2000  
2. Federal Register Notice, Draft Final Rule January 24, 2000

cc via e-mail:  
J. Larkins  
H. Larson  
S. Duraiswamy  
ACRS Fellows and Staff

**From:** Dennis Allison  
**To:** Noel Dudley  
**Date:** Mon, Jan 24, 2000 6:24 PM  
**Subject:** Draft Federal Register Notice

Noel,

As we discussed, the current FRN for 50.72 and 50.73 is attached. It has been modified, subsequent to the 12/30/99 version that we previously sent, in response to office comments. Thus, it is a better document for the Committee to review in preparation for the briefing scheduled on 2/3/00.

Also attached is the current version of a document entitled "Noteworthy Issues." This was included in the package we sent on 12/30/99. The attached copy has been modified as necessary to reflect changes made in the FRN. Thus, it is a better summary of the principal issues.

I'll call tomorrow to see what you need in the way of hard copies.

Dennis

**CC:** Cynthia Carpenter, Melinda Malloy

## NOTEWORTHY ISSUES

### Outside the Design Basis of the Plant / Corrective Actions.

In the proposed rule, we recommended deleting the requirement to report when the plant is in a condition outside the design basis of the plant. A condition outside the design basis of the plant would still be reportable if it is significant enough to qualify under other criteria, such as:

- Plant in an unanalyzed condition that significantly degraded plant safety.
- Event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to shut down the reactor, remove residual heat, control the release of radioactive material, or mitigate an accident.
- Condition or operation prohibited by the plant's technical specifications.
- Independent trains or channels inoperable due to a single cause or condition.
- Principal safety barrier seriously degraded.
- A proposed new criterion - component in a degraded or nonconforming condition, such that the ability to perform its specified safety function is significantly degraded and the condition could reasonably be expected to apply to other similar components in the plant.

The stated purpose of the proposed new criterion was to ensure continued reporting of design basis or other discrepancies if the capability to perform a specified safety function was significantly degraded and the condition had generic implications. Industry commenters objected strongly, indicating that the proposed new criterion would be:

- Unclear and subject to widely varying interpretation.
- Overly burdensome, representing a significant increase in reporting requirements.
- Not in accordance with the stated objectives of the rulemaking.

The attached package takes the following approach:

- As was recommended in the proposed rule, the requirement to report a condition outside the design basis of the plant is deleted.
- The proposed new criterion on reporting of degraded components is modified to address the concerns raised in the comments. As modified, the criterion would capture an event or condition that requires corrective action for a single cause or condition in order to ensure the ability of more than one train or channel to perform its specified safety

function.

- For this type of event, the "reporting clock" would not start until it is determined that it is necessary to correct the cause or condition in independent trains or channels in order to avoid probable future failures.

We believe that events of this type indicate a condition where the NRC needs to consider taking action to ensure the condition is adequately addressed at the reporting plant and/or other plants as appropriate.

### **Required Initial Reporting Times.**

In the proposed rule we recommended that declaration of an emergency class and deviation from the technical specifications under 10 CFR 50.54(x) continue to be reportable within one hour. Other events reportable by telephone under §50.72 would be reportable within eight hours. Most commenters supported this approach, but two States and our Incident Response Organization have expressed concerns about waiting eight hours for reporting of certain events.

The attached package takes the following approach:

After reconsideration, the final rule requires 4-hour reporting for unplanned transients, if not reported in 1 hour. These are events where there may be a need for the NRC to take a reasonably prompt action, such as partially activating its response plan to monitor the course of the event. In summary, they are:

- *A valid ECCS discharge into the RCS, except when it results from and is part of a pre-planned sequence during testing or operation. Previously this was a 1-hour report.*
- *Initiation of a shutdown required by the plant's technical specifications. Previously this was a 1-hour report.*
- *A valid automatic or intentional manual scram when critical, except when it results from and is part of a pre-planned sequence during testing or operation. Previously, actuation of any ESF, including the reactor protection system (RPS), was a 4-hour report.*

The final rule also requires 4-hour reporting, if the event was not reported in 1 hour, for an 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. These reports are needed promptly because they involve events where there may be a need for the NRC to respond to heightened public concern.

The following criteria are deleted from §50.72:

- *A natural phenomenon or other external event that poses an actual threat to plant safety, or significantly hampers site personnel in the performance of duties necessary for safe*

*operation.* Events of this type are captured by declaration of an emergency class, which is reportable within 1 hour.

- *An internal event that poses an actual threat to plant safety, or significantly hampers site personnel in the performance of duties necessary for safe operation, including fires, toxic gas releases, or radioactive releases.* Events of this type are captured by declaration of an emergency class, which is reportable within 1 hour.
- *An airborne radioactive release, or liquid effluent release, that exceeds specific limits.* Releases that warrant prompt notification are captured by declaration of an emergency class. Declaration of any emergency class, is reportable within 1 hour after occurrence. Releases for which there is a public announcement or notification to another agency are captured as *an event related to health and safety or environmental protection that involves a news release, or notification to other government agencies, including an onsite fatality or inadvertent release of radioactively contaminated materials.* These events are reportable within 1 hour after issuance of the public announcement or notification of other agencies.

The final rule requires 8-hour reporting for other events reportable under §50.72, if not reported in 1 hour or 4 hours. These are events where there may be a need for the NRC to take an action within about a day, such as initiating a special inspection or investigation. In summary, they are:

- *The plant including its principal safety barriers being in a seriously degraded condition, or the plant being in an unanalyzed condition that significantly degrades plant safety.*
- *A valid automatic or intentional manual actuation of any ESF, except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.*
- *An event or condition that at the time of discovery could have prevented fulfillment of the safety function of structures or systems needed to shut down the reactor, remove residual heat, control the release of radioactive material, or mitigate an accident.*
- *Transport of a radioactively contaminated person to an offsite medical facility.*
- *A major loss of emergency assessment capability, offsite response capability, or offsite communications capability.*

In the final rule, reports required under §50.73 are due within 60 days after discovery of a reportable event or condition, instead of within 30 days as is currently required. This is in agreement with the proposed rule. This change does not imply that licensees should take longer than they previously did to develop and implement corrective actions. They should continue to do so on a time scale commensurate with the significance of the issue. However, for those cases where it does take longer than 30 days to complete a root cause analysis, there would be fewer LERs that require amendment (by submitting a revised report).

### **List of Systems.**

Currently, licensees are required to report actuation of "any ESF, including the RPS." In the proposed rule we recommended reporting actuation for a specific list of systems, to be provided in the rule. The stated purpose was to provide consistent reporting for actuation of a few standby systems that are highly risk-significant and eliminate reporting for events of lesser significance, such as actuation of control room ventilation systems. Most commenters opposed this approach. They recommended that each plant report actuation for only those systems that have been identified as ESFs in the FSAR. On the other hand, the ACRS recommended that, rather than placing a generic list in the rule, the list of systems be determined for each specific plant, based on risk-significance of systems at that plant.

The attached package takes the following approach:

- The proposed list of systems is included in the final rule.
- However, the list is modified as appropriate to address comments regarding specific items on the list.

This provides for:

- Consistent reporting for the named systems, which are highly risk-significant.
- A net reduction in reporting.

In the future, as part of the effort to "risk-inform" 10 CFR Part 50, there may be an opportunity to develop plant-specific lists of systems of the most risk-significant systems in accordance with NRC-approved methods and criteria. At that time it will likely be appropriate to consider limiting the application of this and/or other reporting criteria to those systems.

### **Invalid ESF Actuation.**

In the proposed rule we recommended eliminating telephone notifications for invalid ESF actuations. This was proposed because spurious actuations, by themselves, are generally not significant events that the NRC needs to review in its search for safety problems. Thus, an immediate notification is not considered necessary.

In the proposed rule we also recommended retaining the requirement for a written LERs for invalid ESF actuations. Information about invalid actuations is needed to support the NRC staff's estimates of equipment reliability. Most commenters opposed any reporting of spurious ESF actuations. Among other things, they indicated that requiring a written LER is unnecessarily burdensome, considering the use of this particular information.

The attached package takes the following approach:

- As was recommended in the proposed rule, the requirement to provide a telephone

notification (within 4 hours or 8 hours) under §50.72 for an invalid system actuation is eliminated.

- As also recommended in the proposed rule, the requirement to report these events under §50.73 is retained. However, in order to reduce the burden of such reporting:
  - The licensee is given the option of providing a telephone notification, which is less burdensome than providing a written LER.
  - The telephone notification may be made at any time within 60 days, because the information is not needed quickly.

### **Entry into Technical Specification 3.0.3 or its Equivalent (TS 3.0.3).**

TS 3.0.3 establishes requirements for actions to be taken when an LCO is not met and: (1) the associated actions are not met, (2) the associated actions direct entry into TS/LCO 3.0.3, or (3) no associated actions are provided. From Mode 1 (Power Operation), TS 3.0.3 typically requires initiation of plant shutdown within 1 hour to place the unit in Mode 2 (Startup) within 7 hours, Mode 3 (Hot Shutdown) within 13 hours, and Mode 4 (Cold Shutdown) within 37 hours, as applicable. The current reporting guidelines in NUREG-1022 indicate that entry into Technical Specification 3.0.3 or its equivalent for any reason is reportable as an "operation or condition prohibited by the plant's technical specifications." Most commenters recommended placing some limitations on the reportability of these events.

The attached package takes the following approach:

- Entry into TS 3.0.3 is not necessarily reportable.
- The event becomes reportable when a required shutdown is initiated.

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## NUCLEAR REGULATORY COMMISSION

### 10 CFR Parts 50 and 72

#### RIN 3150-AF98

### Reporting Requirements for Nuclear Power Reactors

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Final rule.

**SUMMARY:** The Nuclear Regulatory Commission is amending the event reporting requirements for nuclear power reactors: to update the current rules, including reducing or eliminating the reporting burden associated with events of little or no safety significance; and to better align the rules with the NRC's needs for information to carry out its safety mission, including revising reporting requirements based on importance to risk and extending the required reporting times consistent with the time information is needed for prompt NRC action. Also, a report, NUREG-1022, Revision 2, "Event Reporting Guidelines, 10 CFR 50.72 and 50.73," is being made available concurrently with the amendments.

**DATES:** The amended rules are effective [INSERT DATE 90 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** Certain documents related to this rulemaking, including comments received, the transcripts of public meetings held, the regulatory analysis and the report NUREG-1022, Revision 2 may be examined at the NRC Public Document Room, 2120 L Street, NW, (Lower Level), Washington, DC. These same documents also may be viewed and downloaded electronically via the interactive rulemaking web site established by NRC for this rulemaking. From the NRC home page (<http://www.nrc.gov>), select "Rulemaking" from the tool bar at the bottom of the page. The interactive rulemaking website can then be accessed by selecting "Rulemaking Forum." For information about the interactive rulemaking website, contact Ms. Carol Gallagher, (301) 415-5905; e-mail [CAG@nrc.gov](mailto:CAG@nrc.gov).

**FOR FURTHER INFORMATION CONTACT:** Dennis P. Allison, Office of Nuclear Reactor Regulation, Washington, DC 20555-0001, telephone (301) 415-1178, e-mail dpa@nrc.gov.

**SUPPLEMENTARY INFORMATION:**

**Contents**

- I. Background
- II. Analysis of Comments
- III. Discussion
  - 1. Objectives
  - 2. Section by Section Discussion of Final Amendments
  - 3. Revisions to Event Reporting Guidelines in NUREG-1022
  - 4. Reactor Oversight
  - 5. Enforcement
  - 6. Electronic Reporting
  - 7. State Input
  - 8. Plain Language
- IV. Environmental Impact: Categorical Exclusion
- V. Backfit Analysis
- VI. Regulatory Analysis
- VII. Paperwork Reduction Act Statement
- VIII. Regulatory Flexibility Act Certification
- IX. National Technology Transfer and Advancement Act
- X. Small Business Regulatory Enforcement Fairness Act
- XI. Final Amendments

**I. BACKGROUND**

The reporting requirements in Sections 50.72 and 50.73 have been in effect, with minor modifications, since 1983. Experience has shown a need for change in several areas. On July 23, 1998 (63 FR 39522), the NRC published in the *Federal Register* an advance notice of proposed rulemaking (ANPR) to announce a contemplated rulemaking that would modify reporting requirements for nuclear power reactors. Among other things, the ANPR requested public comments on several concrete proposals for modification of the event reporting rules. Public meetings were held to discuss the ANPR at NRC Headquarters on August 21, 1998, in

Rosemont, Illinois on September 1, 1998, and at NRC Headquarters on November 13, 1998.

A proposed rule was published in the *Federal Register* on July 6, 1999 (64 FR 36291), including a conforming change to Section 72.216. Concurrently, a draft revision to the associated event reporting guidelines was made available for public comment (NUREG-1022, Draft Revision 2). A public meeting was held at NRC Headquarters on August 3, 1999, to discuss the proposed rule and draft guidelines. Public comments were due on September 20, 1999.

## II. ANALYSIS OF COMMENTS

The comment period for the proposed rule expired September 20, 1999. Twenty-seven comment letters were received, representing comments from 24 nuclear power plant licensees (utilities), two organizations of utilities, and one State agency.

In addition to the written comments received, the proposed rule was the subject of a public meeting on August 3, 1999, as discussed above under the heading "Background," and comments made at that meeting have also been considered.

