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December 6, 2011

Ms. Cindy K. Bladey  
Chief, Rules, Announcements and Directives Branch  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

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**Subject:** NEI Comments on Draft NUREG-1022, Revision 3, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73." (*Federal Register* dated October 13, 2011; 76 FR 63565; Docket ID NRC-2011-0237)

**Project Number: 689**

Dear Ms. Bladey:

On behalf of the industry, the Nuclear Energy Institute (NEI)<sup>1</sup> appreciates the opportunity to provide comments on draft NUREG-1022, Revision 3, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73." We have enclosed our comments and supporting documentation for your review and consideration.

NUREG-1022 contains guidelines that the NRC staff considers acceptable for use in meeting the event reporting requirements of 10 CFR 50.72 and 10 CFR 50.73 for operating nuclear power reactors. The draft Revision 3 to the NUREG is intended to incorporate revisions to the guidelines for the purpose of clarification.

NEI met with the staff on several occasions over the course of the last 24 months to discuss industry comments on the draft NUREG. NEI indicated at each of those meetings that substantive changes were being incorporated by the staff that are well beyond the staff's intended purpose of providing clarification to the guidance. In fact, some of the changes are beyond the scope of the 10 CFR 50.72/50.73 and 10 CFR Part 21 rules. We firmly believe that these items require a rule change should the staff continue to pursue them, and we have provided justifications in the attachments to this letter. We also believe that some of these changes could result in a decrease of safety focus for

<sup>1</sup> NEI is responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry.

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E-RTDS = ADM-03

Cadd = A. LEWIN (AXLH)

the plant operators and will likely result in misrepresenting non-safety issues to the public as having safety implications.

The purpose of the event reporting guidance issued as NUREG-1022 was to provide NRC with timely and accurate information to allow them to brief key stakeholders when a reported event occurs and to assess if additional NRC resources would be needed to deal with the reported event. The NUREG was later revised to delete duplicative reporting requirements by allowing Part 21 reports to be processed under 10 CFR 50.72 and 50.73. Unfortunately, Draft Revision 3 expands the purpose of the NUREG to reporting of non-safety significant items, some of which do not constitute failures of the associated systems, structures or components. This revision also deletes the beneficial guidance associated with Part 21 reporting.

We firmly believe that many of the changes as reflected in *Federal Register* Notice 63565 are beyond the intended scope of revising the NUREG to provide the intended clarification of reporting requirements. They, in fact, represent substantive changes to previously documented positions associated with these rules. We are also very concerned that these changes could have the unintended effect of diverting operator attention to non-safety items and misrepresenting the significance of some events to external stakeholders.

We have also noted in our comments where the Regulatory Analysis of the proposed changes significantly underestimates the impact. NEI comments are organized as follows:

- Attachment 1 provides a list of all the NEI comments to Draft Revision 3 of the NUREG.
- Attachment 2 provides more detailed discussions on the significant proposed changes.
- Attachment 3 provides NEI proposed changes via a markup of section 3.2.12 for loss of emergency capabilities that are consistent with the stated purpose of clarifying the guidance.

We would like to request the opportunity to discuss the proposed resolution of our comments prior to the final issuance of NUREG-1022, Revision 3. Please contact me or Julie Keys (202-739-8128; [jyk@nei.org](mailto:jyk@nei.org)) should you have any questions.

Sincerely,



Chris Earls

Attachments

c: Mr. Frederick D. Brown, NRR/DIRS, NRC  
Mr. Aron Lewin, NRR/DIRS/IRIB, NRC  
Mr. Tim J. Kobetz, NRR/DIRS/IRIB, NRC  
NRC Document Control Desk

Attachment 1  
General Comments

Page	Draft NUREG 1022 Statement/Issue	NEI Comment
Section 2.2	Section 2.2 proposes to modify the discussion on tense being relevant	See Attachment 2, Discussion 1, "Differences in Tense between 10 CFR 50.72 and 50.73"
Section 2.5	"For example, if a technician sees a problem, but a delay occurs before an engineer or supervisor has a chance to review the situation, the discovery date (which starts the 60-day clock) is the date that the technician sees a problem."	<p>The removal of "60-day" has the potential to add confusion. This paragraph discusses the discovery <u>date</u> which is associated with the 60-day clock as opposed to discussing the <u>time</u> for a 50.72 notification.</p> <p>The 50.72 notification time begins when the Shift Manager (SRO) determines that the condition is reportable.</p> <p>Therefore, we recommend that the 60 day remain intact. However, if additional guidance is needed for discovery time, (since the current paragraph deals with date) it should be added as a separate paragraph.</p>
Section 3.1.1	Added a paragraph under the Discussion section that discusses ENS notifications.	<p>The topic of this NUREG is not ENS notifications and this paragraph should not be added. It could potentially conflict with future guidance issued for ENS notifications. Having ENS notification guidance in multiple places is likely to be confusing rather than clarifying. Therefore, we recommend deletion of the proposed paragraph.</p> <p>In addition, See Attachment 2, Discussion 1, "Differences in Tense between 10 CFR 50.72 and 50.73"</p>
Section 3.2.1	Example 3: The answer is changed from a "No" to a "Yes" to indicate that the shutdown in the example is reportable.	This is a clear change without any corresponding information in the Regulatory Analysis to explain why the "No" is changed to a "Yes." The

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		<p>change will result in reports for those cases where the shutdown was not required by Technical Specifications. Currently, the guidance specifically states that reports are not required for those cases where the shutdown was not required by Technical Specifications.</p> <p>In addition, this answer conflicts with the NRC LER Workshop that occurred following rulemaking in 1983. Reference NUREG 1022 Supplement 1 page 3.</p> <p>See Attachment 2, Discussion 2, "Plant Shutdown Required by Technical Specifications"</p>
Section 3.2.5	No change proposed in Draft NUREG.	<p>If the proposed changes are made to Section 3.1.1 then a change will also be required to the box requiring the plant to follow the emergency plan and not 10CFR50.72 as the requirements will now conflict. We recommend no change to this section and no change to section 3.1.1.</p>
Section 3.2.7	Entire Section regarding changes associated with "capable of fulfillment of a safety function" and "systems within scope."	<p>As written this section confuses the term OPERABLE with the phrase capable of fulfillment of a safety function. It also significantly changes what systems will be considered within scope.</p> <p>Some of the language of RIS 2001-14 could be readily added to this Section to clarify.</p> <p>In addition, the paragraph on random single failures was deleted and no regulatory analysis was provided. This change will have a large impact on the reportability of events and is not justified based</p>

