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SUBJECT: Comments on proposed rev to NUREG 1022, "Event Reporting Sys 10CFR50.72 & 10CFR50.73." Util appreciates NRC efforts to provide clear guidance to ensure that significant events reported uniformly throughout industry.

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April 5, 1994

Mr. David L. Meyer  
Chief, Regulatory Publication Branch  
Division of Freedom of Information and  
Publication Services  
Office of Administration  
US Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Sir:

Docket 50-305  
Operating License DPR-43  
Kewaunee Nuclear Power Plant  
Comments on NUREG 1022 - Draft

The attachment to this letter provides Wisconsin Public Service Corporation's (WPSC's) comments to the proposed revision to NUREG 1022, "Event Reporting System 10 CFR 50.72 and 50.73." WPSC appreciates the Nuclear Regulatory Commission's (NRC's) efforts to provide clear guidance to ensure that significant events are reported and reported uniformly throughout the industry.

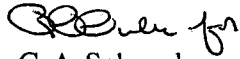
We encourage the staff to incorporate our comments and those supplied by NEI prior to issuing this NUREG as final guidance. The attachment to this letter provides our specific comments on the staff's efforts. The attachment includes excerpts from the NUREG pages on which WPSC has comments. Following each excerpt from the NUREG are WPSC's comments.

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If you have any questions about our comments, please contact me or a member of my staff.

Sincerely,



C A Schrock  
Manager - Nuclear Engineering

TJW/car

Attach.

cc - US NRC Document Control Desk  
US NRC Senior Resident Inspector  
US NRC, Region III

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ATTACHMENT  
TO THE LETTER

FROM:

C.A. SCHROCK (WPSC)

TO:

D.L. MEYER (NRC)

DATED:

April 5, 1994

RE:

WPSC's COMMENTS OF  
NUREG 1022 (DRAFT)

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NUREG 1022 Statements; Page 13:

A single component failure in a safety system is reportable if it is determined that the failure mechanism could reasonably be expected to occur in one or more redundant components and thereby prevent fulfillment of the system's safety function. In addition, as indicated in IN 85-27, multiple failures of redundant components of a safety system are sufficient reason to expect that the failure mechanism, even though not known, could prevent the fulfillment of the safety function.

WPSC's Response:

WPSC agrees that the example cited in IN 85-27 is reportable. We came to the same conclusion as the NRC because in this example it is reasonable to expect that all 4 control rods would have failed to scram at the same time.

However, as stated in the statements of consideration "To be reportable the event or failure must involve the failure of independent portion or portions of more than one train or channel in the same or different system". The commissioners in their statements, exclude projecting failures onto components that are proved to be operable. Therefore, we do not agree that this event would have been reportable if just one rod had failed and the failure could somehow be assumed to affect the other rods. This point should be clarified in the NUREG.

NUREG 1022 Statements; Page 13 and 14

When performing periodic surveillance tests of safety or relief valves it is not uncommon to find more than one valve to be lifting outside of the TS allowed tolerance band, which is typically plus or minus 1 percent.

If not reportable under §§50.72(b)(2)(iii) and 50.73(a)(2)(V) [event or condition that alone could prevent fulfillment of a safety function], this situation would still usually be reportable under §50.73(a)(2)(vii) (common cause failure) because the existence of similar discrepancies in multiple independent valves is a good indication that the discrepancies probably arose from a common cause. This common cause failure criterion is discussed in Section 3.3.4 of this report.

An example involved the sequential testing of main steam safety valves. Of the 20 valves tested, 17 were out of tolerance (13 with set points above the technical specification by as much as 4 percent). The licensee initially did not report this condition because it believed the valves could fulfill their safety function because no safety relief valve set pressure exceeded 1397 psia (110 percent of the system design pressure). However, the licensee determined a common-mode failure mechanism was the cause for most of the failures; therefore, the condition was reportable as a common mode failure.