Most commenters expressed support for amending the rules in accordance with the objectives discussed in the proposed rule. However, they objected to some of the specific provisions. Many comments also provided specific recommendations for changes to the proposed rules. The resolution of comments is summarized below. This summary addresses the principal comments (i.e., comments other than those that are: minor or editorial in nature; supportive of the approach described in the proposed rules; or applicable to another area or activity outside the scope of sections 50.72 and 50.73).

**Comment A (Do not require reporting of degraded components):** The proposed rule would include a new component reporting criterion. It would require reporting "Any event or condition that resulted in a component being in a degraded or non-conforming condition such that the ability of the component to perform its specified safety function is significantly degraded and the condition could reasonably be expected to affect other similar components in the plant. The term "significantly degraded" was defined by providing several examples of reportable and non-reportable events. The stated purpose was to ensure that design basis or other discrepancies would continue to be reported if the capability to perform a specified safety function is significantly degraded and the condition has generic implications.

Most commenters strongly objected to the proposed component reporting criterion. Among other things, they indicated:

(1) The proposed component reporting criterion is not needed because, after deleting the requirement to report a condition that is outside the design basis of the plant, any significant

events would be still be captured by the other existing criteria.

(2) The proposed component reporting criterion would be unclear and subject to widely varying interpretation with regard to the meaning of the term "significantly degraded" and the term "could reasonably be expected to apply to other similar components."

(3) The proposed component reporting criterion would be overly burdensome. For example, it would become necessary to screen all single component failures for reportability.

(4) The proposed component reporting criterion would be contrary to the stated objectives of the rulemaking. For example, it would result in many additional reports, for events with little or no safety- or risk-significance.

**Response:** In the final rule, the proposed reporting criterion has been retained, but modified to address the concerns about burden and clarity expressed in the comments. It requires reporting an event or condition that requires corrective action for a single cause or condition in order to ensure the ability of more than one train or channel to perform its specified safety function. This is more specific than the proposed criterion. Events of this type indicate a condition where the NRC needs to consider taking action to ensure the condition is adequately addressed at the reporting plant and/or at other plants, as appropriate. For this type of event, the "reporting clock" does not start until it is determined that the event or condition requires corrective action for a single cause or condition in order to ensure the ability of more than one train or channel to perform its specified safety function.

The criterion, as modified, is not considered overly burdensome because it is estimated to result in fewer reports than the previous requirement to report a condition outside the design basis of the plant. It is only necessary to screen for cases where corrective action is required for a single cause or condition in order to ensure the ability of multiple trains or channels to perform their specified safety functions. It is considered consistent with the objectives of the rulemaking for the same reason.

**Comment B (Do not change the term "any engineered safety feature [ESF] ..."):** In the proposed rule, the term "any engineered safety feature (ESF), including the reactor protection system (RPS)," which defines the systems for which actuation must be reported, would be replaced by a specific list of systems. It was recognized that this proposal to list the systems in the rule was controversial and public comment was specifically invited in this area. In particular, three principal alternatives to the proposed rule were identified for comment. They are:

Alternative 1, status quo. The rule would continue to require reporting for actuation of "any ESF." The guidance would continue to infer that reporting should include the systems on a list which is similar to the list in the proposed rule.

Alternative 2, plant-specific list. The rule would require that licensees develop a

plant-specific, risk-informed list.

Alternative 3, pre-1998 practice. The rule would continue to require reporting actuation of "any ESF." The guidance would indicate that this includes those systems identified as ESF's in each plant's FSAR.

The comments may be summarized as follows:

**(1)** Most commenters objected to the proposed rule, which would replace the term "any engineered safety feature (ESF), including the reactor protection system (RPS)" with a list of specific systems. The reasons cited include the following:

**(a)** Providing an all-inclusive list of systems in the rules is inappropriate.

**(b)** Each facility's FSAR specifies equipment that is designated as ESF equipment.

**(c)** Plant-specific differences exist in the safety-related status of their systems.

**(d)** The risk-significance of a particular system can vary greatly between plants, due to a wide variety of design differences. An all-inclusive list would therefore increase the burden for some plants whose equipment on the list was not ESF equipment or equipment with a suitably high risk-significance.

**(e)** There are a number of specific problems with the proposed list. Specific examples were provided.

**(2)** Most commenters recommended in favor of Alternative 3, returning to the pre-1998 practice of reporting actuation for only those systems that are designated as ESFs in each facility's FSAR. They stated that this option best meets the goal of clarity and simplicity.

**(3)** One commenter recommended in favor of Alternative 1 (status quo), where the reporting guidelines contain a list of systems similar to the list proposed for the rule. It stated that the facility's internal reporting procedures already reflect the current practice. Any benefit that might be obtained by returning to the pre-1998 practice would so slight that it would not justify the cost of changing the procedures.

**(4)** Some commenters indicated that there are problems with the status quo that need to be solved. For example, the reporting guidelines should exclude reporting of reactor water cleanup system isolations that routinely occur during system restoration following maintenance outages, due to rapid pressurization following valve opening.

**(5)** Most commenters objected to Alternative 2 (developing a plant-specific, risk-informed list of systems). They stated that this would require a significant expenditure of resources and it is unclear as to whether or how it would meet the NRC's needs better than Alternative 3 (returning to pre-1998 practice). They also noted that there is a separate initiative to "risk-inform" 10 CFR Part 50. This may result in development of plant-specific lists of systems based on risk significance. However, the commenters do not believe the necessary criteria have been adequately established to make that shift as part of this rulemaking to modify 10 CFR 50.72 and

50.73. They recommended that later, as part of the rule change to "risk-inform" Part 50, the NRC should evaluate whether or not it is appropriate to "risk-inform" ESF systems subject to the event reporting requirements of 10 CFR 50.72 and 50.73.

**Response: (1)** The NRC believes providing a list of systems is the best approach because it will obtain consistent reporting of events that result in actuation of highly risk-significant systems. Consistent reporting for such events is needed to support estimating equipment reliability parameters and is important to several aspects of the NRC's general move towards more risk-informed regulation. The list has been modified as appropriate in response to comments about specific items on the list.

Furthermore, this approach is estimated to result in a net reduction in the number of events reported under this criterion. Some licensees will make additional reports involving highly risk-significant systems. However, these additional reports will be outweighed by the elimination of reports involving systems with lesser risk-significance.

**(a)** Commenters indicated that providing an all-inclusive list of systems in the rules is inappropriate. However, the NRC does not believe the list is all inclusive. It contains only systems that are highly risk-significant and omits systems of lesser risk-significance, even if the systems of lesser risk-significance are designated as ESFs. The NRC also believes the list is appropriate because it provides consistent reporting of events that result in actuation of these highly risk-significant systems and, at the same time, a net reduction in reporting burden.

**(b)** Commenters stated that each facility's FSAR specifies equipment that is designated as ESF equipment. However, the NRC believes that those lists are not consistent or risk-informed. For example, at several plants, EDGs, which are highly risk-significant, are not identified as ESFs. At several PWRs, AFW, which is highly risk-significant, is not identified as an ESF. At most BWRs, RCIC, which is highly risk-significant, is not identified as an ESF. On the other hand, most plants identify systems with lesser risk-significance, such as fuel building ventilation and filtration systems, as ESFs.

**(c)** Commenters stated that plant-specific differences exist in the safety-related status of systems. However, the NRC does not believe that this fact does bears directly on the question of which system actuations should be reported. There no need to report the actuation of all safety related systems, and no need to exclude reporting for the actuation of a non-safety-related system if it is highly risk-significant.

**(d)** Commenters stated that the risk-significance of a particular system can vary greatly among plants. They further stated that an all-inclusive list would therefore increase the burden for some plants whose equipment on the list was not ESF equipment or equipment with a suitably high risk-significance. The NRC agrees with the general statement that the risk-significance of a particular system can vary greatly among plants. However, the systems on the

list are virtually always of high risk-significance. While it is true that, as a result of the list, some licensees will make additional reports, any additional reports will involve systems that are highly risk-significant. Also, these additional reports will be outweighed by the elimination of reports involving systems with lesser risk-significance. Thus, the net effect is a reduction in reporting.

(e) Commenters provided several specific examples of items they considered to be problems with the list, as follows:

(i) In the proposed rule, the feedwater coolant injection (FWCI) system was characterized as an example of an ECCS. Commenters stated that FWCI systems are not considered to be ECCS. The NRC believes that clarification is warranted. In the final rule, FWCI is not characterized as an ECCS. It is included as a separate item in the list.

(ii) The proposed rule would require reporting actuations of the reactor core isolation cooling (RCIC) system. Commenters stated that RCIC is included in the improved Standard Technical Specifications (ISTS) because it meets criterion 4 of 10 CFR 50.36, based on its contribution to the reduction of overall plant risk. They further stated that RCIC is not credited in the plant's safety analysis. The NRC believes that RCIC highly risk-significant and, therefore, it remains on the list in the final rule.

(iii) Commenters stated that non-reportable exceptions should be allowed for systems that are considered to be ESFs, yet have lower levels of risk significance (control room ventilation systems, reactor building ventilation systems, fuel building ventilation systems, auxiliary building ventilation systems, RWCU isolations during restoration from maintenance, etc.). The NRC agrees. The final rule eliminates reporting for systems that are considered to be ESFs, yet have lower levels of risk significance. It also eliminates reporting for RWCU isolations during restoration from maintenance.

(iv) Commenters stated that the list inappropriately includes "associated support systems" for BWR Division 3 EDGs. The NRC agrees. In the final rule the term "associated support systems" has been eliminated for BWR Division 3 EDGs, and other EDGs as well.

(v) Commenters stated that the list inappropriately includes station blackout diesel generators (and black start gas turbines that serve a similar purpose) that are not safety related. The NRC agrees. The final rule does not require reporting for station blackout diesel generators (and black start gas turbines that serve a similar purpose).

(vi) Commenters stated that although the term anticipated transient without scram (ATWS) mitigating systems is clear to those licensees that have dedicated systems (i.e. AMSAC), a great deal of confusion exists for those that have no dedicated system. Due to the lack of clarity, it could be interpreted that any system that might be used during an ATWS would fall into this category (i.e. feedwater systems, borating systems, control rods, etc.). Extensive clarification would be needed to eliminate this ambiguity. The NRC agrees that clarification is warranted. In

the final rule this item has been eliminated. Reporting is not needed for actuations for a system such as AMSAC. The reports needed for other systems are captured by other items on the list.

(vii) Commenters stated that it is unclear as to whether the service water entry applies only to emergency service water systems (i.e. those that don't operate unless there is an accident i.e. "emergency service water function") or also to the standby service water systems that only run to remove heat from the RHR heat exchangers. The NRC agrees. In the final rule this item has been clarified to indicate that reporting is required for emergency service water systems that do not normally run and that serve as ultimate heat sinks. In addition, this item has been deleted from the list of systems for which telephone notification is required under section 50.72. ESW system actuations are reportable only under section 50.73.

(2) Alternative 3 would provide clarity and simplicity. However, the adoption of the list of systems in the rule also provides clarity and simplicity.

(3) Although one commenter recommended in favor of Alternative 1, that alternative would invite variable interpretation. The event reporting guidelines would contain a list of systems, whereas the rule would require reporting the actuation of "any ESF."

(4) Under previous requirements it was necessary to report reactor water cleanup system isolations that routinely occur during system restoration following maintenance outages, due to rapid pressurization following valve opening. The list of systems eliminates these unneeded reports because it limits the reporting of containment isolation signals to those that affect multiple systems or multiple MSIVs.

(5) With respect to Alternative (2), the project to "risk-inform" 10 CFR Part 50 may, in the future, lead to development of plant-specific lists of systems based on importance to risk and, as part of that project, it may be appropriate to consider whether or not the applicability of this reporting criterion, as well as other reporting criteria, should be based such lists. It is expected that, at that time, the criteria necessary for development of the list will have been adequately established.

**Comment C (Eliminate reporting for historical events):** The proposed rule would eliminate the requirement for a telephone notification, under 10 CFR 50.72, for:

(1) "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," and

(2) "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 ...; (B) remove residual heat; (C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident" if the condition no longer exists at the time of discovery.

The proposed rule would also eliminate the requirement for a written LER, under 10 CFR 50.73, for:

(1) "Any operation or condition prohibited by the plant's Technical Specifications," if the condition has not existed within three years of the date of discovery, and

(2) "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 ...; (B) remove residual heat; (C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident," if the condition has not existed within three years of the date of discovery.

With regard to 10 CFR 50.73, public comment was specifically invited on whether such historical events and conditions should be reported (rather than being excluded from reporting, as proposed). Public comment was also invited on whether the three year exclusion of such historical events and conditions should be extended to all written reports required by section 50.73(a) (rather than being limited to these two specific reporting criteria, as proposed).

Most commenters supported the revisions to 10 CFR 50.72 that eliminate reporting of historical events. They stated that no safety significance exists for 10 CFR 50.72 reporting of historical events.

Most commenters also supported (1) the elimination of written LERs for historical events for the two cases proposed, (2) extending the exclusion to all written reports required under section 50.73(a), and (3) using two years as a cutoff point, rather than three years. They stated that two years encompasses one refueling cycle of operation. Significant effort can be expended searching back in history for historical events. Reporting historical events more than two years old provides a low safety benefit and unnecessarily increases the reporting burden. It was recognized that three years is consistent with the time period that performance indicators are tracked under the new oversight process. However, most commenters stated that no safety significance exists for 10 CFR 50.73 reporting of historical events which occurred more than two years ago.