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		<p>upon the risk significance of the resulting conditions. For example, most BWRs have HPCI which is a single train safety system. Therefore, HPCI would always be failed and require a report under the draft guidance if an additional random single failure has to always be assumed.</p> <p>See Attachment 2, Discussion 3, "Inoperability versus Preventing Fulfillment of a Safety Function on Different systems" and Attachment 2 Discussion 4, "Systems within Scope ..."</p>
	<p>Systems within the scope of these criteria include those systems required by the TS to be operable to perform one of the four functions (A) through (D) specified in the rule, as well as their support systems that are also retained in the TS. This supersedes the discussion found in RIS 2001-14, "Position on Reportability Requirements for Reactor Core Isolation Cooling System Failure," dated July 19, 2001.</p>	<p>This addition increases the scope of systems that were included in the original reporting requirements. Federal Registers Vol. 48 No. 144, Vol. 48 No. 168, NUREG 1022 Revision 0, and Supplement 1 make multiple references to the scope of systems being limited to those used to mitigate the consequences of an accident. This philosophy was also characterized using terms such as credited by the safety analysis. RIS 2001-14 was consistent with the original philosophy captured in the above references.</p> <p>10 CFR 50.36(c)(2)(ii) establishes criteria for the inclusion of systems into technical specifications. Using NRC Final Policy Statement on Technical Specification Improvements for Nuclear Power Plant Reactors (58 FR 39132), systems were either retained in TS or Relocated. The policy statement places great emphasis on the system meeting the functional goals that were assumed in the design basis accident and transient analysis. The policy statement</p>

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		<p>clearly indicates that these analyses are in Chapters 6 and 15 of the Final Safety Analysis Report. However, Criterion 4 of the code and the policy also uses operating experience and probabilistic safety assessment to include systems in a plant's TS. These systems are not relied on to mitigate the consequences of an accident. These systems would include, but not limited to:</p> <ul style="list-style-type: none"> <li>• Reactor Core Isolation Cooling</li> <li>• Isolation Condenser</li> <li>• Residual Heat Removal</li> <li>• Shutdown Cooling</li> <li>• Standby Liquid Control</li> </ul> <p>The addition of the statement increases the scope of reporting to include and results in inconsistency with the original reporting requirements.</p>
	<p>For systems that include three or more trains, the inoperability of two or more trains should be reported if, in the judgment of the licensee, the capability of the overall system was jeopardized.</p>	<p>This reporting requirement has always been based on discovery of a degraded condition or failure. Replacing the word failure with inoperability ties the reporting criteria directly to TS when the system may not be required to mitigate the consequences of an accident.</p> <p>This is inconsistent with the original rule. Additionally, NRC Final Policy Statement on Technical Specification Improvements for Nuclear Power Plant Reactors (58 FR 39132), includes systems based on risk, not mitigation of an accident. In other words, some systems are included in the Technical Specifications for defense in depth to address risk</p>

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		considerations. However, these systems are not credited in the safety analysis. Therefore, they are currently not reported under the Rule and a Rule change would be required to apply risk insights.
Section 3.2.7, Example 2	Example 2 was changed to indicate if RCIC is as a system retained in the TS to remove residual heat, then its failure is reportable under this criterion; otherwise, it is not reportable under this section of the rule.	<p>This change undoes Regulatory Issue 01-014, dated July 19, 2001 which states that "The NRC staff has concluded that RCIC system failures are not reportable in accordance with paragraphs 50.72(b)(3)(v) and 50.73(a)(2)(v) simply because the RCIC system is included in the plant's TSs. They are reportable if the plant's safety analysis considered the RCIC system a system needed to mitigate a rod ejection accident."</p> <p>Because the RIS is required to be consistent with the Rule, a change to contradict the RIS would require Rulemaking. Therefore, we recommend leaving Example 2 as it is or pursuing Rulemaking to make the change.</p>
3.2.13 General Comment	A discussion was added under Loss of Emergency Assessment Capability	<p>Reporting planned maintenance of an EFR should only be required if the facility cannot be restored within 72 hours. The probability of an occurrence is relatively low within that time frame. There are TS systems that are required for mitigated functions for accidents that have comparable completion times.</p> <p>See Attachment 3 for section markup. NEI rational for each markup is contained in yellow highlighted brackets as such: [xxxx]. If no comments are present then the comment is only editorial.</p>
3.2.13	"to make notifications and provide followup information to Federal, State,	The inclusion of ERDS is inconsistent with the 4 <sup>th</sup> Paragraph.

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Specific Comment	<p>and local officials located offsite. Examples of communication systems whose failures should be evaluated against the above threshold for reportability include, but are not limited to, the following:</p> <ul style="list-style-type: none"> <li>• ERDS</li> <li>• ENS</li> <li>• health physics network (HPN)....</li> </ul>	<p>ERDS should not be included as a potential reportable condition. During an Emergency classification, an open-line is available with the NRC staff. The licensee has the capability to provide requested data to the Staff as required. The loss of ERDS would not affect the site emergency assessment capability. This is consistent with Page 87, 5<sup>th</sup> Paragraph.</p>
Section 3.2.14	Entire Section regarding single cause that could have prevented fulfillment of the safety functions of trains or channels in different systems.	See Attachment 2, Discussion 3, "Inoperability versus Preventing Fulfillment of a Safety Function on Different systems."
Section 4	<p>General Comment</p> <p>This section refers to tapes that are saved for one month in case there is a public or private inquiry.</p>	This section should be update to credit modern technology or reflect any different methods NRC may now be using.
Section 5.1.8	This draft has proposed removal of the entire section describing reporting of 10 CFR Part 21 reports.	<p>1991 Statements of Consideration for 10 CFR 21 that allows 10 CFR 21 conditions to be reported in a LER as long as the LER contains the additional information required in the 10 CFR 21 30-day written report. NRC recently issued Information Notice IN 2011-19 on Part 21. In the IN, mimicking the words that are in rev 2 of 1022, they state:</p> <p style="padding-left: 40px;">"Although there is no explicit NRC requirement for licensees to do so, the NRC encourages licensees reporting 10 CFR Part 21 defects under 10 CFR 50.73 to note 10 CFR Part 21 applicability on the LER form (NRC Form 366) and within the text of the LER."</p> <p>Also see Attachment 2, Discussion 5, "Part 21 Reporting Guidance:</p>



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Section 5.2	General Comment	This section should be updated to credit modern technology.
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### Differences in Tense between 10 CFR 50.72 and 50.73

Draft Revision 3 of NUREG-1022 Section 2.2 proposes to modify the discussion on tense being relevant and adds the wording that:

"Unless otherwise specified, events that occurred within 3 years of the date of discovery are reportable under 10 CFR 50.72 and 50.73 regardless of the plant mode or power level and regardless of the significance of the structure, system, or component that initiated the event."

Draft Revision 3 also proposes to add wording that:

"Specific criteria in Section 3 of this report contain additional details for when tense; plant mode, power level, and significance of the structure, system, or component that initiated the event are relevant to reportability."