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**WPSC's Response**

WPSC agrees this event may be a violation of TS. This determination would depend on the wording of the TS and on the details of the event. However, if the licensee can show through engineering judgement or through analysis that the valves were operable, the event would not be reportable in accordance with 50.72 (b)(2)(iii) or 50.73(a)(2)(vii). In general, operability is defined as the ability of a system or component to perform its intended function over its intended range. In this case the utility was able to show that the valves were able to fulfill their design basis. Therefore, the valves were operable and the drift in valve set point did not cause a failure. Since no failure occurred, by definition the event would not be reportable in accordance with 50.72(b)(2)(iii) or 50.73(a)(2)(vii).

**NUREG 1022 Statements; Page 29**

For example, operation with less than the required number of people on shift would clearly constitute operation prohibited by the TS, or operation with a procedure that had not been properly approved would constitute operation prohibited by the TS.

**WPSC's Response**

WPSC disagrees that use of an unapproved procedure is reportable. While this could be a violation of NRC requirements it would only be reportable if the actions taken during implementation of the procedure result in a condition prohibited by the TS or covered by 10 CFR 50.72 or 10 CFR 50.73.

Specifically, this interpretation blurs the line between informal work instructions and preapproved plant procedures. Furthermore, the interpretation does not account for the safety significance of the activities described in the procedure or work instructions.

**NUREG 1022 Statements; Page 36**

Another type of degradation the staff considers reportable would be loss of part of a normal barrier between the reactor coolant system and the environment. This can happen when one of the Event V isolation valves (valves between the reactor coolant system and a low pressure system outside containment) is opened inadvertently.

**WPSC's Response**

WPSC disagrees that this event is reportable, as a condition that results in the plant being seriously degraded, in an unanalyzed condition, outside of its design basis, or in a condition not covered by plant procedure.

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In general, there are two isolation valves for each low pressure line connected to the RCS. Inadvertently opening one of these valves is not an unanalyzed condition since the redundant valve will continue to act as a pressure boundary. It is not outside the design basis of the plant since nuclear plants are designed to address failures of single components. Also, operating procedures direct the operators to close these valves if one is found open.

The draft NUREG has expanded the interpretation of this section to include assuming a failure of a component which has shown itself to be operable.

As stated in the Commissioner's statements of consideration for section 50.73(a)(2)(iii), "It is not intended that this paragraph apply to minor variations in individual parameters, or to problems concerning single pieces of equipment".

Therefore, the proposed wording in the NUREG should be deleted or be considered a new interpretation of an NRC rule and should be processed under the provisions of 10 CFR 50.109.

#### NUREG 1022 Statements; Page 47

The staff considers the loss of a significant portion of control room indication including annunciators or monitors, or the loss of all plant vent stack radiation monitors, as examples of a major loss of emergency assessment capability which should be evaluated for reportability.

However, the unavailability of one non-redundant component or train such as a meteorological tower, radiation monitor, plant computer or ERF, for a short period of time, generally is not reportable. For this type of equipment, which is very rarely called upon, the staff would consider period of time less than 8 hours to be short.

#### WPSC's Response

Kewaunee requests that the 8 hour time period be changed to less than " a shift" to reflect a 12 hour shift rotation. Equipment of the type described in this example is removed from service at power to perform preventive and corrective maintenance. Often the equipment is not returned to service until the end of the shift. The additional 4 hours does not decrease plant safety and provides for easier tracking since it coincides with shift rotations.

#### NUREG 1022 Statements; Page 51

In-plant releases must be reported if they require evacuation of rooms or buildings containing systems important to safety and, as a result, the ability of the operators to perform necessary duties is significantly hampered.

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**WPSC's Response**

The term "important to safety" needs to be defined prior to it being used in this reporting guideline. The wide variance in the interpretation of this phrase will lead to inconsistency in reporting and regulatory enforcement.

**NUREG 1022 Statements; Page 59**

Finally, invalid actuation of certain specified systems are not reportable. These systems are limited to the reactor water clean up system in boiling water reactors (BWRs), the control room emergency ventilation system, the reactor building ventilation system (RBVS), the fuel building ventilation system and the auxiliary building ventilation system or equivalent ventilation systems.