**Response:** The final rule eliminates the requirement to provide a telephone notification or a written LER for a historical event for the reasons discussed above.

The cutoff date is 3 years, as indicated in the proposed rule, because the NRC staff tracks performance indicators for a period of 3 years, in order to include a refueling outage as well as an extended period of operations.

**Comment D (Time limits for reporting):** The proposed rule would continue to require reporting within one hour after occurrence for declaration of an emergency class, or for an emergency action taken pursuant to 10 CFR 50.54(x). Reporting of other events that are reportable by telephone under 10 CFR 50.72 would be reportable within 8 hours after occurrence, rather than within 1 hour or 4 hours as was previously required. Submittal of written

LERs would be required within 60 days after discovery, rather than within 30 days as previously required.

Public comment was specifically invited on the question of whether additional levels should be used to better correspond to particular types of events. For example, 10 CFR 50.72 previously required reporting within 4 hours for events that involve low levels of radioactive releases, and events related to safety or environmental protection that involve a press release or notification of another government agency. These types of events could be maintained at 4 hours so that information is available on a more timely basis to respond to heightened public concern about such events. In another example, events related to environmental protection are sometimes reportable to another agency, which is the lead agency for the matter, with a different time limit, such as 12 hours. These types of events could be reported to the NRC at approximately the same time as they are reported to the other agency

Most comments on the proposed rule supported the proposal to use just three basic levels of required reporting times in 10 CFR 50.72 and 10 CFR 50.73 (1 hour, 8 hours, and 60 days), as indicated in the proposed rule, in the interest of simplicity. They indicated that additional levels of reporting are not needed. They also agreed with the revised reporting times based on importance to risk and extending the required reporting times consistent with the need for prompt NRC action. Additionally, they noted that the increased time for submittal of LERs will allow for completion of required engineering evaluations after event discovery, provide for more complete and accurate LERs, and result in fewer LER revisions and supplemental reports.

One comment letter, from the State of North Carolina, recommended maintaining the required reporting time at 4 hours for:

- (1) Any airborne radioactive release that, when averaged over a time period of 1 hour, results in concentrations in an unrestricted area that exceed 20 times the applicable concentration specified in appendix B to part 20, table 2, column 1;
- (2) Any liquid effluent release that, when averaged over a time of 1 hour, exceeds 20 times the applicable concentration specified in appendix B to part 20, table 2, column 2, at the point of entry into the receiving waters (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases;
- (3) Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment; and
- (4) 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.

The letter indicated that the information from such events are of interest to the public and

public officials. Furthermore, the State's Division of Radiation Protection (DRP) provides independent advice to State decision-makers as part of its emergency preparedness function. Any delay in providing the information to the DRP may prevent or delay decisions on public health or public announcements. State agencies may be able to get the information from licensees, even under the proposed rule. However, this can be difficult to do when an incident is actually occurring unless the NRC's rules mandate the reporting within a prompt and well-defined period of time.

Similar comments were received from the State of Illinois with regard to the ANPR.

**Response:** After consideration of the comments, and the potential need for NRC action, the final rule employs four basic levels of required reporting times in 10 CFR 50.72 and 10 CFR 50.73 (1 hour, 4 hours, 8 hours, and 60 days). Although this is not as simple as using just three levels, as was indicated in the proposed rule, it allows more flexibility in matching the required reporting time to the potential need for NRC action.

The final rule requires 4-hour reporting, if the event was not reported in 1 hour, for an 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. This is the same as previously required. These reports are needed promptly because they involve events where there may be a need for the NRC to respond to heightened public concern.

The final rule also requires 4-hour reporting, if the event was not reported in 1 hour, for unplanned transients. These are events where there may be a need for the NRC to take a reasonably prompt action, such as partially activating its response plan to monitor the course of the event. In summary, they are:

(a) A valid ECCS discharge into the reactor coolant system (RCS), except when it results from and is part of a pre-planned sequence during testing or operation. Previously this was a 1-hour report.

(b) Initiation of a shutdown required by the plant's technical specifications. Previously this was a 1-hour report.

(c) A reactor scram or reactor trip when the reactor is critical, except when it results from and is part of a pre-planned sequence during testing or operation. Previously, actuation of any engineered safety feature (ESF), including the reactor protection system (RPS), was a 4-hour report.

Three criteria are deleted from §50.72 because they are not needed in order to obtain prompt notification of events. They are retained in §50.73, however, because they are needed in order to obtain written LERs. In summary, they are:

(a) A natural phenomenon or other external event that poses an actual threat to plant safety, or significantly hampers site personnel in the performance of duties necessary for safe operation. Events of this type are captured by declaration of an emergency class, which is reportable within 1 hour.

(b) An internal event that poses an actual threat to plant safety, or significantly hampers site personnel in the performance of duties necessary for safe operation, including fires, toxic gas releases, or radioactive releases. Events of this type are captured by declaration of an emergency class, which is reportable within 1 hour.

(c) An airborne radioactive release, or liquid effluent release, that exceeds specific limits. Releases that are large enough to warrant prompt notification are captured by declaration of an emergency class, which is reportable within 1 hour after the declaration. Releases that involve a public announcement or notification to another agency are reportable within 1 hour after the announcement or notification.

For the remaining events reportable under §50.72, the final rule requires 8-hour reporting, if not reported in 1 hour or 4 hours. These are events where there may be a need for the NRC to take an action within about a day, such as initiating a special inspection or investigation. In summary, they are:

(a) The plant including its principal safety barriers being in a seriously degraded condition, or the plant being in an unanalyzed condition that significantly degrades plant safety.

(b) A valid actuation of any ESF, except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation

(c) An event or condition that at the time of discovery could have prevented fulfillment of the safety function of structures or systems needed to shut down the reactor, remove residual heat, control the release of radioactive material, or mitigate an accident.

(d) Transport of a radioactively contaminated person to an offsite medical facility.

(e) A major loss of emergency assessment capability, offsite response capability, or offsite communications capability.

**Comment E (Eliminate all reporting of invalid ESF actuations):** The proposed rule would eliminate the requirement for a telephone notification, under 10 CFR 50.72, for an ESF actuation if it is an invalid automatic actuation or an unintentional manual actuation. It was stated that invalid actuations are generally less significant than valid actuations because they do not involve plant conditions (e.g., low reactor coolant system pressure) that would warrant system actuation. Instead, they result from other causes (such as a dropped electrical lead during testing).

The proposed rule would not eliminate the requirement for a written LER for such events. It was stated that there is still a need for reporting, because the reports are used in making

estimates of equipment reliability parameters, which in turn are needed to support the Commission's move towards risk-informed regulation.

Most commenters indicated that invalid ESF actuations should not be reported under 10 CFR 50.73 unless the actuation impacts the plant such that other reporting criteria are independently met. They stated that contrary to the NRC's expectations, reporting of invalid actuations will not provide the information needed to estimate equipment reliability parameters. This information should be collected via other less burdensome mechanisms, such as EPIX and Maintenance Rule reports.

**Response:** The NRC disagrees with many of the comments. Invalid actuations do provide information needed in estimating equipment reliability because they constitute unplanned demands. The response to unplanned demands may or may not differ significantly from those of planned test demands. Thus, in making reliability estimates, the results from unplanned demands are compared against those from planned test demands to determine whether or not it is appropriate to combine them. As indicated in the Commission Paper SECY-97-101, May 7, 1997, "Proposed Rule, 10 CFR 50.76, Reporting Reliability and Availability Information for Risk-significant Systems and Equipment," Attachment 3, this is one of the categories of information that the NRC relies upon in order to make equipment reliability estimates.

As also discussed in SECY-97-101, EPIX is a voluntary program which does not provide a break out of invalid actuations and their results. The fact that ESF actuations are reported in written LERs was one of the key factors in making the determination that the NRC could work around weaknesses in the EPIX data in order to develop reliability estimates.

Reports developed under the maintenance rule, 10 CFR 50.65, are not submitted to the NRC.

Regardless, the Commission agrees that a burden reduction is warranted. Accordingly, the final rule takes the following approach.

(a) The requirement to provide a telephone notification under §50.72 for an invalid ESF actuation is eliminated, as was indicated in the proposed rule.

(b) The requirement to report these events under §50.73 is retained. However, the licensee is given the option of providing a telephone report rather than a written LER. This is far less burdensome. In this case, the telephone notification has the same due date as the LER would have (60 days) because the information is not needed immediately.

**Comment F (Eliminate reporting of HPCI inoperability):** As indicated in the 1983 Statements of Considerations for 10 CFR 50.72 and 50.73, failure or inoperability of a single train system, such as the HPCI system in BWRs, is considered to constitute an "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 ...; (B) Remove residual heat; (C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident."

Most commenters indicated that inoperability of HPCI does not of itself constitute a condition that would prevent the fulfillment of a safety function. Therefore, there is no benefit in reporting of HPCI inoperability if it has no affect on the ability to fulfill a safety function. BWR design considers HPCI inoperability and provides supporting systems such as RCIC, Core Spray, and ADS. This is supported by the relatively long Allowed Outage Time for HPCI in the Standard Technical Specifications (i.e., 14 days). If, in the event of HPCI inoperability, it can be shown that these systems are available and capable of fulfilling the safety function without HPCI, the event should not be reportable. Reporting HPCI inoperability in these cases has no meaning for event reporting and appears to be solely a data gathering exercise.

Additionally, the Revised Reactor Oversight Process as described in NEI 99-02 (Draft Rev. B) prescribes a performance indicator for Safety System Functional Failures based on 10 CFR 50.73 reports. These indicators count failures of single train systems (such as HPCI), assuming that the event report documents a safety system failure. Reporting HPCI inoperability when there is no impact on the overall capability to fulfill the safety function (e.g., remove residual heat) will result in an overly conservative and detrimental assessment of this indicator.

**Response:** As indicated in the 1983 Statements of Considerations for 10 CFR 50.72 and 50.73, the purpose of this reporting criterion is to capture failure, inoperability, etc. on the basis of a structure or system. Thus, if an event or condition could have prevented fulfillment of the safety function of a system (i.e., by that system) it is reportable even if other system(s) could have performed the same safety function(s).

Also, in its assessment of plant performance, the NRC uses a performance indicator that includes failure or inoperability of single train systems such as HPCI. Thus, elimination of the requirement to report such events would be contrary to one of the objectives of the rulemaking - to maintain consistency with the NRC's actions to improve integrated plant performance.

**Comment G (Allow 8 hours after discovery for telephone reporting):** Regarding, 50.72(b)(2), " ...the licensee shall notify the NRC as soon as practical and in all cases, within eight hours of the occurrence of any of the following: ...,"revise to read " ...the licensee shall notify the NRC as soon as practical and in all cases, within eight hours of the occurrence or discovery of any of the following: ...." The addition of the term " or discovery" provides for those events that are discovered to have occurred in the past, remained undetected for sometime, and presently exist.

**Response:** The NRC disagrees. Addition of the term "or discovery" as suggested, is not necessary. As they have in the past, the reporting guidelines address those limited cases where it is necessary and appropriate to delay reporting while conducting an engineering evaluation.

In other cases, where telephone reporting is required, the event should be reported as soon as practical and not later than the specified time limit.

**Comment H (Eliminate telephone reporting for non-critical scrams):** Most commenters recommended that telephone reporting of RPS actuation (reactor scrams) be limited to those occurring from a critical condition.

**Response:** The NRC disagrees. A scram, even from a subcritical condition, is indicative of an event with enough significance that the NRC should screen and/or review it on the day it occurs, rather than waiting for submittal of a written LER.

**Comment I (Limit reporting to conditions that do prevent fulfillment of a required function):** Regarding 50.72(b)(2)(v), which indicates that licensees shall report: "Any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to:..." Revise to read as follows. "Any event or condition that at the time of discovery is preventing the ability to fulfill the safety function of structures or systems that are needed to:..."

This change is required to reflect the correct tense of the existence of an event or condition, rather than past speculation. Because of past confusion pertaining to the interpretation of this area, it is suggested that further discussion be included in the statements of consideration explaining that "is preventing" represents actual conditions and does not imply that further failures should be speculated.

**Response:** The NRC does not agree. The term "could have prevented" reflects the meaning of the rule. It means that, at the time of discovery, the condition could have prevented fulfillment of the function (for example, had there been a demand for the function). This includes but is not limited to the case where, at the time of discovery, the condition is actually preventing fulfillment of the function.

The Statement of Considerations and the reporting guidelines indicate that, in evaluating reportability under this criterion, it is not necessary to postulate an additional random single failure.

**Comment J (Human performance data in LERs):** Section 50.73(a)(2)(ix)(J) previously required that the narrative section of an LER include the following specific information as appropriate for the particular event:

"(1) Operator actions that affected the course of the event, including operator errors, procedural deficiencies, or both, that contributed to the event.

(2) For each personnel error, the licensee shall discuss:

(i) Whether the error was a cognitive error (e.g., failure to recognize the actual plant condition, failure to realize which systems should be functioning, failure to recognize the true nature of the event) or a procedural error;

(ii) Whether the error was contrary to an approved procedure, was a direct result of an error in an approved procedure, or was associated with an activity or task that was not covered by an approved procedure;

(iii) Any unusual characteristics of the work location (e.g., heat, noise) that directly contributed to the error; and

(iv) The type of personnel involved (i.e., contractor personnel, utility-licensed operator, utility non-licensed operator, other utility personnel)."