The above changes proposed in Draft Revision 3 do not resolve / clarify certain inconsistencies in determining when a 50.72 notification is required for an event or condition that occurred in the past that is an ongoing event.

#### Basis/Discussion criterion

**Why it's a change:** During the development of the NUREG 1022 Revision 2 and the accompanying changes to 10 CFR 50.72 and 50.73, there was a belief by the industry that the use of the present tense in each specific 50.72 reporting criterion, (e.g., "being in" a condition), meant that the event of condition was to be reported under as a ENS notification (i.e., phone call) only if it was ongoing at the time of discovery. Following that understanding, past events, (i.e., those not ongoing at the time of discovery) would only be reportable under 50.73.

This understanding was somewhat supported by the rule change that was made to the reporting criterion **§ 50.72(b)(3)(v)**. The previous wording to this criterion stated "'Any event or condition that alone could have prevented the fulfillment of the safety function of structures..." There was no use of tense in the original wording. That resulted in 50.72 notifications of any condition that met this criterion even if it was not ongoing or existing at the time of discovery. The rule wording was changed to add the words "at the time of discovery" to remove the need to report conditions that were not ongoing at time of discovery because it was believed that there was no value in making this phone call for a past condition.

Other criteria, such as **§ 50.72(b)(3)(ii)** for a **Degraded or Unanalyzed Condition** were not pursued as a rule change by the industry to add the words "at time of discovery," because of the belief that the tense used in the existing rules implied that a phone call was not required if the event or condition was not an ongoing at the time of discovery.

**Change impact:** This change does not explicitly clarify the use of tense under the 50.72 criteria, and states that section 3 of this report "contain additional details for when tense, plant mode, power level, and significance of the structure, system, or component that initiated the event are relevant to reportability." Contrary to this statement, Section 3 of 50.72(b)(3)(ii) for a Degraded or Unanalyzed Condition does not contain any discussion of tense or reporting of past events as a phone call. This could still result in some divergent conclusions on tense inconsistent reporting under this criterion for past events.

**Regulatory Analysis inadequacies:** The draft regulatory analysis does not specifically address the tense issues neither does it provide any discussion of potential impact or burden imposed by this change.

Attachment 2  
Discussion 1  
NUREG-1022 Section 2.2

**Our Recommendation:** Add clarification to subsection of Section 3 of NUREG 1022 that corresponds to a 50.72 reporting requirement to clarify the expectation of making notifications for discovered events or conditions that are not ongoing or existing at the time of discovery.

**Rule Change Recommendation:** Recommend a rule change to add words similar to those in 50.72(b)(3)(v), (e.g. "at time of discovery"), for those criteria where there would be no real value in making a phone call for an event or condition that does not exist at the time of discovery. This could specifically apply to the Degraded or Unanalyzed Condition criterion.

### **Plant Shutdown Required by Technical Specifications**

In Section 3.2.1 of the draft Revision 3 of NUREG-1022, Example 3 was revised.

Previously, the conclusion of the Example read:

"No. If the shutdown was not required by the Technical Specifications, it need not be reported. However, other criteria in 50.73 may apply and may require that the event be reported."

As revised, the conclusion now reads:

*"Yes. The shutdown is reportable because of the expected inability to restore equipment prior to exceeding the LCO action time."*

Basis/Discussion criterion

**Why it's a change:** Clearly, the change from "No" to "Yes" is a change.

**Change Impact:** The paper titled "*Discussion of Changes Associated with Draft NUREG-1022, Revision 3*," (ADAMS Accession No. ML11068A030) issued by NRC to accompany the Draft NUREG-1022, Revision 3, and referenced in the Federal Register Notice which offered the Draft NUREG for public comment, mentions the change to the subject Example 3. However, the paper provides no discussion regarding the change nor does it elucidate the reasons for the change.

**Regulatory Analysis Inadequacies:** The "Draft Regulatory Analysis" (ADAMS Accession No. ML11116A168) accompanying the Draft NUREG-1022, Revision 3, does not specifically recognize this change in position nor does it provide any analysis of the potential impact of the change in position.

As this is clearly recognized that the change to the conclusion of this Example represents a change in the position previously published in NUREG-1022 Revision 2, the regulatory analysis accompanying the change must offer an assessment of the impact of this change.

**Our Recommendation:** One method for assessing the change would be for NRC to retrieve data from Monthly Operating Reports (MOR) submitted by licensees. MOR data identifies plant shutdowns. NRC would then need to determine which of these plant shutdowns resulted from plant Technical Specifications. Once such data was retrieved and analyzed, the data could be used to determine an estimate of how many Event Notifications and Licensee Event Reports would likely result from these changes and with an estimate of the resources used for each EN and/or LER, NRC could arrive at an estimate as to the impact of this change.

### Inoperability Versus Preventing Fulfillment of a Safety Function on Different Systems

Draft Revision 3 of NUREG-1022, Section 3.2.14 Single Cause that Could Have Prevented Fulfillment of the Safety Functions of Trains or Channels in Different Systems (similar to changes proposed for Section 3.2.7) changes the discussion to focus on Inoperability of systems, structures or components (SSC) versus the previous focus on the ability or inability of SSCs to fulfill their Safety Function(s).

#### Basis/Discussion criterion

**Why it's a change:** This was a new reporting rule that was added in October 2000. This rule change resulted from discussions that accompanied NUREG 1022 Revision 2. The rule states:

"(A) Any event or condition that as a result of a single cause could have prevented the fulfillment of a safety function for two or more trains or channels in different systems that are needed to:..."

The meaning of the phrase "*could have prevented the fulfillment of the safety function*" is essentially the same for this criterion as it is for §§ 50.73(a)(2)(v) and 50.72(b)(3)(v) (*i.e.*, there was a reasonable expectation of preventing the fulfillment of the safety function(s) involved). In contrast to §§ 50.73(a)(2)(v) and 50.72(b)(3)(v), reporting under this criterion applies to trains or channels in *different* systems.

This wording of this rule is specific to the ability to fulfill the safety function. In other words, the plain language of the rule does not use the words Operable or Inoperable.

The predominance of guidance in Revision 2 of NUREG-1022 for reporting an event or condition under this criterion was that "...these should be judged on the basis of a reasonable expectation of preventing fulfillment of the safety function." The focus is on performance of the safety function.

This section of the Draft 3 of NUREG-1022 also proposed to delete detailed examples of the types of events or conditions that are not reportable under this criterion. This section was developed in conjunction with the new criterion that was added to the rule in 2000, and it added value in understanding the intent of the rule. Deletion of this information is a change that could lead to divergent interpretations of the criterion.

**Change impact:** This change could result in reporting conditions where administratively INOPERABLE trains or channels in different systems are reported under this criterion even though they are fully capable of performing their specified safety function. This could result in misrepresenting the significance of the condition to the public. Some confusion could also occur when the LER discussion explains why the safety function would still be performed for a condition reported because it could have prevented fulfillment of the specified safety function.

