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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Secretary, U.S. Nuclear Regulatory Commission
Washington, DC 20055-001
ATTN: Rulemakings and Adjudications Staff

Subject: **10 CFR 50.55a Proposed Rulemaking Comments**
RIN 3150-AH76

Reference: NRC Proposed Rulemaking for 10 CFR 50.55a, "Industry Codes and Standards; Amended Requirements" (72 FR 16731, dated April 5, 2007)

Dear Sir or Madam,

This letter provides comments on the subject proposed rulemaking.

Comments on Proposed Change Adding Paragraph 10CFR50.55a(g)(6)(ii)(D), Implementation of American Society of Mechanical Engineers (ASME) Code Case N-729-1 with Conditions

1) General Comments on Addition of Paragraph 50.55 a (g) (6) (ii) (D) (1)

This change would replace the First Revised NRC Order EA-03-009 (Order), issued on February 20, 2004, requiring periodic reactor vessel head inspections with a modified version of the ASME Code Case N-729-1. I endorse the proposed transition from the First Revised NRC Order EA-03-009 to ASME Code Case N-729-1. However several of the conditions added to Code Case N-729-1 under paragraphs 50.55 a (g) (6) (ii) (D) (2) through (6) are overly prescriptive, and therefore would impose significant hardship without commensurate benefit to public health or safety. Specific comments on these conditions are described in the following subsections. I recommend that the Proposed Rule, as written, be revised.

a) Comments on proposed addition of paragraph 50.55 a (g) (6) (ii) (D) (2)

This proposed condition to Code Case N-729-1 would decrease the maximum interval between penetration nozzle and J-weld inspection frequency for Primary Water Stress Corrosion Cracking (PWSCC) resistant heads from at least once per every 10 years, to at least once per every 7 years. Three papers were presented recently at the MRP Alloy 600 Conference in Atlanta that clearly showed the improved resistance to PWSCC for resistant materials. This proposed condition would be more frequent than the maximum allowable interval of 8 years for PWSCC susceptible heads. Under Code Case N-729-1 the

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SECY-02

proposed 10-year inspection frequency for a PWSCC resistant head at a typical PWR would reflect an improvement factor of approximately 3 over PWSCC susceptible head designs. That improvement conservatively reflects research data which shows significantly greater improvement in PWSCC resistance from the new alloys. The proposed condition requiring inspections at least every 7 years would reduce the reinspection improvement factor to approximately 2 compared to requirements for PWSCC susceptible designs. The proposed incremental conservatism associated with a maximum interval of 7 would increase inspection costs and worker radiation dose by approximately 40% without providing a commensurate increase in public safety. I recommend that the condition imposed by paragraph (D) (2) be deleted.

b) Comments on proposed addition of paragraph 50.55 a (g) (6) (ii) (D) (3)

The proposed modification to ASME Code Case N-729-1 described under this paragraph eliminates note 6 to Table 1 of the Code Case. Note 6 of the Code Case defines the minimum penetration surface and volumetric examination coverage requirement to be 95%, and allows exemption from J-weld surface examinations when penetration volumetric examinations are performed at an increased frequency. The proposed condition replaces these items with a requirement to inspect 100% of the specified volumes and surfaces, and to perform a 100% inspection of J-weld surfaces during each required inspection.

I have the following specific concerns:

b(1) - Elimination of Note 6

The impact on note 9 from proposed elimination of note 6 is not addressed. Reinspection Years (RYI) should become 3.0 when penetrations are examined volumetrically and 2.25 when penetrations are surface examined.

b(2) - 95% versus 100% Coverage

Relaxation of coverage requirements has been necessary under the current Order, and will continue to be necessary upon codification of the Proposed Rule. It has been possible for most plants to inspect 100% of the relaxed inspection requirements. This is anticipated to continue when the reactor vessel heads are replaced. Owners have encountered occasions where a small portion of an individual penetration becomes very difficult to examine due to transducer coupling, etc. These instances have resulted in significant extension to the inspection duration, with an insignificant incremental increase in the inspection base. In such cases, especially when inspecting a PWSCC resistant head, up to a 5% coverage reduction is reasonable. I recommend that the NRC reconsider, or modify the Proposed Rule accordingly.

b(3) - J-weld Inspection Requirements

Safety significant PWSCC in reactor vessel head penetrations could occur if circumferential cracks develop in the penetration tubes or boric

acid leakage degrades structural integrity of the reactor vessel head. Code Case N-729-1 and NRC Order EA-03-009, Revision 1 require a combination of bare metal visual examination of the external head surface in combination with either a volumetric examination of the nozzles, or a complete wetted surface examination of PWSCC susceptible penetration materials. NRC Order EA-03-009 also requires an evaluation for evidence of a leakage path when volumetric examination methods are used.