The proposed amendment would have changed section 50.73(b)(2)(ii)(J) to simply state "For each human performance related problem that contributed to the event, the licensee shall discuss the cause(s) and circumstances." It was stated that the current rule is more detailed than necessary. Details would continue to be provided in the reporting guidelines, as indicated in section 5.2.1 of the draft of Revision 2 to NUREG-1022.

Most commenters recommended that, instead of adopting the wording in the proposed rule, section 50.73(b)(2)(ii)(J) be revised to say "For each root cause personnel error, the licensee shall discuss the cause(s) and circumstances." They stated that the shift from "personnel error" and the implied "root cause" to "human performance related problem" and "contributing factors" would greatly increase the scope of investigation and burden to the licensee. They also stated that it is only appropriate to require discussion of personnel error root causes.

**Response:** The intent of the proposed change was to clarify the requirements, not to expand them. Accordingly, the final rule states "For each human performance related root cause, the licensee shall discuss the cause(s) and circumstances." This limits the requirement to discussion of root causes of the event. It would not be appropriate, or consistent with the previous requirement discussed above, to limit the requirement to discussion of personnel error root causes, as opposed to procedural deficiency root causes, for example.

**Comment K (Do not require additional availability data in LERs):** Section 50.73(b)(3) requires that the assessment of safety consequences in an LER include the availability of systems or components that could have performed the same functions as systems or components that failed during the event. Proposed section 50.73(b)(3)(ii) would add a requirement that the assessment also include the availability of systems or components that "Are included in emergency or operating procedures and could have been used to recover from the event in case of an additional failure in the systems actually used for recovery.

Most commenters objected to this new provision, on the grounds that it adds significant burden without adding value. They stated that reporting should be based on existing plant conditions. Emergency operating procedures provide direction for use of many plant systems. If an additional failures must be postulated, multiple systems would be required to be included in the LER for each safety function. There exists an infinite combination of failures that could be

postulated. This unbounded requirement would result in a large amount of additional information that would be of minimal use. The assessment of the safety consequences and implications of the event would become cluttered with hypothetical additional failures and possible plant responses. Some stated that the proposed requirement would require licensees to speculate on actions that could have been taken, and it would add significant burden with no added value.

**Response:** The purpose of the proposed change was to ensure that LERs contain sufficient information to support a risk assessment of the event. Usually there is enough information, or there is nearly enough information and the NRC staff can telephone the licensee to obtain any additional information needed. Section 50.73(b)(2)(6) requires that LERs include "The name and telephone number of a person within the licensee's organization who is knowledgeable about the event and can provide additional information concerning the event and the plant's characteristics." Further, Section 50.73(c) provides that the NRC may require submittal of additional information if necessary for complete understanding of an unusually complex or significant event.

However, for those events that occur when the plant is shutdown, it has been difficult to obtain enough information because it cannot be assumed that equipment that is normally operable and available during operation is available during plant shutdown. Accordingly, in the final rule there is a requirement for additional availability information. To eliminate unnecessary burden, the requirement for additional availability data is limited to shutdown events. Also, it is revised to simply require providing the availability of systems needed to shut down the reactor and maintain safe shutdown conditions, remove residual heat, control the release of radioactive material, or mitigate an accident. This will eliminate potential difficulties in deciding what combinations of failures should be postulated for the purpose of deciding which systems to address.

**Comment L (The rule should stand alone):** General Comment. Licensees must use both the rule and NUREG-1022, Rev. 2 to determine reportability of conditions. The rule should be a stand-alone document written simple enough to be understood without the need for a 100+ page guidance document.

**Response:** The NRC does not agree. It is not necessary or appropriate to eliminate the event reporting guidelines and/or include a similar level of detail in the rules.

The NRC has reviewed the event reporting guidelines to ensure that the guidelines are consistent with the rules. Where there was any question, the rules and/or the guidelines were modified to ensure consistency.

**Comment M (Define "significant" and "serious"):** General Comment. The terms "significantly affects" and "seriously degraded" are not defined anywhere in the proposed rule.

**Response:** The NRC does not agree that further definition, beyond that provided, is

necessary.

The term "unanalyzed condition that significantly affects plant safety," which was used in the proposed rules, is changed to "unanalyzed condition that significantly degrades plant safety" in the final rule, to make it clear that only matters with a negative effect on safety are reportable. Its meaning is defined by the same examples that have served since 1983 to define the term "unanalyzed condition that significantly compromises plant safety." These are: (1) multiple functionally related safety grade components out of service, (2) accumulation of voids that could inhibit the ability to adequately remove heat from the reactor core, particularly under natural circulation conditions, and (3) voiding in instrument lines that results in erroneous indication causing the operator to misunderstand the true condition of the plant. Also, two new examples have been added. They are: (1) discovery that a system required to meet the single failure criterion does not do so and (2) discovery that the fire protection system does not protect at least one safe shutdown train in the event of fire in a given area. All of these examples are discussed in the Statement of Considerations for the final rule as well as the reporting guidelines.

The term "condition of the nuclear power plant, including its principal safety barriers, being seriously degraded" is defined by guidance that is very similar to that which has defined it since 1983. Specifically, the guidance states that this criterion applies to material (e.g., metallurgical or chemical) problems that cause abnormal degradation of or stress upon the principal safety barriers (i.e., the fuel cladding, reactor coolant system pressure boundary, or the containment) such as:

(1) 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.

(2) Welding or material defects in the primary coolant system which cannot be found acceptable under ASME Section XI, IWB-3600, "Analytical Evaluation of Flaws" or ASME Section XI, Table IWB-3410-1, "Acceptance Standards."

(3) Serious steam generator tube degradation.

(4) Low temperature over pressure transients where the pressure-temperature relationship violates pressure-temperature limits derived from Appendix G to 10 CFR Part 50 (e.g., TS pressure-temperature curves).

(5) Loss of containment function or integrity, including containment leak rate tests where the total containment as-found, minimum-pathway leak rate exceeds the limiting condition for operation (LCO) in the facility's TS.

This guidance is discussed in further detail below under the heading "Principal safety barrier seriously degraded."

**Comment N (False elevated sense of problems):** In addition to the points discussed

above under the heading "Comment E," some commenters stated that reporting of invalid actuations will convey a false elevated sense of problems to the general public causing undue alarm for situations that actually represent little or no safety or risk significance. Therefore, the new rule should not require invalid actuations to be reported.

**Response:** The NRC does not agree. Accordingly, the final rule does not eliminate reporting for invalid actuations.

As discussed in the response to Comment E, there is a need for reporting of these events because they are used in making estimates of equipment reliability parameters, which in turn are needed to support the NRC's move towards risk-informed regulation.

**Comment O (Eliminate reporting of missing fire barriers):** Regarding Page 36299, first column. The example pertaining to missing or degraded fire barriers basically equates such conditions with degraded principal safety barriers (i.e., fuel cladding, reactor coolant pressure boundary, and containment). This is inappropriate and should be deleted.

**Response:** The NRC does not agree. The example indicates that a condition is reportable, as an unanalyzed condition that significantly affects plant safety, "if fire barriers are found to be missing such that the required degree of separation for redundant safe shutdown trains is lacking." This would mean that, if a fire occurs in the given area, no safe shutdown trains would be protected to an acceptable degree. Since PRA studies continue to indicate that fire is a dominant contributor to risk, the inability to guarantee one train of safe shutdown capability, as required, is considered to be a condition that significantly degrades safety.

**Comment P (Applicability of the backfit rule - no basis was stated):** Regarding Page 36303, Section VI., Backfit Analysis. The NRC claims 10 CFR 50.109 does not apply without giving any basis for the claim.

**Response:** The discussion below, entitled Backfit Analysis, has been modified to provide the basis for the conclusion that 10 CFR 50.109, Backfitting, does not apply.

**Comment Q (Modify "unanalyzed condition that significantly affects safety"):** Regarding 50.72(b)(2)(ii)(B). The phrase "significantly affects plant safety" has no positive or negative connotation. Reword the section to read, "The nuclear power plant being in an unanalyzed condition that significantly degrades plant safety."

**Response:** The NRC agrees. The phrase is revised, as recommended, for the reason stated.

**Comment R (Recognize risk-significance factors):** Regarding section 50.73(a)(1). This section fails to recognize any risk significance factors.

**Response:** The NRC does not agree. Section 50.73(a)(1) is general in nature and indicates that, unless otherwise specified in section 50.73, the licensee shall report an event if it occurred within the last three years regardless of the plant mode or power level, and regardless

of the significance of the structure, system, or component that initiated the event. Risk factors are recognized elsewhere in section 50.73. For example, the requirement to report an event or condition that could have prevented fulfillment of the safety function of structures or systems is limited to those structures or systems that are needed to perform specific safety functions.

**Comment S (Modify "operation or condition prohibited by TS"):** Regarding 50.73(a)(2)(i)(B). Revise this section to read, "Any operation or condition occurring within three years of the date of discovery which was prohibited by the plant's CURRENT Technical Specifications." This rewrite would direct plants that recently converted to Improved Standard Technical Specifications to apply the current requirements to the identified condition, rather than having to consider the previous requirements under old technical specifications which are no longer applicable.

**Response:** The NRC agrees. The issue involves the following scenario. A licensee discovers a historical operation or condition that was prohibited by the TS in effect at the time the operation or condition occurred. However, the prohibition has subsequently been removed from the TS. The event is not considered significant, because subsequently the operation or condition was found to be acceptable and the technical specifications have been revised to permit it. Accordingly, the final rule eliminates the requirement to report such events.

**Comment T (Reporting burden would not be decreased):** In addition to the points discussed above under the heading "Comment A," one commenter disagreed with the NRC's assessment that the proposed rule would represent an overall decrease in burden. This disagreement was based on the following points:

(a) *(Telephone notifications are less burdensome than written LERs):* Although the proposed rule will decrease the number of phone-in reports pursuant to 10 CFR 50.72, the commenter believes this burden is very small when compared with the burden of processing and submitting Licensee Event Reports (LERs) pursuant to 10CFR 50.73.

(b) *(Actuation of systems that are currently excluded systems would become reportable):* Per the proposed rule, systems that were excluded from reporting requirements via previous rulemaking because they represented little or no safety significance have been reinstated (e.g., Reactor Water Cleanup System). Such action will now lead to reporting all isolations, even those with no safety significance.

(c) *(Systems not classified as ESF would be treated as ESF):* (e.g., Reactor Core Isolation Cooling System). Systems that are not classified as Engineered Safety Features (ESF) will now be treated as ESF (e.g., Reactor Core Isolation Cooling System).

(d) *(Invalid actuations would be added to the reporting requirements):* Invalid actuations are now included in the reporting requirements. The impact of this change is that the clarifications for what used to be reportable have been deleted. Therefore, the proposed rule

will treat all isolations or movements of a component as reportable regardless of safety significance.

(e) (*The requirements for human performance data would be increased*): The scope of information requested for human performance events has substantially increased, going well beyond previous direct root cause to now include associated contributing factors.

**Response:** The NRC believes that reporting burden will be decreased, for the reasons described in the regulatory analysis. With regard to the specific bases cited for the comment:

(a) The NRC agrees that a telephone notification is less burdensome than a written LER. However, this does not mean that the reporting burden would be increased, or maintained, unless there is some increase in the number of LERs. This is not the case.

(b) The NRC does not agree that the proposed rule would have made actuation of previously excluded systems reportable. The previously excluded systems are: (i) reactor water clean-up system; (ii) control room emergency ventilation system; (iii) reactor building ventilation system; (iv) fuel building ventilation system; or (v) auxiliary building ventilation system. None of these appeared on the proposed list of systems for which actuation would be reportable.

(c) The NRC believes that system actuations added by adoption of the proposed list of systems are outweighed by system actuations eliminated.

(d) The NRC does not agree that invalid actuations are being added to the reporting requirements, because they were already in the reporting requirements.

(e) See the response to Comment J.

**Comment U (*Incentive to disable safety systems*):** In addition to the points discussed above under the heading "Comment E," one commenter indicated that reporting of invalid system actuations provided an incentive to disable safety systems during maintenance activities to avoid the possibility of an inadvertent actuation.

**Response:** The NRC does not agree. Accordingly, the final rule does not eliminate reporting for invalid actuations.

As discussed in the response to Comment E, there is a need for reporting of these events because they are used in making estimates of equipment reliability parameters, which in turn are needed to support the NRC's move towards risk-informed regulation. Also, in the final rule, licensees are not required to provide an immediate notification under Section 50.72 for an invalid system actuation. Furthermore, licensees are given the option of providing a telephone notification within 60 days, rather than submitting a written LER, for an invalid system actuation. These provisions reduce the burden and impact of reporting invalid system actuations.

**Comment V (*Amend 10 CFR 76.120(d)(2) to allow 60 days*):** One commenter noted that the NRC plans to consider the idea of expanding the 60-day deadline for written reports to other

regulations. The commenter recommended amending 10 CFR 76.120(d)(2) to allow 60 days for written reports required under that regulation.

**Response:** The NRC continues to plan to evaluate the need for rulemaking to modify 10 CFR Parts 72 and 73, including the suggestion that 60 days be allowed for written reports required under 10 CFR 72.75 and 73.71. As part of that effort, the NRC will also consider the suggestion that 60 days be allowed for written reports required under 10 CFR 76.120(d)(2).