In addition to the focus change to Operability / Inoperability, the draft removes detailed examples of the types of events or conditions that are not reportable under this criterion. These examples were developed in conjunction with the new criterion and add value in understanding the intent of the rule. Deletion of the examples information is a change that could lead to divergent interpretations of the criterion.

**Regulatory Analysis inadequacies:** The analysis does not address conditions where the specified safety function would be performed even if the SSC was administratively INOPERABLE. The draft removes a large section of existing language from the guidance that clarifies the intent of the criterion by examples. However, the regulatory analysis provides neither any analysis to justify the changes nor does it attempt to assess the potential impact(s) of the changes.

**Our Recommendation:** Either retain the focus of the discussion on Preventing Fulfillment of a Safety Function versus INOPERABILITY, or add clarifying language to the guidance to specifically address conditions of administrative INOPERABILITY of SSCs (*i.e.*, those conditions were not all criteria for

Attachment 2  
Discussion 3  
NUREG-1022 Section 3.2.14

OPERABILITY are met) but when the specified safety function associated with the SSC could still be fulfilled. This language would properly specify that SSCs being strictly administratively INOPERABLE as *not* being reportable under this criterion.

Additionally, the portion of the guidance that provides examples of conditions that are reportable or not reportable under this criterion should be retained.

**Systems Within Scope 10 CFR 50.72(b)(3)(v), 50.72(b)(3)(vi),  
50.73(a)(2)(v), and 50.73(a)(2)(vi)**

**Comment**

The regulatory analysis for the Draft NUREG-1022 Revision 3 is inadequate in its evaluation of those changes related to the reporting requirements of 10 CFR 50.72(b)(3)(v), 50.72(b)(3)(vi), 50.73(a)(2)(v), and 50.73(a)(2)(vi).

Draft NUREG-1022 Revision 3 proposes to greatly expand the scope of systems covered by the guidance related to the above-mentioned rules from the current (and historical) position/interpretation of reportability being applicable only to those systems, structures and components (SSC) that are credited in the plant's safety analysis (specifically those SSCs that perform one of the safety functions A through D listed in the rules) to encompass all systems in the Technical Specifications that perform one of the functions A through D (regardless of whether the plant's safety analysis credits the SSCs). The regulatory analysis that attempts to justify this expansion is inadequate in that it significantly underestimates the burden associated with the proposed change. Therefore, if this change is implemented, at minimum, the regulatory analysis should be revised to more accurately reflect the actual burden associated with the proposed change.

The additional burden associated with the proposed requirements, as written, comes with the fact that the changes will result in additional and inappropriate reporting of non-risk significant events, portraying them as events with a loss of key safety function, even though all of the assumptions to mitigate the accidents and transients as described in the safety analysis report can be performed.

Moreover, if this change is pursued, it should be properly accomplished as a rule change, not merely a change to the associated guidance document. The proposed change to the guidance provided in NUREG-1022 that all systems in the Technical Specifications are within scope, even if they have no safety function, conflicts with the plain language of the rule(s) (i.e., the rules themselves refer to a loss of safety function, not to loss of Technical Specification operability).

Therefore, the proposed change should not be made. The reporting requirement should remain consistent with the current rules and remain focused on systems that perform a safety function as credited in the plant's accident analysis. Instead of the proposed change, the current NRC position/interpretations as described in NUREG-1022, RIS 2001-14, and other supporting documents (e.g., Statements of Consideration) should be maintained and the wording of NUREG-1022 clarified to remove any confusion.

**Draft Revision 3 Proposed Change**

Draft Revision 3 states:

*"Systems within the scope of these criteria includes those systems required by the TS to be operable to perform one of the four functions (A) through (D) specified in the rule, as well as their support systems that are also retained in the TS. This supersedes the discussion found in RIS 2001-14, "Position on Reportability Requirements for Reactor Core Isolation Cooling System Failure," dated July 19, 2001."*

## **Basis/Discussion**

### **A. The Change Requires a Rule Change**

If the proposed guidance change is implemented the guidance provided in NUREG 1022 that all systems in the Technical Specifications are within scope, even if they have no safety function, the guidance will be in conflict with the rule itself which states that the reporting requirement is for a loss of safety function.

The regulatory analysis contains the following statement; "None of the changes are considered to conflict with the actual wording found in 10 CFR 50.72 and 50.73." This statement is incorrect. The regulations themselves refer to the reportable conditions as those which "could have prevented the fulfillment of the safety function of structures or systems that are or systems that are needed to." As discussed in RIS 2001-14, "Position on Reportability Requirements for Reactor Core Isolation Cooling System Failure," dated July 19, 2001, 48 FR 33850 published on July 26, 1983, and 48 FR 39039 published on August 29, 1983, the scope of systems and structures within the scope of this criterion includes safety related systems and structures that are intended to mitigate the consequences of an accident, as well as their support systems that are necessary for reliable or long-term operation. To change the interpretation of "safety function" to "any function that is in the Technical Specifications" is in direct conflict with the intended meaning when the regulation was issued, the staff's previous positions on its meaning, and the common usage of the term safety function. Additionally, removing the connection between reportability and the accident analysis directly conflicts with the scope requirements identified in item (D) of the rule of systems which "Mitigate the consequences of an accident."

If this change is pursued it should be implemented with a revision to the wording of the rules.

### **B. Regulatory Analysis is Inadequate**

#### **1. The Regulatory Analysis does Not Address the Impact on Plants which have not converted to the Improved Standard Technical Specifications**

The regulatory analysis only evaluates a limited scope of systems whose reportability is impacted by the proposed change. The analysis makes statements such the systems were "typically retained in the TS because they are considered to be risk significant systems" or "As a result, systems and structures within scope of this criterion also includes those systems and structures that may be risk significant or provide for defense in depth." These statements are incorrect for plants that have not have not converted to the Improved Standard Technical Specifications.

Plants that have not have not converted to the Improved Standard Technical Specifications have not performed a systematic review to remove systems that do not meet one of the criteria in 10CFR50.36. As a result, the technical Specifications for these plants may contain a variety of systems that are not considered risk significant and are not credited in the accident analysis, but may be able to perform one of the functions A through D of the rule. Many of these systems would be non-safety related systems or functions and in many cases would be single train systems.

The regulatory analysis needs to explicitly evaluate the impact of the proposed change on plants that have not converted to the Improved Standard Technical Specifications by determining the number of additional systems within scope and



estimating the resulting number of additional notifications and reports. The report and notification rate which should be assumed is discussed below.