**WPSC's Response**

10 CFR 50.72 and 10 CFR 50.73 state:

Licenseses shall report "any event or condition that results in a manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS) except when:

- (A) The actuation results from and is part of the preplanned sequence during testing or reactor operation;
- (B) The actuation is invalid and:
  - (1) Occurs while the system is properly removed from service;
  - (2) Occurs after the safety function has been already completed; or
  - (3) Involves only the following specific ESFs or their equivalent systems;
    - (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."

The rule excludes reporting invalid actuation of systems equivalent to the RWCU units. The verbiage on page 59 of the draft NUREG indicates that this exemption is exclusive to RWCU systems in boiling water reactors.

WPSC has reviewed events involving invalid actuation of the chemical and volume control letdown isolation valves and the SG blowdown isolation valves in pressurized water reactors against the reporting requirements in 10 CFR 50.72 and 10 CFR 50.73. From this review we have determined these systems are equivalent to the reactor water clean-up system, and therefore invalid actuations of these systems are not reportable.



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WPSC considers these systems equivalent to the reactor water clean-up system due to their similarity in purpose, design, and the safety implications of invalid actuation. All three systems allow for on-line clean-up of their respective systems. In the case of the RWCU system and CVC letdown valves, it is the reactor coolant system. In the case of the SGBD system, it is the secondary system and the steam generators. In all three, system isolation can occur from either safety-related signals or non safety-related signals. In either case, one or more valves in the associated line close. Although an operational inconvenience, closure of the valves has no safety implications if the signal originated from a non-safety related source or is an invalid safety-related signal. The operators review the appropriate abnormal procedure, diagnose the event, and restore the system when plant conditions allow. Therefore, based on the lack of safety implications, the similarity in design, and purpose these systems have to the RWCU system, their invalid actuation are not reportable.

NUREG 1022 Statements; Page 71

- (4) Loss of Onsite Emergency Power by Multiple Equipment Inoperability and Unavailability.

During refueling, one emergency diesel generator (EDG) in a two train system was out of service for maintenance. The second EDG was declared inoperable when it failed its surveillance test.

An ENS notification is required and an LER is required. As addressed in the Discussion section above, loss of either the onsite power system or the offsite power system is reportable under this criterion.

WPSC's Response

Additional information is needed to determine the reportability of this event. Specifically plant TS may allow both DG to be inoperable when the plant is in refueling shutdown. This example should be revised to clarify this point.

NUREG 1022 Statements; Page 73

- (9) Oversized Breaker wiring Lugs

Previous guidance in NUREG-1022, Example C-14, discussed the following situation:

During testing of 480 volt safety-related breakers, one breaker would not trip electrically. Investigation revealed that one wire of the pigtail on the trip coil, although still in its lug, was so loose that there was no electrical connection. The loose connection was due to

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the fact that the pigtail lug was too large (No. 14-16 AWG), whereas the pigtail wire was No. 20 AWG. A No. 18-22 lug is the acceptable industry standard for a No. 20 AWG wire.

Since the trip coils were supplied pre-wired, all safety-related breakers utilizing the trip coil were inspected. All other breakers inspected had 14-16 AWG lugs. No lugs were found with loose electrical connections. Nevertheless, all No. 14-16 AWG lugs were replaced with acceptable industry Standard No. 18-22 AWG lugs.

Comment:

The event is reportable because the incompatible pigtails and lugs could have caused one or more safety systems to fail to perform their intended function [50.73(a)(2)(v)].

#### WPSC's Response

This event should not be considered reportable. The statements of consideration for section 50.73(a)(2)(v) and (vi) state:

"The intent of this paragraph is to capture those events where there would have been a failure of a safety system to properly complete a safety function. Regardless of when the failures were discovered or whether the system was needed at the time."