**Comment W (Enforcement levels):** Some commenters indicated that the proposed characterization of Enforcement Level III for failure to provide a required 1-hour or 8-hour non-emergency telephone notification is too harsh in most cases. They indicated that in most cases the information provided in these non-emergency notifications has low safety significance.

**Response:** As discussed further below under the heading "Enforcement" the philosophy of the Enforcement Policy changes is to base the significance of the reporting violation on its impact on the NRC's ability to provide proper oversight of licensee activities. Accordingly, in some cases, Severity Level III is appropriate for failure to make a required telephone notification and in other cases it is not.

**Comment X (LER format and content):** One commenter recommended that the NRC reconsider a "check the box" approach. The commenter indicated that a check the box approach could be crafted to make LER data entry easier, more consistent, and less ambiguous, without making LERs more difficult for the general public to understand.

**Response:** The NRC does not believe it is feasible to adopt a "check the box" in the final rule because the proposed rule did not include a proposal along those lines and development of a sound system would take considerable time, delaying issuance of the final rule.

**Comment Y (Coordinate with performance indicator efforts):** One commenter suggested careful coordinated consideration among the NRC staff responsible for this rulemaking and those responsible for performance indicator efforts to ensure that reports submitted under 10 CFR 50.73(a)(2)(v) are not being misapplied.

**Response:** The NRC agrees and the suggested coordination has taken place.

**Comment Z:** One commenter recommended that telephone notifications due within 8 hours should only be required when activation of the NRC emergency response organization is actually required.

**Response:** The NRC does not agree that this is a feasible approach because activation of the NRC's emergency response organization is not a simple function of the reporting criterion under which an event is considered to be reportable. For example, the emergency response organization is sometimes activated for events which, at the time of reporting, are considered to correspond to lower levels of emergency classes or non-emergency reporting criteria.

**Comment AA (Do not include criteria for reporting degraded steam generator tubes):**

The Statement of Considerations for the proposed rule and the Draft Revision 2 to NUREG-1022 would indicate that steam generator tube degradation is considered serious, and thus reportable as a seriously degraded Reactor coolant system boundary, if the tubing fails to meet specific performance criteria involving margin against burst and accident induced leakage rate. Most commenters proposed that this guidance be deleted. They stated that the position was based on a Draft Regulatory Guide (DG-1074, Steam Generator Tube Integrity) that has not been approved. Discussions between the industry and the NRC are being held to define the steam generator program and Technical Specification requirements. Some of the examples provided in the proposed section are contrary to agreements that have been made between the industry and the NRC staff. Recognizing that these agreements are still evolving, the proposed revisions to the rule(s) and NUREG 1022 must agree with the final positions on steam generator issues.

**Response:** In the Statement of Considerations for the final rule and the final Revision 2 to NUREG-1022, this guidance reflects current thinking. It is consistent with the proposals under discussion in the broader context of a regulatory guide on steam generator tube integrity. The NRC does not agree that it is necessary to delay issuance of this reporting guidance until a regulatory guide on steam generator tube integrity is approved. The guidance merely provides reasonable examples of degraded steam generator tube conditions which the NRC needs to evaluate. If additional examples are determined to be necessary in the future, they can be promulgated at that time.

### III. DISCUSSION

#### 1. Objectives

The purposes of sections 50.72 and 50.73 remain the same because the basic needs remain the same. The essential purpose of section 50.72 is "... to provide the Commission with immediate reporting 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." (48 FR 39039; August 29, 1983). Section 50.73 "\* \* \* identifies 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." (48 FR 33851; July 26, 1983).

The objectives of these final amendments are as follows:

(1) To better align the reporting requirements with the NRC's needs for information to carry out its safety mission. An example is extending the required initial reporting times for some events, consistent with the time at which the reports are needed for NRC action.

(2) To reduce the reporting burden, consistent with the NRC's needs. An example is eliminating the reporting of design and analysis defects and deviations with little or no risk- or safety-significance.

(3) To clarify the reporting requirements where needed. An example is clarifying the criteria for reporting design or analysis defects or deviations.

(4) Any changes should be consistent with NRC actions to improve integrated plant assessments. For example, reports that are needed in the assessment process should not be eliminated.

## **2. Section by Section Discussion of Final Amendments**

**General requirements and reportable events [section 50.72(a)(1) and section 50.73(a)(1)].** The term "if it occurred within 3 years of the date of discovery" is added to eliminate reporting for conditions that have not existed during the three years prior to discovery. Such a historical event has less significance, and assessing reportability for earlier times can consume considerable resources. For example, assume that a procedure is found to be unclear and, as a result, a question is raised as to whether the plant was ever operated in a prohibited condition. If operation in the prohibited condition is likely, the answer would be reasonably apparent based on the knowledge and experience of the plant's operators and/or a review of operating records for the past three years. The effort required to review all records older than three years, in order to rule out the possibility, is not warranted.

A sentence is added to indicate that for an invalid actuation of an ESF reported under section 50.73(a)(2)(iv) the licensee may, at its option, provide a telephone notification to the NRC Operations Center within 60 days after discovery of the event in lieu of submitting a written LER. For this type of event, a telephone notification will provide the information needed and impose less burden than an LER.

**General requirements [section 50.72(a)(5)].** The requirement to inform the NRC of the type of report being made (i.e., emergency class declared, non-emergency 1-hour report, or non-emergency 8-hour report) is revised to refer to paragraph (a)(1) instead of referring to paragraph (a)(3) to correct a typographical error.

**Required initial reporting times [sections 50.72(a)(5), (b)(1), (b)(2), and new section 50.72(b)(3); and sections 50.73(a)(1) and (d)].** In the final amendments, declaration of an

emergency class continues to be reported immediately after notification of appropriate State or local agencies and not later than 1-hour after declaration. This includes declaration of an Unusual Event, the lowest emergency class.

Deviations from technical specifications authorized pursuant to 10 CFR 50.54(x) continue to be reported as soon as practical and in all cases within 1 hour of occurrence. These two criteria capture those events where there may be a need for immediate action by the NRC to protect public health and safety.

The requirement to report an 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 renumbered from section 50.72(b)(2)(vi) to section 50.72(b)(2)(xi). In other respects this reporting criterion is unchanged, and the event is reportable within 4 hours, if not reported within 1 hour. This provides the information at the time it may be needed to respond to heightened public concern.

The requirement to report a natural phenomenon or other external event that poses an actual threat to plant safety, or significantly hampers site personnel in the performance of duties necessary for safe operation in section 50.72(b)(1)(iii) is deleted. Events of this type are captured by declaration of an emergency class, which is reportable within 1 hour.

The requirement to report an internal event that poses an actual threat to plant safety, or significantly hampers site personnel in the performance of duties necessary for safe operation, including fires, toxic gas releases, or radioactive releases in section 50.72(b)(1)(vi) is deleted. Events of this type are captured by declaration of an emergency class, which is reportable within 1 hour.

The requirement to report an airborne radioactive release, or liquid effluent release, that exceeds specific limits in section 50.72 (b)(2)(iv) is deleted. Releases that are large enough to warrant prompt notification are captured by declaration of an emergency class, which is reportable within 1 hour after the declaration. Releases that involve a news release or notification to other government agencies are reportable within 1 hour after the release or notification.

The remaining non-emergency events that are reportable by telephone under 10 CFR 50.72 are reportable as soon as practical and in all cases within 4 hours or 8 hours (instead of within 1 hour or 4 hours as was previously required). This reduces the burden of rapid reporting, while:

(1) Capturing, within 4 hours, those events where there may be a need for the NRC to take a reasonably prompt action, such as partially activating its response plan to monitor the course of the event.

(2) Capturing, within 8 hours, those events where there may be a need for the NRC to take

an action within about a day, such as initiating a special inspection or investigation.

See the response to Comment D, above, for further discussion.

Written LERs are due within 60 days after discovery of a reportable event or condition (instead of within 30 days as was previously required). Changing the time limit from 30 days to 60 days does not imply that licensees should take longer than they previously did to develop and implement corrective actions. They should continue to do so on a time scale commensurate with the safety significance of the issue. However, for those cases where it does take longer than thirty days to complete a root cause analysis, this change will result in fewer LERs that require amendment (by submittal of an additional report).

The term "within 30 days of the discovery of a reportable event or situation" is deleted from section 50.73(d). This provision is redundant to the provisions of section 50.73(a)(1), which requires that a licensee submit an LER within 60 days after discovery of an event described in section 50.73(a). Retaining the time limit, which is now 60 days, in section 50.73(d) would create a conflict with sections 20.2201 and 20.2203 which require licensees to submit LERs for the events described in those sections within 30 days and in accordance with section 50.73(d).

***Operation or condition prohibited by technical specifications [section 50.73(a)(2)(i)(B)].*** This criterion is modified to eliminate reporting if the technical specification is administrative in nature. Violations of administrative technical specifications have generally not been considered to warrant submittal of an LER, and since 1983 when the LER rule was issued the NRC's event reporting guidelines have excluded almost all cases of such reporting. This change makes the plain wording of the rule consistent with that guidance.

Also, this criterion is modified to eliminate reporting if the event consisted solely of a case of a late surveillance test where the oversight is corrected, the test is performed, and the equipment is found to be functional. This type of event has not proven to be significant because the equipment remained functional.

Finally, this criterion is modified to eliminate reporting of an operation or condition that occurred in the past and was prohibited at that time if, prior to discovery of the event, the technical specifications were revised such that the operation or condition is no longer prohibited. Such an event would have little or no significance because, by the time of discovery, the operation or condition would have been determined to be acceptable and thus permissible under current technical specifications.

***Condition of the nuclear power plant, including its principal safety barriers, being seriously degraded [old sections 50.72(b)(1)(ii) and (b)(2)(i), replaced by new section 50.72(b)(3)(ii)(A); and section 50.73(a)(2)(ii), renumbered to 50.73(a)(2)(ii)(A)].*** Previously, 10 CFR 50.72(b)(1)(ii) and (b)(2)(i) provided the following distinction. During operation, a seriously degraded plant, including its principal safety barriers, was reportable within one hour.

An event discovered while shutdown that had it been discovered during operation would have resulted in a seriously degraded plant, including its principal safety barriers, was reportable within 4 hours. The new 10 CFR 50.72(b)(3)(ii)(A) eliminates the distinction because there are no longer be separate 1-hour and 4-hour categories of non-emergency reports for this criterion. There are only 8-hour non-emergency reports for this criterion.

***Unanalyzed condition that significantly degrades plant safety [sections 50.72(b)(1)(ii)(A) and (b)(2)(i), replaced by new section 50.72(b)(3)(ii)(B); and old section 50.73(a)(2)(ii)(A), renumbered to 50.73(a)(2)(ii)(B)].*** Previously, 10 CFR 50.72(b)(1)(ii)(A) and (b)(2)(i) provided the following distinction. During operation, an unanalyzed condition that significantly compromised plant safety was reportable within 1 hour. An event discovered while shut down that had it been discovered during operation would have resulted in an unanalyzed condition that significantly compromised plant safety was reportable within 4 hours. The new 10 CFR 50.72(b)(2)(ii)(B) eliminates this distinction because there are no longer separate 1-hour and 4-hour categories of non-emergency reports for this reporting criterion. There are only 8-hour non-emergency reports for this criterion.

In addition, the new 10 CFR 50.72(b)(2)(ii)(B) and 50.73(a)(2)(ii)(B) refer to a condition that significantly degrades plant safety rather than a condition that significantly compromises plant safety. This is an editorial change intended to better reflect the nature of the criterion.

***Condition that is outside the design basis of the plant [old section 50.72(b)(2)(ii)(B); and old section 50.73(a)(2)(ii)(B)].*** This criterion is deleted. A condition outside the design basis of the plant is still required to be reported if it is significant enough to qualify under one or more of the following criteria.

***Plant safety significantly degraded.*** If a condition outside the design basis of the plant (or any other unanalyzed condition) is significant enough that, as a result, plant safety is significantly degraded, the condition is reportable under sections 50.72(b)(2)(ii)(B) and 50.73(a)(2)(ii)(B) [i.e., an unanalyzed condition that significantly degrades plant safety].

As was previously indicated in the 1983 Statements of Considerations for 10 CFR 50.72 and 50.73, with regard to an unanalyzed condition that significantly compromises plant safety, "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."<sup>1</sup>

"When applying engineering judgment, and there is a doubt regarding whether to report or not, the Commission's policy is that licensees should make the report."<sup>2</sup>

"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."<sup>3</sup>

"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."<sup>4</sup>

Furthermore, beyond the examples given in 1983, examples of reportable events include discovery that a system required to meet the single failure criterion does not do so.

In another example, if fire barriers are found to be missing, such that the required degree of separation for redundant safe shutdown trains is lacking, the event is reportable. On the other hand, if a fire wrap, to which the licensee has committed, is missing from a safe shutdown train but another safe shutdown train is available in a different fire area, protected such that the required separation for safe shutdown trains is still provided, the event is not reportable.

Structure or system not capable of performing its specified safety function. If a design or analysis defect or deviation (or any other event or condition) is significant enough that, as a result, a structure or system is not capable of performing its specified safety functions, the condition is reportable under sections 50.72(b)(2)(v) and 50.73(a)(3)(v) [i.e., an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: shut down the reactor ...; remove residual heat; control the release of radioactive material; or mitigate the consequences of an accident].