**2. The Regulatory Analysis does Not Correctly Address the Impact the Increased Number of Reports Associated with a System Added to Scope of the Reporting Requirements**

The NRC in the regulatory analysis assumed that the number of new reports for inoperabilities of risk-significant equipment for short time periods is equal to the number of reports currently received for extended losses. This assumption is not representative of the LERs that may result from the proposed change.

For example the Remote Shutdown System is comprised of instrumentation and controls to shutdown the plant from outside the control room. In many cases at older plants, the system has controls and indication associated with a single train of equipment. The allowed outage time for these controls are generally significantly longer than the allowed outage times for the associated controlled/monitored equipment (e.g., 30 days vs. 7 days). Because the allowed outage time for these instruments are so much longer than that of the associated equipment, equipment failures do not seem to generally result in LERs for a violation of TS.

The non-conservatism of the regulatory analysis assumption is demonstrated by a plant (2 units) that has been conservatively reporting failures associated with the remote shutdown system in accordance with this reporting requirement. A review of the LER database shows that in 2009 and 2010 these 2 units reported 4 times in accordance with this criterion. Using this data indicates that 1 LER per unit per year (106 more LERs per year) would be a more reasonable estimate for the inclusion of the remote shutdown system in this reporting requirement versus the 0.12 (10 events in 9 years divided by 9) the regulatory analysis assumes.

A more accurate method of determining the impact of the inclusion of additional systems into the reporting criterion would be to determine the number of additional single train and multiple train systems being added and then use a reporting rate per system added based on reports made associated with current systems within scope. A single train system rate of 0.30 reports per plant per system per year and a multiple train system rate of 0.05 reports per plant per system per year is recommended as developed below.

**a. Single Train System High Pressure Coolant Injection (HPCI) Reporting Rate Estimation**

HPCI is a single train safety related system used at most BWRs (approximately 28 of 35) for which reportability is specifically addressed in the current version of NUREG 1022. Since its reportability is specifically discussed in the current version of NUREG 1022, the application of reportability to the system should be consistent in the industry and can be considered a representative single train safety system for reportability purposes. Using this system as representative for a non-safety system should provide a lower bound estimate since safety systems should be more reliable than non-safety systems.

The regulatory analysis identifies that there were approximately 76 LERs in 9 years reported under the subject criterion. This indicates a HPCI report rate of

0.30 reports/reactor year ((76 reports/9 years)/28 units). Therefore for each single train system added to the scope of these reporting criteria a report rate of 0.30 reports/reactor year for each system is a conservative lower bound estimate.

b. Multiple Train System Emergency Diesel Generator (EDG) Reporting Rate Estimation

EDGs are a multiple single train safety related system used at all but one currently operating site (101 units) for which reportability is specifically addressed in the current version of NUREG 1022. Since its reportability is specifically discussed in the current version of NUREG 1022, the application of reportability to the system should be consistent in the industry and can be considered a representative single train safety system for reportability purposes. Using this system as representative for a multiple train non-safety system should provide a lower bound estimate since safety systems should be more reliable than non-safety systems.

A search of the NRC LER database with the same criteria used in the regulatory analysis with a key word of "diesel generator" identified that there were approximately 215 LERs in 9 years reported under the subject criterion. A manual review of these LERs was performed and 42 were identified which included the unavailability of multiple trains of EDGs. This indicates an EDG report rate of 0.05 reports/reactor year ((42 reports/9 years)/101 units). Therefore for each single train system added to the scope of these reporting criteria a report rate of 0.05 reports/reactor year for each system is a conservative lower bound estimate.

**3. The Regulatory Analysis does Not Correctly Address the Number of Systems Added to Scope of the Reporting Requirements**

The NRC in the regulatory analysis assumed the following systems were added to the scope of the reporting requirements Residual Heat Removal (RHR), Remote Shutdown, Power Operated Relief Valve (PORV), Reactor Core Isolation Cooling (RCIC), Standby Liquid Control (SLC), Hydrogen Igniters, Reactor Protection System, and Emergency Core Cooling Instrumentation. The reporting requirements for other systems are also impacted and need to be explicitly addressed. For example, below is a sampling of additional systems in the BWR6 Technical Specification NUREG that may not perform a safety function but may perform one of the functions A through D of the rule and need to be addressed. All of the systems in the five Technical Specification NUREGs need to be addressed along with the additional Technical Specification requirements for those plants which have not adopted the NUREGs.

- SRM Instrumentation
- PAM Instrumentation (Category I, non-Type A)
- ATWS-RPT Instrumentation
- RCS Leakage Detection Instrumentation

Based on the NRCs identified additional Technical Specification scope and a review of a BWR6's requirements, the following is an estimate of the additional systems added for a single newer plant.

LCO	# Single Train Sys	# Multiple Train Sys
RHR	0	1
PORV (NA BWRs)	0	0
RCIC	1	0
SLC	0	1
Hydrogen Igniters	0	1
SRM	0	1
PAM Category I	0 (note 1)	16 (note 1)
Remote Shutdown	0 (note 2)	11
ATWS-RPT	0	1
RCS Leakage Detection	3	1
ECCS Instrumentation (manual)	0 (note 3)	0 (note 3)
RPS (APRM flow bias)	0	1
<b>Total</b>	<b>4</b>	<b>34</b>

Note 1 – A single multiple train system is conservatively assumed for the PAM penetration flow path function although each flow path is a separate function and some flow path only have one indication channel.

Note 2 – The NRC analysis treated the Remote Shutdown System as a single system when in fact it is the controls for multiple systems. The evaluated plant was a newer design plant. An older design plant may only have 1 train of systems available. There is significant variability between plants for this function. The above assumption of 11 multiple train systems results in an LER generation rate of 0.55 per year per unit which is less than the example discussed indicates of a rate of 1 LER per year per unit.

Note 3 – For ECCS Instrumentation, the only function evaluated was manual initiation of the system. No additional systems in scope were assumed since the controlled systems are already assessed and the only addition is the manual initiation function.

#### 4. The Regulatory Analysis does Not Correctly Identify the Increased Number of Reports Caused by the change in Scope

The NRC in the regulatory analysis stated that the impact of the proposed change was the following:

"This would bring the total number of new expected LER reports to 30 per year.

....

New reports would amount to roughly 6 percent more ENS and 12 percent more LERs per year."

This is an under estimation of the impact of the proposed change. As discussed previously for a new plant that has converted to improved Technical Specifications an estimated five additional single train systems and 34 additional multiple train systems are added to the scope of this reporting criteria. A conservative assumption for a single train system rate of 0.30 reports per plant per system per year and a multiple train system rate of 0.05 reports per plant per system per year should be used as discussed previously. This results in an estimated increase in reportable reports of 2.9

per unit per year  $((0.30 \text{ times } 4) + (.05 \text{ times } 34))$ . This would bring the total number of new LER reports to 302 per year versus the staff's estimate of 30. New reports would amount to roughly 60 percent more ENS and 86 percent more LERs per year.