Therefore the intent of this rule is to report those events that involve failures of safety systems. In this example only one of a number of breakers failed, the other breakers were found to be operable. As stated in the statements of consideration for section 10 CFR 50.73(a)(2)(v):

"However, individual component failures need not be reported pursuant to this paragraph if redundant equipment in the same system was operable and available to perform the required safety function"

Therefore, requiring the proposed example to be reportable in accordance with this section is a change in interpretation of an NRC regulation. As such it needs to be changed to reflect existing guidance or be processed in accordance with 10 CFR 50.109. However, WPSC does recognize the need to review events similar to this in accordance with 10 CFR 21 reporting requirements.

NUREG 1022 Statements; Page 73

(10) Contaminated Hydraulic Fluid Degrades MSIV Operation

Previous guidance in NUREG-1022, Example C-48, discussed the following situation:

During a routine shutdown, the operator noted that the #11 MSIV closing time appeared to be excessive. A subsequent test revealed the #11 MSIV shut within the required time, however, the #12 MSIV closing time exceeded the maximum at 7.4 sec. Contamination of the hydraulic fluid in the valve actuation system had caused the system's check valves to stick and delay the transmission of hydraulic pressure to the actuator. Three more filters will be purchased providing supplemental filtering for each MSIV. Fine filters will be used in pump suction filters to remove the fine contaminants. The #12 MSIV was repaired and returned to service. Since the valves were not required for operation at the time of discovery, the safety of the public was not affected.

Comments:

The event is reportable because a single condition could have prevented fulfillment of a safety function [50.73(a)(2)(v)].

WPSC's Response

WPSC disagrees that this event is reportable in accordance with 10 CFR 50.72(b)(2)(iii). The more appropriate section is 10 CFR 50.72(b)(2)(i) with a follow up report in accordance with 10 CFR 50.73(a)(2)(v). 10 CFR 50.72(b)(2)(i) was explicitly written to address conditions found while the plant is shutdown.

WPSC also requests that the example be clarified to state both MSIVs were determined to be inoperable. If only one of the valves was determine to be inoperable this event would not be reportable. As stated in our previous comment, failures of single pieces of safety related equipment are not reportable.

NUREG 1022 Statements; Page 74 and 75

(12) Generic Setpoint Drift

- Previous guidance in NUREG-1022, Example C-8 discussed the following situation:

With the plant in steady state operation at 2170 MWt and while performing a Main Steam Line Pressure Instrument Functional Test and Calibration, a switch was found to actuate at 853 psig. The Tech Specs limit is 825 +15 psig head

correction. The redundant switches were operable. The cause of the occurrence was setpoint drift. The switch was recalibrated and tested successfully per HNP-2-5279, Barksdale Pressure Switch Calibration, and returned to service.

This is a repetitive event as reported in one previous LER. A generic review revealed that these type switches are used on other safety systems and that this type switch is subject to drift. An investigation will continue as to why these switches drift, and if necessary, they will be replaced.

Comments:

The event is not reportable due to the drift of a single pressure switch.

The event is reportable if it is indicative of a generic and/or repetitive problem with this type of switch which is used in several safety systems [50.73(a)(2)(v) or (viii)].

- In addition, NUREG-1022, Supplement 1, Question 7.22 provided the following clarification:

Example C-8 indicates that a setpoint drift problem with a particular switch could be reportable. Would you clarify if setpoint drifts are to be reported if they are experienced more than once?

Answer:

The independent failure (e.g., excessive setpoint drift) of a single pressure switch is not reportable unless it alone could have caused a system to fail to fulfill its safety function, or is indicative of a generic problem that could have resulted in the failure of more than one switch and thereby cause one or more systems to fail to fulfill their safety function.

**WPSC's Response**

Kewaunee agrees that these events are reportable if the drift results in the inoperability of redundant trains of equipment. However, if the drift did not render redundant trains inoperable, the event would not be reportable in accordance with 10 CFR 50.73(a)(2) or (viii).

As stated in the statements of consideration for section 10 CFR 50.72(a)(2)(v), "individual component failures need not be reported pursuant to this paragraph if redundant equipment in the same system was operable." Therefore, we request that this example be clarified to state redundant components were rendered inoperable. Furthermore, this example should also address the Licensee's responsibilities to review the event for reportability in accordance with 10 CFR 21.