ASME Code Case N-729-1 provides a level of safety that is equivalent to NRC Order EA-03-009. The significant difference between the ASME Code Case and EA-03-009 in this respect is that the Code Case does not require a leak path evaluation when the volumetric option is implemented. This is technically equivalent to EA-03-009 because bare metal visual examination of the reactor head surface is a more reliable technique for detection of base metal wastage. The addition of a leak path assessment provides only a minimal increase in detection probability beyond direct visual of the head surface and it has not been always reliable during inservice inspections. Leak path assessment techniques should be evaluated and demonstrated, and this will be proposed at the next MRP meeting. It may become a more effective and efficient technique when compared to the surface examination of the J-groove weld wetted surfaces and this option should be available to licensees. But it is not considered to be a significant inspection element with regards to ensuring safety.

The NRC condition described in paragraph 50.55 a (g) (6) (ii) (D) (3) includes a new requirement to inspect 100% of the J-weld surface when volumetric inspection techniques are employed. This incremental examination will provide the earliest possible detection of PWSCC initiation within the weld material. Early detection will reduce the average duration that PWSCC might be present in J-welds. However, PWSCC that is confined to the J-weld volume does not present any structural risk since ample weld material will remain to preclude nozzle separation from the head.

Surface examination of J-welds also reduces the probability of coolant leakage from through weld cracking during the subsequent operating cycle. However, multiple operating cycles with through wall leakage are required before structurally significant wastage of vessel head material would occur. Therefore, bare metal visual examination of vessel head surfaces during each refueling outage for PWSCC susceptible heads provides an equivalent level of safety to 100% J-weld surface examinations. It was reported by the NRC contractor during a presentation at the MRP Alloy 600 conference in Atlanta, GA that surface breaking PWSCC were not detected by the liquid penetrant method during the destructive analysis of a CRDM nozzle. Currently, it can not be concluded that the surface examinations are more or less reliable than the volumetric leak path assessment. The MRP has not conducted demonstrations for the leak path technique.

The addition of J-weld surface examination to the minimum required inspection scope is expected to add approximately 5 days to the existing inspection program. In addition, radiological dose to inspection workers is expected to increase by 5 to 10 Radiation Exposure Man (REM) per inspection. The radiological dose impact is dependant on the extent of manual dye penetrant examination that will be necessary to achieve coverage requirements. I consider the small incremental improvement associated with this condition to be unwarranted on a safety significance basis. Therefore, I recommend that the requirement to perform J-weld surface examinations when volumetric methods are used be deleted.

c) Comments on proposed addition of paragraph 50.55 a (g) (6) (ii) (D) (4) (i) through (iv)

Nondestructive Examination (NDE) techniques currently in place in support of NRC Order EA-09-003 have demonstrated success in detecting PWSCC and preventing Reactor Vessel Head penetration leakage. The qualification practices supporting these examination techniques are best characterized as low to intermediate rigor, as defined in ASME Section V, Article 14, "Examination System Qualification". Inclusion of additional requirements outlined in proposed paragraphs 50.55 a (g) (6) (ii) (D) (4) (i) through (iv) will require the manufacture of more mockups to meet these conditions. MRP is developing a qualification program that will meet the "intermediate rigor" requirements of Article-14 Section V of the ASME Code. Attachment 1 contains the detailed comments to the conditions and the recommended revisions to the conditions so the current CRDM qualification program can be implemented.

d) Comments on proposed addition of paragraph 50.55 a (g) (6) (ii) (D) (5)

Note 8 in Table 1 in Code Case N-729-1 require that after unacceptable flaws (of any type) have been identified, the inspection of nozzles and J-welds shall be performed at least every other refueling outage. The condition imposed by the NRC under paragraph 50.55 a (g) (6) (ii) (D) (5) would further require that following detection of PWSCC flaws, penetration and J-weld inspections shall be performed during every subsequent refueling outage.

However, depending on the flaw type, head materials and operating conditions, longer reinspection frequencies may be justified. Since the impact of unnecessary nozzle and J-weld inspections is substantial, it will often be appropriate for plant operators to propose less frequent inspection plans. In such cases, a request for an extension to the reinspection intervals based on case specific details can be addressed through Code Relief. I recommend that this paragraph be deleted.

e) Comments on proposed addition of paragraph 50.55 a (g) (6) (ii) (D) (6)

N-729-1 allows for modification to the required inspection coverage of Figure 2 by use of the methodology defined in Appendix A (I). This proposed paragraph requires separate NRC approval of Appendix A evaluations prior to reduction of

coverage requirements. Appendix A includes sufficient detail to produce adequate and consistent adjustments to the inspection coverage specified in Figure 2 of the Code Case. I disagree with this proposed paragraph that requires separate NRC approval of Appendix A evaluations.