The NRC would also need to explicitly consider the additional impacts to older plants and those plants that have not converted to the improved Technical Specifications.

**5. The Regulatory Analysis does Not Correctly Identify the Increased Costs Caused by the change in Scope**

The NRC in the regulatory analysis provided the following analysis of the costs associated with the proposed change:

"In order to consider costs, the staff assumed that the labor cost to licensees is the average cost per professional NRC staff-hour (under 10 CFR Part 170, "Fees for Facilities, Materials, Import and Export Licenses, and Other Regulatory Services Under the Atomic Energy Act of 1954, as Amended"), which is \$259 per hour. If it is assumed that it takes one full-time equivalent staff a week (40 hours) to process an extra EN and LER report for an event, then the total extra cost to licensees to process 30 extra EN and LER reports per year is roughly \$310,000 per year."

The NRC under estimated the resources necessary to process an LER by a licensee in the following ways:

The NRC assumed that it takes one full-time equivalent staff a week (40 hours) to process an extra EN and LER report for an event. A more realistic assumption is 140 hours. This is based on the following:

Staff work including review committees	60 hours
Cause analysis required by regulation	80 hours
Apparent Cause Analysis [ACE]	
<b>Total</b>	<b>140 HOURS</b>

Total Estimated Cost (302 LERs/year times 140 hours/LER times \$259/hour)

**\$10,950,520 per year**

This only addresses licensee costs. The regulatory analysis needs to address the increased NRC staff costs.

The basis for this change is inadequate in that it does not reflect the true impact of the proposed change. The analysis does not correctly address the increased reporting burden due to the increased number of reports or address the impact on public perception.

**Recommendation**

Therefore, the proposed change should not be made. The reporting requirement should remain consistent with the current rules and remain focused on systems that perform a safety function as credited in the plant's accident analysis. Instead of the proposed change, the current NRC position/interpretations as described in NUREG-1022, RIS 2001-14, and other supporting documents (e.g., Statements of Consideration) should be maintained and the wording of NUREG-1022 clarified to remove any confusion.

### **Part 21 Reporting Guidance**

#### **Proposed Change in draft NUREG 1022 Revision 3:**

Section 5.1.8, "10 CFR Part 21 Reports" of NUREG 1022 Revision 2, provides guidance consistent with the regulations and supporting statements of consideration. The proposed deletion of this section will create a 'vacuum.' Reporting and evaluation under 50.72 and 50.73 bounds the criteria used to evaluate items under Part 21.

Part 21 and 50.72/73 contain comparable reporting requirements. Furthermore, all defects are addressed within the Part 50.72/73 reporting criteria and is consistent with the Atomic Energy Act which requires the Commission to promulgate reporting requirements for conditions that represent substantial safety hazards.

#### **Regulatory Analysis:**

The analysis does not address the deleted Part 21 guidance which will create confusion and duplicate evaluations and reporting under both 50.72 and 50.73. The increased licensee burden for determining if a Part 21 LER is needed will be significant and lead to regulatory uncertainty.

**Our Recommendation:** Do not delete section 5.1.8.

NUREG-1022 could be enhanced to update the reporting form (NRC Form 366) to include a Part 21 box and a specific requirement within the NUREG to check the box as applicable. We believe that this change will satisfy the concerns raised in OIG-11-A-08.

#### **Justification for 10 CFR Part 21 Guidance in NUREG 1022:**

Existing NRC requirements in 10 CFR Part 21 accurately and effectively implement the requirements of the Energy Reorganization Act of 1974 ("ERA"). This topic is explicitly addressed in the regulatory history of the Part 21 rule. The Supplementary Information (Statements of Consideration) associated with the 1991 revisions to 10 CFR Part 21 contains a detailed explanation of the 10 CFR Part 21 and 10 CFR 50.72/73 reporting requirements. In that discussion, NRC compared the reporting requirements in Part 21 and Section 50.72/50.73, and discussed how these provisions implement the requirements of the ERA for installed equipment. While the terminology in 50.72/73 may be different in that "events" are reported, some of these events are based on what can be considered to be equipment "defects." As a result, "defects" are still reported under 10 CFR 50.72/73. This forms the basis for the Part 21 rule change in 1991.

The Federal Register discussions associated with the 1991 rule change remain valid and the industry has reported defects in accordance with 10CFR 50.72/73; therefore, defects which represent substantial safety hazards are being reported. The OIG report refers to multiple examples of Part 21 defects that were reported under 50.72/73 criteria. Note that although an "Other/Part 21" box may not have been checked the licensee can indicate a manufacturing defect in the cause code of the report.

To the extent the NRC believes that clarification is needed, such clarification may be achieved through revision and enhancement of guidance materials. For example, additional clarifications to the guidance documents, such as the work ongoing concerning NUREG-1022, could resolve current questions about the application of Part 21 requirements. Additionally, NUREG-1022 could be enhanced to update the reporting form (NRC Form 366) to include a Part 21 box and a specific requirement within the NUREG to check the box as applicable.

The industry believes the reporting requirements under 10 CFR 50.72/73 are comparable to Part 21 as discussed in the *Federal Register* associated with the 1991 rule change. If NRC believes that there may be conditions reportable under Part 21 and not 50.72/73 for installed components, then a clear discussion with examples highlighting those conditions is needed so that industry and NRC both clearly understand where any potential discrepancies exist.

**Current Guidance – Integration of Reporting Criteria:**

10 CFR Part 21, Section 21.2(c), states:

“For persons licensed to operate a nuclear power plant under Part 50 or Part 52 of this chapter, evaluation of potential defects and appropriate reporting of defects under 50.72, 50.73, or 73.71 of this chapter, satisfies each person's evaluation, notification, and reporting obligation to report defects under this part, and the responsibility of individual directors and responsible officers of these licensees to report defects under Section 206 of the Energy Reorganization Act of 1974.”

Useful clarification concerning the basis for this provision is found in the Supplementary Information accompanying the 1991 revision of Part 21:

“Operating license holders can reduce duplicate evaluation and reporting effort by evaluating deviations in basic components installed in operating plants which produce events which could meet the criteria of Sections 50.72 and 50.73. If the evaluation of events using the criteria of Sections 50.72 or 50.73 results in a finding that the event is reportable and the event is reported via these sections, then as indicated in Section 21.2(c), the evaluation, notification, recordkeeping, and reporting obligations of part 21 are met. If the event is determined not to be reportable under §§ 50.72 or 50.73, then the obligations of part 21 are met by the evaluation.”