For example, in one case an annual inspection indicated that some bearings were wiped or cracked on both emergency diesel generators (EDGs). Although the EDGs were running prior to the inspection, the event was reportable because there was reasonable doubt about the ability of the EDGs to operate for an extended period of time, as required.

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<sup>1</sup> 48 FR 39042, August 29, 1983 and 48 FR 33856, July 26, 1983.

<sup>2</sup> 48 FR 39042, August 29, 1983.

<sup>3</sup> 48 FR 39042, August 29, 1983 and 48 FR 33856, July 26, 1983.

<sup>4</sup> 48 FR 39042, August 29, 1983 and 48 FR 33856, July 26, 1983.

Train inoperable longer than allowed. If a design or analysis defect or deviation (or any other event or condition) is significant enough that, as a result, one train of a multiple train system controlled by the plant's TS is not capable of performing its specified safety functions, and thus the train is inoperable longer than allowed by the TS, the condition is reportable under section 50.73(a)(2)(i)(B) [i.e., an operation or condition prohibited by TS].

For example, if it is found that an exciter panel for one EDG lacks appropriate seismic restraints because of a design, analysis or construction inadequacy and, as a result, there is reasonable doubt about the EDG's ability to perform its specified safety functions during and after a Safe Shutdown Earthquake (SSE), the event would be reportable.

Or, for example, if it is found that a loss of offsite power could cause a loss of instrument air and, as a result, there is reasonable doubt about the ability of one train of the auxiliary feedwater system to perform its specified safety functions for a certain postulated steam line breaks, the event would be reportable.

Principal safety barrier seriously degraded. If a condition outside the design basis of the plant (or any other event or condition) is significant enough that, as a result, a principal safety barrier is seriously degraded, it is reportable under sections 50.72(b)(3)(ii)(B) and 50.73(a)(2)(ii)(B) [i.e., any event or condition that results in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded]. This reporting criterion applies to material (e.g., metallurgical or chemical) problems that cause abnormal degradation of or stress upon the principal safety barriers (i.e., the fuel cladding, reactor coolant system pressure boundary, or the containment) such as:

- (i) 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.
- (ii) Welding or material defects in the primary coolant system which cannot be found acceptable under ASME Section XI, IWB-3600, "Analytical Evaluation of Flaws" or ASME Section XI, Table IWB-3410-1, "Acceptance Standards."

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<sup>5</sup> Steam generator tube degradation is considered serious if the tubing fails to meet the following two performance criteria:

- Steam generator tubing shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cooldown and all anticipated transients included in the design specification) and design basis accidents. This includes retaining a margin of 3.0 against burst under normal steady state full power operation and a margin of 1.4 against burst under the limiting design basis accident concurrent

(iii) Serious steam generator tube degradation.<sup>5</sup>

(iv) Low temperature over pressure transients where the pressure-temperature relationship violates pressure-temperature limits derived from Appendix G to 10 CFR Part 50 (e.g., TS pressure-temperature curves).

(v) Loss of containment function or integrity, including containment leak rate tests where the total containment as-found, minimum-pathway leak rate exceeds the limiting condition for operation (LCO) in the facility's TS.<sup>6</sup>

Common cause inoperability of independent trains or channels. If a condition outside the design basis of the plant (or any other event or condition) is significant enough that, as a result, independent trains or channels become inoperable, it would be reportable under section 50.72(a)(2)(vii) [i.e., an event where a single cause or condition caused independent trains or channels to become inoperable]. For example, in one case it was found that independent circuit breakers, required to operate after a LOCA, were not qualified for the expected radiation levels (and were thus considered inoperable). In another example, a wiring error caused independent containment isolation valves to be incapable of properly closing (i.e., they would not close tightly because they would stop closing based on limit switch operation rather than torque).

Corrective action. Finally, a condition outside the design basis of the plant (or any other event or condition) would be reportable if it is significant enough that, as a result, corrective action is required for a single cause or condition in order to ensure the ability of more than one

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with a safe shutdown earthquake.

- The primary to secondary accident induced leakage rate for the limiting design basis accident, other than a steam generator tube rupture, shall not exceed the leakage rate assumed in the accident analysis in terms of total leakage rate for all steam generators and leakage rate for an individual steam generator. The licensing basis accident analyses typically assume a 1 g.p.m. primary to secondary leak rate per steam generator, except for specific types of degradation at specific locations where the tubes are confined, as approved by the NRC and enumerated in conjunction with the list of approved repair criteria in the licensee's design basis documents.

<sup>6</sup> The LCO typically employs  $L_a$ , which is defined in Appendix J to 10 CFR Part 50 as the maximum allowable containment leak rate at pressure  $P_a$ , the calculated peak containment internal pressure related to the design basis accident. Minimum-pathway leak rate means the minimum leak rate that can be attributed to a penetration leakage path; for example, the smaller of either the inboard or outboard valve's individual leak rates.

train or channel to perform its specified safety function. This new criterion is contained in new section 50.73(a)(2)(ii)(C) as discussed below.

**Corrective actions [new section 50.73(a)(2)(ii)(C)].** This new criterion requires reporting of an event or condition that requires corrective action for a single cause or condition in order to ensure the ability of more than one train or channel to perform its specified safety function. Events of this type indicate a condition where the NRC needs to consider taking action to ensure the condition is adequately addressed at the reporting plant or at other plants as appropriate. That is, if the condition requires correction for multiple trains or channels at one plant, it may require action at other plants as well.

This criterion pertains only to written LERs required by 10 CFR 50.73. Telephone notifications are not required under this criterion. For events of this type, the "reporting clock" does not start until it is determined that the event or condition requires corrective action for a single cause or condition in order to ensure the ability of more than one train or channel to perform its specified safety function. It is not possible to know whether an event is reportable under this criterion until that point is reached. Once the determination is made, a written LER is required within 60 days.

This paragraph involves corrective actions taken for significant conditions adverse to quality, as required by 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." However, it does not include those cases which only involve the checking of multiple trains or channels to determine whether there is a need for action. For example, if one train of a system fails as a result of a sticky solenoid operated valve, it is prudent to check other trains to see if there is a common problem. After checking, if no further action is required to ensure the ability of multiple trains to perform their safety functions, the event is not reportable under paragraph (a)(2)(ii)(C).

This paragraph applies to common cause problems that span more than a single train or channel. It may apply to two trains or channels in one system, or it may apply to one train or channel in one system and another train or channel in another system. This is true regardless of whether or not the trains or channels have the same safety function and/or the trains or channels are assumed to be independent in the plant's safety analyses. For example, if it is necessary to correct a single cause or condition to ensure the ability of Train A of the an auxiliary feedwater system and Train A of a high pressure safety injection system to perform their safety functions, paragraph (a)(2)(ii)(C) applies. This is the case even though the two trains have different safety functions and may not be assumed to be independent in the plant's safety analysis.

It is estimated that the combination of removing the previous requirement to report a condition outside the design basis of the plant and adding this criterion will, on balance, result in fewer reports. In addition, the events reportable under this criterion are events that would likely

have been considered reportable under the previous requirement to report a condition outside the design basis of the plant.

An example of a reportable event is as follows. A motor operated valve in one train of the RHR/LPCI system was found with a crack 75 percent through the stem. The root cause was environmentally assisted stress corrosion cracking. This resulted from installation of an inadequate stem material, in both trains, as part of a plant modification package, about 14 years earlier. Pending replacement with better material, the valve stems in both trains were replaced with new stems. Although the new stems were of the same material, they provided for considerable time before failure could be expected. The event would be captured by this criterion because replacement of the valve stems in both RHR trains was necessary to ensure their ability to perform their specified safety functions.

An example of a non-reportable event is as follows. While processing calculations it was determined that four motor operated valves within the reactor building were located below the accident flood level and were not qualified for that condition. Pending replacement with qualified equipment, the licensee determined that the valves were operable based on the following considerations. Three of the valves had sufficiently short opening times that their safety functions would be completed before they were submerged. The fourth valve was normally open and could remain open. After flooding, valve position indication could be lost, but valve position could be established indirectly using process parameter indications. The event would not be reportable under this criterion. The valves were determined to be capable of performing their specified safety functions when they were found to be operable. The situation was not getting worse with the passage of time. Thus, although replacement with qualified valves necessary for compliance with the NRC's rules, it was not necessary in order to ensure the capability of the trains to perform their specified safety functions.

Additional examples may be found in event reporting guidelines in NUREG-1022, Revision 2.

***Condition not covered by the plant's operating and emergency procedures [old section 50.72(b)(2)(ii)(C); and old section 50.73(a)(2)(ii)(C)].*** This criterion is deleted because it does not result in worthwhile reports aside from those that are captured by other reporting criteria such as:

- (1) An unanalyzed condition that significantly degrades plant safety;
- (2) An event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: shut down the reactor and maintain it in a safe shutdown condition; remove residual heat; control the release of radioactive material; or mitigate the consequences of an accident;
- (3) An event or condition that results in the condition of the nuclear power plant, including

its principal safety barriers, being seriously degraded;

(4) An operation or condition prohibited by the plant's TS;

(5) An event or condition that results in actuation of an ESF;

(6) An 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.

***External event that poses an actual threat or significantly hampers personnel [old section 50.72(b)(1)(iii), deleted; and section 50.73(a)(2)(iii)].*** This criterion requires reporting a natural phenomenon or other external event that poses an actual threat to plant safety, or significantly hampers site personnel in the performance of duties necessary for safe operation. Section 50.72(b)(1)(iii) is deleted because it is redundant to section 50.72(a)(1)(i). That is, events of this type are captured by declaration of an emergency class, which is reportable within 1 hour. Section 50.73(a)(2)(iii) is retained in order to ensure submittal of an LER. This provision is not redundant because there is no criterion in section 50.73 that generally requires an LER for declaration of an emergency class.

***System actuation [old sections 50.72(b)(1)(iv) and (b)(2)(ii), replaced by new sections 50.72(b)(2)(iv)(A), (b)(2)(iv)(B), and (b)(3)(iv); and section 50.73(a)(2)(iv)].*** Previously, sections 50.72(b)(1)(iv) and (b)(2)(ii) provided the following distinction: an event that results or should have resulted in ECCS discharge into the reactor coolant system as a result of a valid signal was reportable within 1 hour; any other engineered safety feature (ESF) actuation, including reactor protection system (RPS) actuation, was reportable within 4 hours. The new 10 CFR 50.72(b)(2)(iv)(A) requires reporting an event that results or should have resulted in ECCS discharge into the reactor coolant system as a result of a valid signal within 4 hours. The new 50.72(b)(2)(iv)(B) requires reporting a reactor scram during critical operation within 4 hours. The new 50.72(b)(3)(iv) requires reporting other ESF actuations within 8 hours. See the response to Comment D, above, for further discussion.

The new section 50.72(b)(2)(iv) eliminates telephone reporting for invalid actuations, except for actuation of the RPS when the reactor is critical. These events are not significant and thus telephone reporting is not needed. The final amendments do not eliminate the requirement for reporting of an invalid actuation under 10 CFR 50.73. There is still a need for reporting of these events because they are used in making estimates of equipment reliability parameters, which in turn are needed to support the Commission's move towards risk-informed regulation. However, for an invalid actuation reported under section 50.73(a)(2)(iv), other than actuation of the RPS when the reactor is critical, section 50.73(a)(1) provides the option of making a telephone report to the NRC operations center within 60 days instead of submitting a written LER. The telephone report is far less burdensome. Sixty days is an appropriate time because

the information is not needed immediately. (See the response to Comment E above for further discussion of this need.)

Previously, the rules generally required reporting the actuation of any ESF including the RPS. The final rule, instead, generally requires reporting for actuation of specific listed systems. These systems are:

- (1) Reactor protection system (RPS) including: reactor scram or reactor trip.
- (2) General containment isolation signals affecting containment isolation valves in more than one system or multiple main steam isolation valves (MSIVs).
- (3) Emergency core cooling systems (ECCS) for pressurized water reactors (PWRs) including: high-head, intermediate-head, and low-head injection systems and the low pressure injection function of residual (decay) heat removal systems.
- (4) ECCS for boiling water reactors (BWRs) including: high-pressure and low-pressure core spray systems; high-pressure coolant injection system; low pressure injection function of the residual heat removal system.
- (5) BWR reactor core isolation cooling system; isolation condenser system; and feedwater coolant injection system.
- (6) PWR auxiliary feedwater system.
- (7) Containment heat removal and depressurization systems, including containment spray and fan cooler systems.
- (8) Emergency ac electrical power systems, including: emergency diesel generators (EDGs); hydroelectric facilities used in lieu of EDGs at the Oconee Station; and BWR dedicated Division 3 EDGs.
- (9) Emergency service water (ESW) systems that do not normally run and that serve as ultimate heat sinks. ESW system actuations are reportable under section 50.73 only.

This approach provides for consistent reporting of actuations for these highly risk-significant systems. At the same time, it eliminates reporting of actuations for systems of lesser risk-significance, such as actuation of ventilation systems that are considered to be ESFs.

Section 50.72 excludes reporting for an actuation that resulted from and was part of a pre-planned sequence during testing or reactor operation. It further excludes reporting of an invalid actuation, except for a reactor scram or reactor trip when the reactor is critical.