“As stated in Section 21.2(c), the evaluation of the deviation in a basic component which causes an event which is evaluated using criteria of either Sections 50.72 or 50.73, satisfies the required evaluation and reporting requirements of part 21. Thus, to the extent possible by changing part 21, Section 21.2(c) would explicitly relieve the officers and directors of holders of operating licenses under part 50 from the part 21 evaluation, notification, and reporting requirements if potential defects which produce events are evaluated and defects are reported under Sections 50.72 and 50.73. The reporting requirements associated with sections 50.72 and 50.73 would be deemed to satisfy the corresponding requirements of part 21.”

“The defect reporting requirements of section 206 of the Energy Reorganization Act as amended would be met by part 50 operating licensees, for defects which produce reportable events, by reporting under appropriate paragraphs of sections 50.72 and 50.73.”

See 56 *Fed. Reg.* 36081, 36083-84 (July 31, 1991). These statements by the NRC establish that operating license holders report events or conditions that constitute substantial safety hazards under 10 CFR 50.72 and 10 CFR 50.73. An important conclusion reached by the NRC is that evaluation using the criteria of 10 CFR 50.72 and 10 CFR 50.73 satisfies the required evaluation and reporting requirements of Part 21.

**Current Guidance - Substantial Safety Hazard:**

Illustrating that the criteria of Part 21 and Sections 50.72 and 50.73 are comparable, the NRC provides a detailed examination of these provisions as part of the 1991 revisions to Part 21. This examination focused in large part on evaluating the key elements of the respective provisions to assure they were comparable.

Fundamental to the examination is recognizing that under Part 21, if a deviation exists, it must constitute a substantial safety hazard to potentially qualify for Part 21 reporting. The NRC defines “substantial safety hazard” in 10 CFR 21.3, as follows:

“*Substantial safety hazard* means a loss of safety function to the extent that there is a major reduction in the degree of protection provided to public health and safety for any facility or activity licensed or otherwise approved or regulated by the NRC, other than for export, under parts 30, 40, 50, 52, 60, 61, 63, 70, 71, or 72 of this chapter.”

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Further, as the NRC observed in the 1991 revisions to 10 CFR Part 21, "the criteria for determining the existence of a substantial safety hazard, and consequently, whether a defect is reportable under Part 21, are given in NUREG-0302." See 56 *Fed. Reg.* 36081, 36083 (July 31, 1991). This considers the NUREG-1022 guidance that potential losses of safety function may be reported under 10CFR 50.72/73 in addition to actual losses.

Current rules allow Part 21 defects for installed components to be evaluated and reported under Part 50.72/50.73, the deletion or change of this provision would require Part 21 rulemaking.

The NRC continues, 56 *Fed. Reg.* at 36083, to note that:

"For operating plants, events or conditions are reported under [Sections] 50.72 and 50.73. Basic components or services associated with basic components which are installed in the plant which have deviations and, thus, could be potential defects (i.e., could create substantial safety hazards), should be evaluated under appropriate criteria of [Sections] 50.72 and 50.73 to determine if the deviations are a reportable event or condition. That is, where deviations in basic components do produce potentially reportable events or conditions, the deviations should be evaluated under the criteria of [Sections] 50.72 and 50.73. *Several paragraphs of [Sections] 50.72 and 50.73 contain criteria on reporting possible defects and are comparable to the criteria for part 21.*" (Emphasis added.)

This NRC conclusion is consistent with guidance contained in NUREG-1022 revision 2. For example NUREG 1022, Section 3.2.7 states:

"A design or analysis defect or deviation is reportable under this criterion if it could have prevented fulfillment of the safety function of structures or systems defined in the rules. Reportability of a design or analysis defect or deviation under this criterion should be judged on the same basis that is used for other conditions, such as operator errors and equipment failures. That is, the condition is reportable if there is a reasonable expectation of preventing fulfillment of the safety function. Alternatively stated, the condition is reportable if there was reasonable doubt that the safety function would have been fulfilled if the structure or system had been called upon to perform it."

Additional analyses are provided in the Statement of Considerations for the 1991 Part 21 rule change (e.g., consideration of redundancy and single failures in the respective regulations (see e.g., NUREG-0302, Q&A 2, p. 21.3(k)-1; and 56 *Fed. Reg.* at 36083), each supporting and leading to the conclusion that evaluation of deviations in basic components under Sections 50.72 and 50.73 "satisfies the required evaluation and reporting requirements of part 21." (56 *Fed. Reg.* at 36084.)

The NRC also discusses situations which would not fall within the above analysis (non-installed equipment, and "failures to comply") and would still require evaluation for reportability under Part 21. (56 *Fed. Reg.* 36084)

### 3.2.13 Loss of Emergency Preparedness Capabilities

If not reported under § 50.72(a), (b)(1), or (b)(2), an ENS notification is required under (b)(3) for a major loss of their emergency assessment, offsite response, or *offsite* communications capability.

#### Discussion

This reporting requirement pertains to events that would result in a major loss of emergency assessment capability, offsite response capability, or offsite communications capabilities. The loss of these capabilities could substantially impair a licensee's, or offsite officials', ability to respond to an emergency if one were to occur, or has occurred. The focus of this reporting requirement is in the loss of capabilities to perform functions identified in the respective emergency plan. Failures of individual systems or facilities that comprise these capabilities are reportable only to the extent that these failures meet the above threshold.

Notifying the NRC of these events permits the NRC to consider implementing compensatory measures and to more completely assess the consequences of such a loss should it occur during an accident or emergency. The following are examples of equipment or facilities that may be encompassed by this reporting requirement:

#### Emergency Assessment Capabilities

- Safety parameter display system (SPDS)
- Primary emergency response facilities (ERFs) accident assessment capability
- Plant monitors necessary for accident assessment

#### Offsite Response Capabilities

- Public prompt notification system(s) including sirens (primary system)

#### Offsite Communication Capabilities

- Emergency notification system (ENS)
- Other emergency communications facilities and equipment used between the licensee's onsite and offsite ERFs, and between the licensee and offsite officials

Losses of the above equipment and other situations should be evaluated for reportability as discussed below.

#### Loss of Emergency Assessment Capability

A major loss of emergency assessment capability includes those events that would significantly impair the licensee's emergency assessment capability if an emergency were to occur. Some engineering judgment is needed to determine the significance of the loss of particular equipment.

For example, the loss of the SPDS alone may not need to be reported, but loss of SPDS concurrent with other plant indicators or annunciators being unavailable is reportable if the licensee would be unable to assess, or monitor, an accident or transient in progress. Examples of events that should be evaluated against this threshold for reportability include, but are not limited to:

- A loss of a significant portion of control room indication including annunciators or monitors, or the loss of all plant vent stack radiation monitors. In evaluating the reportability of such events, only those display systems, indicators, and annunciators that are relied upon in the emergency plan implementing procedures addressing classification, assessment, or protective actions; need to be considered. The indication remaining available should be considered to determine if a major loss of emergency assessment capability has occurred which would significantly impair the emergency assessment capability if an emergency were to occur.