A valid actuation is one that results from either a "valid signal" or an intentional manual initiation. A "valid signal" is one that results from actual plant conditions or parameters satisfying the requirements for system actuation. An invalid actuation is one that does not meet the criteria for being valid.

Section 50.73 also excludes reporting for an actuation that resulted from and was part of a pre-planned sequence during testing or reactor operation. It further excludes reporting of an

invalid actuation that occurred when the system was properly removed from service or an invalid actuation that occurred after the safety function had been already completed.

For those invalid actuations which are reportable under section 50.73, a licensee may provide a telephone notification within 60 days, rather than submitting an LER. This option to provide a telephone notification rather than an LER does not apply, however, to a reactor scram or reactor trip that occurs while the reactor is critical.

***Event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: shut down the reactor and maintain it in a safe shutdown condition; remove residual heat; control the release of radioactive material; or mitigate the consequences of an accident [old section 50.72(b)(2)(iii), replaced by new sections 50.72(b)(3)(v) and (b)(3)(vi); and sections 50.73(a)(2)(v) and (a)(2)(vi)].*** The phrase "event or condition that alone could have prevented the fulfillment of the safety function of structures or systems \* \* \*" is clarified by deleting the word "alone". This clarifies the requirements by more clearly reflecting the principle that it is necessary to consider other existing plant conditions in determining the reportability of an event or condition under this criterion. For example, if one train of a two train system is incapable of performing its safety function for one reason, and the other train is incapable of performing its safety function for a different reason, the event is reportable.

The term "at the time of discovery" is added to section 50.72(b)(3)(v) to eliminate telephone notification for a condition that no longer exists, or no longer has an effect on required safety functions. For example, it might be discovered that at some time in the past, both trains of a two train system were incapable of performing their safety function, but the condition was subsequently corrected and no longer exists. In another example, while the plant is shutdown, it might be discovered that during a previous period of operation a system was incapable of performing its safety function, but the system is not currently required to be operable. These events are considered significant, and an LER is required, but there is no need for telephone notification.

A new paragraph, section 50.72(b)(3)(vi) is added to clarify section 50.72. The new paragraph explicitly states that telephone reporting is not required under section 50.72(b)(2)(v) for single failures if redundant equipment in the same system was operable and available to perform the required safety function. That is, although one train of a system may be incapable of performing its safety function, reporting is not required under this criterion if that system is still capable of performing the safety function. This is the same principle that was and continues to be stated explicitly in section 50.73(a)(2)(vi) with regard to written LERs.

***Airborne radioactive release or liquid effluent release [old sections 50.72(b)(2)(iv), deleted; and section 50.73(a)(2)(viii); and section 50.73(a)(2)(ix), deleted].*** These criteria

require reporting releases of radioactive material at a very low level because, for a power reactor, such a release would indicate a breakdown in the licensee's programs to control releases -- not because of the impact of such a release.

Section 50.72(b)(2)(iv) is deleted because immediate notification is not needed for releases at such a low level. Declaration of an emergency class, which occurs at a somewhat higher (but still low) level, captures releases that are large enough to warrant immediate notification. Declaration of an emergency class is reportable within 1 hour under section 50.72(a)(1)(i).

Section 50.73(a)(2)(viii) is retained in order to ensure submittal of an LER. Even if the release is very small, the NRC needs to review the event and consider whether action is needed to ensure the cause is addressed at other plants as appropriate. There is no criterion in section 50.73 that generally requires an LER for declaration of an emergency class.

Section 50.73(a)(2)(viii) is deleted because it is not correct. It indicated that reporting under section 50.73(a)(2)(viii) satisfied the requirements of section 20.2203(a)(3). However, some events captured by section 20.2203(a)(3) are not captured by section 50.73(a)(2)(viii).

***Airborne radioactive release \* \* \* and liquid effluent release \* \* \* [old section 50.72(b)(2)(iv), renumbered to 50.72(b)(3)(viii); and sections 50.73(a)(2)(viii) and (a)(2)(ix)].***

The statement indicating reporting under section 50.72(b)(2)(viii) satisfies the requirements of section 20.2202 is removed because it is not correct. For example, some events captured by section 20.2202 are not captured by section 50.72(b)(2)(viii). Also, the statement indicating that reporting under section 50.73(a)(2)(viii) satisfies the requirements of section 20.2203(a)(3) is deleted because it is not correct. Some events captured by section 20.2203(a)(3) are not captured by section 50.73(a)(2)(viii).

***Internal event that poses an actual threat or significantly hampers personnel [old section 50.72(b)(1)(vi), deleted; and section 50.73(a)(2)(x)].*** This criterion requires reporting an internal event that poses an actual threat to plant safety, or significantly hampers site personnel in the performance of duties necessary for safe operation, including fires, toxic gas releases, or radioactive releases. Section 50.72(b)(1)(vi) is deleted because it is redundant to section 50.72(a)(1)(i). That is, events of this type are captured by declaration of an emergency class, which is reportable within 1 hour. Section 50.73(a)(2)(x) is retained in order to ensure submittal of an LER. This provision is not redundant because there is no criterion in section 50.73 that generally requires an LER for declaration of an emergency class.

***Major loss of emergency assessment capability, offsite response capability, or communication capability [old section 50.72(b)(2)(v), replaced by new section 50.72(b)(3)(xii)].*** The new section is modified by adding the word "offsite" in front of the term "communications capability" to make it clear that the requirement does not apply to internal plant communication systems.

**Contents of LERs [section 50.73(b)(2)(ii)(F)].** Paragraph (F) is revised to correct the address of the NRC Library.

**Spent fuel storage cask problems [old sections 50.72(b)(2)(vii) and 72.16(a)(1), (a)(2), (b) and (c)].** The provisions of section 50.72(b)(2)(vii) are deleted because these reporting criteria are redundant to the reporting criteria contained in sections 72.216(a)(1), (a)(2), and (b). Repetition of the same reporting criteria in different sections of the rules added unnecessary complexity and was inconsistent with the current practice in other areas, such as reporting of safeguards events as required by section 73.71.

Also, a conforming amendment is made to section 72.216. This is necessary because section 72.216(a) previously relied on the provisions of section 50.72(b)(2)(vii), which are now deleted, to establish the time limit for initial notification. The amended section 72.216 refers to sections 72.74 and 72.75 for initial notification and followup reporting requirements.

**Exemptions [section 50.73(f)].** The provisions of this section are deleted because the exemption provisions in section 50.12 provide for granting of exemptions when they are warranted. Including another, section-specific exemption provision in section 50.73 adds unnecessary complexity to the rules.

### **3. Revisions to Event Reporting Guidelines in NUREG-1022**

A report, NUREG-1022, Revision 2, "Event Reporting Guidelines, 10 CFR 50.72 and 50.73," is being made available concurrently with the final amendments to 10 CFR 50.72 and 50.73. The report is available for inspection in the NRC Public Document Room or it may be viewed and downloaded electronically via the interactive rulemaking web site established by NRC for this rulemaking, as discussed above under the heading ADDRESSES. Single copies may be obtained from the contact listed above under the heading "For Further Information Contact." In the report, guidance that is considered to be new or different in a meaningful way, relative to that provided in NUREG-1022, Revision 1, is indicated by redlining the appropriate text.

### **4. Reactor Oversight**

The NRC is implementing revisions to the process for oversight of operating reactors, including inspection, assessment and enforcement processes. In connection with this effort, the NRC has considered the kinds of event reports that would be eliminated by the final rules and concluded that the changes would not have a deleterious effect on the oversight process.

In connection with the proposed rule, public comment was invited on whether or not this is

the case. In particular, it was requested that if any examples to the contrary are known they be identified. None were identified.

## **5. Enforcement**

The NRC intends to modify its existing enforcement policy in connection with the final amendments to sections 50.72 and 50.73. The philosophy of the changes is to base the significance of the reporting violation on the impact on the NRC's ability to provide proper oversight of licensee activities. For example, a late report may impact the ability of the NRC to fulfill its obligations of fully understanding issues that are required to be reported in order to accomplish its public health and safety mission, which in many cases involves reacting to reportable issues or events. As such, the NRC intends to revise the Enforcement Policy, NUREG-1600<sup>7</sup> as follows:

(1) Appendix B, Supplement I.C--Examples of Severity Level III violations.

(a) Example 11 will be revised to read as follows--A failure to provide the required 1-hour telephone notification of an emergency action taken pursuant to 10 CFR 50.54(x).

(b) An additional example will be added that will read as follows--A failure to provide a required 1-hour, 4-hour or 8-hour non-emergency telephone notification pursuant to 10 CFR 50.72.

(c) An additional example will be added that will read as follows--A late 4-hour or 8-hour notification that substantially impacts agency response.

(2) Appendix B, Supplement I.D--Examples of Severity Level IV violations.

(a) Example 4, will be revised to read as follows--A failure to provide a required 60-day written LER pursuant to 10 CFR 50.73.

These changes in the Enforcement Policy will be consistent with the overall objective of the rule change of better aligning the reporting requirements with the NRC's reporting needs. The Enforcement Policy changes will correlate the Severity Level of the infractions with the relative importance of the information needed by the NRC.

Section IV.A.3 of the Enforcement Policy provides that the Severity Level of an untimely report may be reduced depending on the individual circumstances. In deciding whether the Severity Level should be reduced for an untimely 1-hour or 8-hour non-emergency report, the impact that the failure to report had on any agency response will be considered. For example, if

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<sup>7</sup>The examples refer to those published in the November 9, 1999 revision to NUREG-1600.

a delayed 8-hour reportable event impacted the timing of a followup inspection that was deemed necessary, then the Severity Level will not normally be reduced. Similarly, a late notification that delayed the NRC's ability to perform an engineering analysis of a condition to determine if additional regulatory action was necessary will generally not be considered for disposition at a reduced Severity Level.

## **6. *Electronic Reporting***

The NRC is currently in the process of implementing an electronic document management and reporting program, known as the Agency-wide Document Access and Management System (ADAMS) that will provide for electronic submittal of many types of reports, including LERs. Accordingly, no separate rulemaking effort to provide for electronic submittal of LERs is necessary.

## **7. *State Input***

Many States (Agreement States and Non-Agreement States) have agreements with power reactors to inform the States of plant issues. State reporting requirements are frequently triggered by NRC reporting requirements. Accordingly, the NRC sought State comment on issues related to the proposed amendments via letters to State Liaison Officers as well as by a specific request in the Federal Register notice on the proposed rule. Comments on the proposed rule were received from one State agency, as discussed above under the heading "Comment D."

## **8. *Plain Language***

The President's Memorandum dated June 1, 1998, entitled, "Plain Language in Government Writing," directed that the Federal government's writing be in plain language. The NRC requested comments on the proposed rule specifically with respect to the clarity and effectiveness of the language used. A number of suggestions aimed at improving the clarity and effectiveness of the language used were received and incorporated into the final rule.

## **IV. ENVIRONMENTAL IMPACT: CATEGORICAL EXCLUSION**

The NRC has determined that this proposed regulation is the type of action described in categorical exclusion 10 CFR 51.22(c)(3)(iii). Therefore, neither an environmental impact

statement nor an environmental assessment has been prepared for this proposed regulation.

## **V. BACKFIT ANALYSIS**

The NRC has determined that the backfit rule, 10 CFR 50.109, does not apply to information collection and reporting requirements such as those contained in the final rule because they do not impose backfits as defined in 10 CFR 50.109(a)(1). Therefore, a backfit analysis has not been prepared. However, as discussed below, the NRC has prepared a regulatory analysis for the proposed rule, which examines the costs and benefits of the proposed requirements in this rule. The Commission regards the regulatory analysis as a disciplined process for assessing information collection and reporting requirements to determine that the burden imposed is justified in light of the potential safety significance of the information to be collected.

## **VI. REGULATORY ANALYSIS**

The NRC prepared a draft regulatory analysis for the proposed rule to examine the costs and benefits of the alternatives considered by the NRC, and public comments on this analysis were requested in connection with the proposed rule. As discussed above under the heading "Comment T," some commenters disagreed with the proposition that the rule would reduce reporting burden. These comments were addressed by incorporating changes into the final rule, such that the assumptions in the draft regulatory analysis are sustained, and no changes have been made to the regulatory analysis. The regulatory analysis is available for inspection in the NRC Public Document Room or it may be viewed and downloaded electronically via the interactive rulemaking web site established by NRC for this rulemaking, as discussed above under the heading ADDRESSES. Single copies may be obtained from the contact listed above under the heading "For Further Information Contact."

## **VII. PAPERWORK REDUCTION ACT STATEMENT**

This rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). This rule has been reviewed and approved by the Office of Management and Budget.

The public reporting burden for the currently existing reporting requirements in 10 CFR 50.72 and 50.73 is estimated to average about 790 hours per response (i.e., per commercial nuclear power reactor per year) including the time for reviewing instructions, searching existing

data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. It is estimated that the proposed amendments would impose a one-time implementation burden of about 200 hours per reactor, after which there would be a recurring annual burden reduction of about 200 hours per reactor per year.

Send comments on any aspect of this proposed information collection, including suggestions for reducing this burden, to the Information and Records Management Branch (T-5 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 or by Internet electronic mail to BJS1@NRC.GOV; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150AF98), Office of Management and Budget, Washington, DC 20503.

### ***Public Protection Notification***

The NRC may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a currently valid OMB control number.