- A significant degradation in the licensee's ability to perform accident assessment functions assigned to a licensee primary ERF by the emergency plan. Typically, these functions would be performed in the Technical Support Center (TSC), but may include the Emergency Operations Facility (EOF). Degradations would not be reportable if the ERF's assessment capabilities could be restored to service within the activation time in the event of an accident, the condition exists for only a short period of time (8 hours), or if the degradation does not prevent the function from being performed under most conditions (e.g., degradation in heating, cooling, or ventilation systems) and preplanned alternate measures are available. Planned maintenance which impacts accident assessment functions, need not be reported if the licensee has implemented proceduralized compensatory actions which provide the required function in a reasonably comparable manner and is prior to an maintenance (e.g., performance of the function at an alternate ERF).

#### **Loss of Offsite Response Capability**

A major loss of offsite response capability includes those events that would significantly impair the ability of the licensee or offsite officials, to implement the functions of their respective emergency plans if an emergency were to occur. Examples of events that should be evaluated against this threshold for reportability include, but are not limited to:

- The occurrence of a significant natural hazard (e.g., earthquake, hurricane, tornado, flood, major winter storms, etc.) or other event causes that would:
  - Prevent state and local jurisdictions from maintaining evacuation routes passable, or from maintaining other parts of the response infrastructure available, to the extent that these jurisdictions would be unable to implement the public protective measures called for in their emergency plan, if known by the licensee.
  - Restrict access to the licensee's site, or its offsite primary EOF, such that the licensee would not be able to augment its onshift staff or activate its ERFs as required by the emergency plan. Offsite response support relied upon in the emergency plan such as fire departments, local law enforcement, and ambulance services would not be able to access the site.

Traffic impediments, such as fog, snow and ice, should generally not be reported if they are within the respective capabilities of the licensee, state, or local officials to resolve or mitigate. Rather, the reporting requirement is intended to apply to more significant cases such as the conditions around the Turkey Point plant after Hurricane Andrew struck in 1992 or the conditions around the Cooper station during the Midwest floods of 1993.

- Failures in the primary public alerting systems (e.g., sirens, tone alert radios, etc.) that result in the loss of the capability to alert a large segment (greater than 25%) of the population in the EPZ for more than one hour. The licensee should take reasonable measures to remain informed of the status of the primary public alerting system, regardless who maintains the system. A planned outage of the primary public alerting system need not be reported if (1) the licensee had arranged for the implementation of FEMA approved backup alerting methods should public alerting become necessary, and, (2) the planned outage does not exceed 24 hours.

#### **Loss of Offsite Communications Capability**

A major loss of communications capability includes those events that would significantly impair the ability of the licensee to implement the functions of its emergency plans if an emergency were to occur. With the exception of the ENS, failures of individual communications systems are not

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normally reportable. Unless the Operations Center notifies the licensee of the loss, a loss of the ENS shall be reported as a major loss of communication capability since the NRC relies upon this capability to alert licensees of threat-related information as well as means to receive notifications. For the remaining systems, the failure of a single communication system need not be reported if there are proceduralized alternative methods, which function in a reasonably comparable manner of communicating information regarding the emergency.

This reporting requirement only addresses those communication systems that enables a licensee to make notifications and provide follow up information to Federal, State, and local officials located offsite. Examples of communication systems whose failures should be evaluated against the above threshold for reportability include, but are not limited to:

- Emergency response data system (ERDS)
- Emergency notification system (ENS)
- Health physics network (HPN), and,
- Other offsite communication systems, including:
  - dedicated telephone communication link to state or local officials.
  - commercial telephone lines that are relied upon for use in emergency response.

Each site's communications system will be different, and the significance of the loss of any one communication system may differ from site to site. This reporting requirement is intended to apply to serious conditions during which the telecommunications system can no longer fulfill the communications requirements of the emergency plan.

Although an ENS notification may not be required under 10 CFR 50.72(b)(3)(xiii) in the event of a loss of the HPN or ERDS, because of the availability of viable alternative communication means, the licensee should inform the NRC Operations Center of any failure of these systems so that the NRC may arrange for repair of NRC-supplied communications equipment. When informing the NRC Operations Center, licensees should use the backup commercial telephone numbers provided in Information Notices 85-44 "Emergency Communication System Monthly Test," dated May 30, 1985 and 86-97 "Emergency Communications System," dated November 28, 1986

### Examples

#### (1) Loss of Primary Public Prompt Notification System

The NRC has not established a numerical threshold (e.g., number or percentage) of failed sirens for this reporting requirement because the thresholds need to be specific to the particular EPZ. The NRC expects its licensees to establish thresholds that reflect the EPZ-specific population density and distribution, the locations of the sirens or other alerting devices, and the overlap in coverage of adjacent sirens. For example, a loss of 10% of the sirens in a high density population area may have greater impact than 50% of the sirens lost in a low-density area. Similarly, a loss of 10% of the sirens dispersed across the entire EPZ may not be as significant as losing the same number of sirens in a single area. As such, notifications of the loss of the primary public prompt notification system will vary but should be made if more than 25% of the applicable population is affected.

Previous notifications have included:

- 12 of 40 county alert sirens disabled because of loss of power as a result of severe weather.
- 28 of 54 alert sirens were reported out of service as a result of a local ice storm.
- All offsite emergency sirens were:
  - found out of service during a monthly test.
  - taken out of service for repair.
  - out of service because control panel power was lost.
  - out of service because the county radio transmitter failed.

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Failures in the primary public alerting systems (e.g., sirens, tone alert radios, etc.), for whatever reason, that result in the loss of the capability to alert a large segment of the population in the EPZ (greater than 25%) for more than one hour should be reported as a major loss of offsite response capability. However, a planned outage need not be reported if (1) the licensee had arranged for the implementation of a FEMA-approved backup alerting methods should public alerting become necessary, and, (2) the planned outage is not expected to, and subsequently did not, exceed 24 hours..

(2) Loss of Direct Communication Line to Police

The licensee determined that the direct telephone line to the State Police had been out of service. In this example, no ENS notification is required since commercial telephone lines to the State Police were available. An ENS notification would be required if the loss of the direct telephone line(s) to various police, local, or State emergency or regulatory agencies is not compensated for by other readily available offsite communications systems. No LER is required because there are no corresponding 10 CFR 50.73 requirements.

(3) Loss of ERDS

The licensee determined that the ERDS was out of service due to a failure of licensee owned and maintained equipment. However, ENS was available. Since ERDS is identified as a supplement to ENS in Appendix E, the failure of the ERDS does not constitute a major loss of offsite communication capability provided that the ENS is available and, as a result, no report under this reporting criterion is required. If, however, the failure is determined to be in NRC maintained equipment, the licensee should inform the ERDS help desk of the outage so that the NRC can arrange for repair.