## **VIII. REGULATORY FLEXIBILITY ACT CERTIFICATION**

In accordance with the Regulatory Flexibility Act (5 U.S.C. 605(b)), the Commission certifies that this rule does not have a significant economic impact on a substantial number of small entities. This proposed rule affects only the licensing and operation of nuclear power plants. The companies that own these plants do not fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or the size standards established by the NRC (10 CFR 2.810).

## **IX. SMALL BUSINESS REGULATORY ENFORCEMENT FAIRNESS ACT**

In accordance with the Small Business Regulatory Enforcement Fairness Act of 1996, the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of OMB.

## **X. NATIONAL TECHNOLOGY TRANSFER AND ADVANCEMENT ACT**

The National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with

applicable law or otherwise impractical. There are no consensus standards that apply to the requirements imposed by this rule. Thus, the provisions of the Act do not apply to this rule.

## **XI. FINAL AMENDMENTS**

### **List of Subjects**

#### *10 CFR Part 50*

Antitrust, Classified information, Criminal penalties, Fire prevention, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

#### *10 CFR Part 72*

Criminal penalties, Manpower training programs, Nuclear materials, Occupational safety and health, Reporting and recordkeeping requirements, Security measures, and Spent fuel.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, the NRC is adopting the following amendments to 10 CFR Part 50 and 10 CFR Part 72.

## **PART 50--DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES**

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

Authority: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 955 as amended (42 U.S.C. 2131, 2235), sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, 50.54(D.D.), and 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138). Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235). Sections 50.33a, 50.55a and Appendix Q also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42

U.S.C. 5844). 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. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. Section 50.72 is amended by revising paragraphs (a) and (b) to read as follows:

**Sec. 50.72 Immediate notification requirements for operating nuclear power reactors.**

**(a) General requirements.<sup>1</sup>** (1) Each nuclear power reactor licensee licensed under Sec. 50.21(b) or Sec. 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;<sup>2</sup> or

(ii) Those non-emergency events specified in paragraph (b) of this section that occurred within three years of the date of discovery.

(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.<sup>3, 4</sup>

(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) The licensee shall activate the emergency response data system (ERDS)<sup>5</sup> as soon as

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<sup>1</sup> Other requirements for immediate notification of the NRC by licensed operating nuclear power reactors are contained elsewhere in this chapter, in particular Secs. 20.1906, 20.2202, 50.36, 72.74, 72.75, and 73.71.

<sup>2</sup> These Emergency Classes are addressed in Appendix E of this part.

<sup>3</sup> Commercial telephone number of the NRC Operations Center is (301) 816-5100.

<sup>4</sup> [Reserved]

<sup>5</sup> Requirements for ERDS are addressed in Appendix E, Section VI.

possible but not later than one hour after declaring an emergency class of alert, site area emergency, or general emergency.

**(5)** When making a report under paragraph (a)(1) of this section, the licensee shall identify:

- (i) The emergency class declared; or
- (ii) Either paragraph (b)(1), "One-hour report," paragraph (b)(2) "Four-hour report," or paragraph (b)(3), "Eight-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 deviation from the plant's technical specifications authorized pursuant to Sec. 50.54(x) of this part.

**(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) The initiation of any nuclear plant shutdown required by the plant's technical specifications.

(ii) -(iii) [Reserved]

(iv)(A) 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 except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.

(B) Any event or condition that results in actuation of the reactor protection system (RPS) when the reactor is critical except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.

(v) - (x) [Reserved]

(xi) 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.

**(3) Eight-hour reports.** If not reported under paragraphs (a), (b)(1) or (b)(2) of this section, the licensee shall notify the NRC as soon as practical and in all cases within eight hours of the occurrence of any of the following:

(i) [Reserved]

(ii) Any event or condition that results in:

(A) The condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or

(B) The nuclear power plant being in an unanalyzed condition that significantly degrades plant safety.

(iii) [Reserved]

(iv)(A) Any event or condition that resulted in valid actuation of any of the systems listed in paragraph (b)(3)(iv)(B) of this section, except when the actuation resulted from and was part of a pre-planned sequence during testing or reactor operation.

(B) The systems to which the requirements of paragraph (b)(3)(iv)(A) of this section apply are:

(1) Reactor protection system (RPS) including: reactor scram and reactor trip.<sup>6</sup>

(2) General containment isolation signals affecting containment isolation valves in more than one system or multiple main steam isolation valves (MSIVs).

(3) Emergency core cooling systems (ECCS) for pressurized water reactors (PWRs) including: high-head, intermediate-head, and low-head injection systems and the low pressure injection function of residual (decay) heat removal systems.

(4) ECCS for boiling water reactors (BWRs) including: high-pressure and low-pressure core spray systems; high-pressure coolant injection system; low pressure injection function of the residual heat removal system.

(5) BWR reactor core isolation cooling system; isolation condenser system; and feedwater coolant injection system.

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<sup>6</sup> Actuation of the RPS when the reactor is critical is reportable under paragraph (b)(2)(iv) of this section.

(6) PWR auxiliary feedwater system.

(7) Containment heat removal and depressurization systems, including containment spray and fan cooler systems.

(8) Emergency ac electrical power systems, including: emergency diesel generators (EDGs); hydroelectric facilities used in lieu of EDGs at the Oconee Station; and BWR dedicated Division 3 EDGs.

(v) Any event or condition that at the time of discovery 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.

(vi) Events covered in paragraph (b)(3)(v) of this section may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, individual component failures need not be reported pursuant to paragraph (b)(3)(v) of this section if redundant equipment in the same system was operable and available to perform the required safety function.

(vii) - (xi) [Reserved]

(xii) Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.

(xiii) Any event that results in a major loss of emergency assessment capability, offsite response capability, or offsite communications capability (e.g., significant portion of control room indication, emergency notification system, or offsite notification system).

\* \* \* \* \*

3. Section 50.73 is amended by revising sections (a), (b)(2)(ii)(F), (b)(2)(ii)(J), (b)(3), (d), and (e) and by removing and reserving paragraph (f) to read as follows:

**Sec. 50.73 Licensee event report system.**

**(a) Reportable events. (1)** The holder of an operating license for a nuclear power plant (licensee) shall submit a Licensee Event Report (LER) for any event of the type described in this paragraph within 60 days after the discovery of the event. In the case of an invalid actuation of an engineered safety feature (ESF) reported under section 50.73(a)(2)(iv), other than actuation of the reactor protection system (RPS) when the reactor is critical, the licensee may, at its option, provide a telephone notification to the NRC Operations Center within 60 days after discovery of the event instead of submitting a written LER. Unless otherwise specified in this section, the licensee shall report an event if it occurred within three years of the date of discovery regardless of the plant mode or power level, and regardless of the significance of the structure, system, or component that initiated the event.

**(2)** The licensee shall report:

(i)(A) The completion of any nuclear plant shutdown required by the plant's technical specifications.

(B) Any operation or condition which was prohibited by the plant's technical specifications except when:

(1) The technical specification is administrative in nature;

(2) The event consists solely of a case of a late surveillance test where the oversight is corrected, the test is performed, and the equipment is found to be capable of performing its specified safety functions; or

(3) The technical specification was revised prior to discovery of the event such that the operation or condition was no longer prohibited at the time of discovery of the event.

(C) Any deviation from the plant's technical specifications authorized pursuant to Sec. 50.54(x) of this part.

(ii) Any event or condition that:

(A) Resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded;

(B) Resulted in the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety; or

(C) Required corrective action for a single cause or condition in order to ensure the ability of more than one train or channel to perform its specified safety function.

(iii) Any natural phenomenon or other external condition that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of

duties necessary for the safe operation of the nuclear power plant.

(iv)(A) Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B) of this section, except when:

(1) The actuation resulted from and was part of a pre-planned sequence during testing or reactor operation; or

(2) The actuation was invalid and;

(i) Occurred while the system was properly removed from service; or

(ii) Occurred after the safety function had been already completed.

(B) The systems to which the requirements of paragraph (a)(2)(iv)(A) of this section apply are:

(1) Reactor protection system (RPS) including: reactor scram or reactor trip.

(2) General containment isolation signals affecting containment isolation valves in more than one system or multiple main steam isolation valves (MSIVs).

(3) Emergency core cooling systems (ECCS) for pressurized water reactors (PWRs) including: high-head, intermediate-head, and low-head injection systems and the low pressure injection function of residual (decay) heat removal systems.

(4) ECCS for boiling water reactors (BWRs) including: high-pressure and low-pressure core spray systems; high-pressure coolant injection system; low pressure injection function of the residual heat removal system.

(5) BWR reactor core isolation cooling system; isolation condenser system; and feedwater coolant injection system.

(6) PWR auxiliary feedwater system.

(7) Containment heat removal and depressurization systems, including containment spray and fan cooler systems.

(8) Emergency ac electrical power systems, including: emergency diesel generators (EDGs); hydroelectric facilities used in lieu of EDGs at the Oconee Station; and BWR dedicated Division 3 EDGs.

(9) Emergency service water systems that do not normally run and that serve as ultimate heat sinks.

(v) Any event or condition that 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.

(vi) Events covered in paragraph (a)(2)(v) of this section may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, individual component failures need not be reported pursuant to paragraph (a)(2)(v) of this section if redundant equipment in the same system was operable and available to perform the required safety function.

(vii) Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed 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.

(viii)(A) Any airborne radioactive release that, when averaged over a time period of 1 hour, resulted in airborne radionuclide concentrations in an unrestricted area that exceeded 20 times the applicable concentration limits specified in appendix B to part 20, table 2, column 1.

(B) Any liquid effluent release that, when averaged over a time period of 1 hour, exceeds 20 times the applicable concentrations specified in appendix B to part 20, table 2, column 2, at the point of entry into the receiving waters (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases.

(ix) [Reserved]

(x) Any event that posed an actual threat to the safety of the nuclear power plant or significantly hampered 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.

**(b) \* \* \***

**(2) \* \* \***

**(ii) \* \* \***

(F)(1) The Energy Industry Identification System component function identifier and system name of each component or system referred to in the LER.

(i) The Energy Industry Identification System is defined in: IEEE Std 803-1983 (May 16,

1983) Recommended Practice for Unique Identification in Power Plants and Related Facilities-- Principles and Definitions.

(ii) IEEE Std 803-1983 has been approved for incorporation by reference by the Director of the *Federal Register*.

(2) A notice of any changes made to the material incorporated by reference will be published in the *Federal Register*. Copies may be obtained from the Institute of Electrical and Electronics Engineers, 345 East 47th Street, New York, NY 10017. IEEE Std 803-1983 is available for inspection at the NRC's Technical Library, which is located in the Two White Flint North Building, 11545 Rockville Pike, Rockville, Maryland; and at the Office of the Federal Register, 1100 L Street, NW, Washington, DC.

\* \* \* \* \*

(J) For each human performance related root cause, the licensee shall discuss the cause(s) and circumstances.

\* \* \* \* \*

(3) An assessment of the safety consequences and implications of the event. This assessment must include:

(i) The availability of systems or components that could have performed the same function as the components and systems that failed during the event, and

(ii) For events that occurred when the reactor was shutdown, the availability of systems or components that are needed to shutdown the reactor and maintain safe shutdown conditions, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident.

\* \* \* \* \*

(d) **Submission of reports.** Licensee Event Reports must be prepared on Form NRC 366 and submitted to the U.S. Nuclear Regulatory Commission, as specified in Sec. 50.4.

(e) **Report legibility.** The reports and copies that licensees are required to submit to the Commission under the provisions of this section must be of sufficient quality to permit legible reproduction and micrographic processing.

(f) **[Reserved]**

\* \* \* \* \*

**PART 72--LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE**

4. The authority citation for part 72 continues to read as follows:

Authority: Secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 189, 68 Stat. 929, 930, 932, 933, 934, 935, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2238, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688, as amended (42 U.S.C. 5841, 5842, 5846); Pub. L. 95-601, sec. 10, 92 Stat. 2951 as amended by Pub. L. 102-486, sec. 7902, 106 Stat. 3123 (42 U.S.C. 5851); sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332); secs. 131, 132, 133, 135, 137, 141, Pub. L. 97-425, 96 Stat. 2229, 2230, 2232, 2241, sec. 148, Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10151, 10152, 10153, 10155, 10157, 10161, 10168).

Section 72.44(g) also issued under secs. 142(b) and 148(c), (d), Pub. L. 100-203, 101 Stat. 1330-232, 1330-236 (42 U.S.C. 10162(b), 10168(c), (d)). Section 72.46 also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239); sec. 134, Pub. L. 97-425, 96 Stat. 2230 (42 U.S.C. 10154). Section 72.96(d) also issued under sec. 145(g), Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10165(g)). Subpart J also issued under secs. 2(2), 2(15), 2(19), 117(a), 141(h), Pub. L. 97-425, 96 Stat. 2202, 2203, 2204, 2222, 2224, (42 U.S.C. 10101, 10137(a), 10161(h)). Subparts K and L are also issued under sec. 133, 98 Stat. 2230 (42 U.S.C. 10153) and sec. 218(a), 96 Stat. 2252 (42 U.S.C. 10198).

5. Section 72.216 is revised to read as follows:

**Sec. 72.216 Reports.**

(a) [Reserved]

(b) [Reserved]

(c) The general licensee shall make initial and written reports in accordance with Secs. 72.74 and 72.75.

Dated at Rockville, Maryland, this    day of    , 2000.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,  
Secretary of the Commission.