Physical geometry of the PWR heads preclude examination of head penetration volumes and areas specified in the existing Order, as well as the ASME Code Case. This problem is common to many PWRs. The NRC has previously reviewed and approved Relaxation from Order EA-03-009 requirements. I recommend that the specific previously approved Relaxation Requests for reduced coverage requirements remain valid.

General Comment on Implementation Schedule

If the rule is implemented without changes, immediate compliance would not be possible. The Final Rule must allow for a reasonable implementation period.

General Comment on Code Case Conditions

In order to support the NRC and industry goal of replacing NRC Order EA-03-009 with inspection requirements based on the most current analytically-derived technical information, MRP agreed to support development of this Code Case. MRP-117 and its supporting documents, developed over several years and at significant expense to the MRP formed the primary technical basis and substantially defined the content of the final Case. MRP actively attended meetings and supported the development of this case including special efforts to interface with NRC staff, including meetings at NRC headquarters, to address concerns related to this Case in particular and generally to cracking in Alloy 600 materials. In this proposed rulemaking, the NRC has discounted these efforts by the added conditions that are proposed in this new amendment to ostensibly make Code Case N-729-1 equivalent to the existing NRC Order EA-03-09. I am disappointed that the NRC has taken this position given that Code Case N-729-1 was developed and approved using the latest available technical information under an ANSI-approved consensus process. I request that the NRC address and resolve this concern as a top priority issue as part of this proposed rulemaking.

Backfit Evaluation (item #8 p16739)

The conditions imposed on Code Case N-729-1 under paragraphs 50.55 a (g) (6) (ii) (D) (3) & (4) constitute a significant increase in the inspection requirements compared to NRC Order EA-03-009. The basis for concluding that the Proposed Rule change is not a backfit, is incorrect.

Should you have any questions please contact me at 704-595-2065.

Sincerely,

Jack Spanner

Collective Comments to USNRC April 5, 2007 10CFR50 Proposed Rules

Paragraph	Rule Text	Responder-Comment	Proposed Alternative
D (1)	*Reactor Vessel Head Inspections.* (*1*) All licensees of pressurized water reactors shall augment their inservice inspection program by implementing ASME Code Case N–729–1 subject to the conditions specified in paragraphs (g)(6)(ii)(D)(*2*) through (*6*) of this section.	Spanner-MRP is developing a qualification program for vessel head penetrations based on ASME Section V, Article 14, intermediate rigor so there is no need for these conditions.	All licensees of pressurized water reactors shall augment their inservice inspection program by implementing ASME Code Case N–729–1 except that the qualification program shall meet the intermediate rigor requirements of ASME, Section V, Article 14.
(2)	Item B4.40 of Table 1 must be inspected at least every fourth refueling outage or at least every seven calendar years, whichever occurs first, after the first ten-year inspection interval.	Constellation -Condition (g)(6)(ii)(D)(2) requires an item in the adopted Code Case N-729-1 be inspected every 4 outages but not more than 7 years. This is an unwarranted disadvantage to plants on a 24 month refueling outages. MRP has performed a comprehensive review of the available plant experience and laboratory data on the performance of the replacement head materials (Alloy 690 and its associated weld metals, Alloy 52 and 152). This study was submitted to the NRC staff as MRP-111, which was summarized in Section 10 of MRP-110. The plant and laboratory data strongly support treating the replacement materials as being significantly more resistant to PWSCC than the original materials of Alloys 600, 82, and 182. Both the laboratory testing and plant experience strongly support the reinspection frequency of 10 calendar years for replacement heads having nozzles fabricated from Alloy 690 material and attached to the head with Alloy 52 or 152 welds. The study shows on the basis of both the laboratory test data and plant experience, that	A requirement of not more than 8 years, not 7 years, should be applied in the condition.

		Alloy 690 base metal and Alloy 52/152 weld metals are much more resistant to PWSCC initiation than the original head materials of mill-annealed Alloy 600 base metal and Alloy 82/182 weld metals. Such replacement heads are considered to be resistant to PWSCC in implementation of the Code Case. Imposition of a 10-year volumetric reinspection interval reflects a substantial new inspection requirement for these locations within ASME Section XI that must be met by the utilities typically through contracted NDE vendors employing specialized equipment. Furthermore, it would appear largely self-evident that replacement of original A600 RPV heads with heads employing the more resistant A690 materials would constitute a decrease in risk of pressure boundary degradation and thus be worthy of encouragement. However, treatment of these replacement heads as no different that an original A600 head after the first 10 year interval eliminates any reinspection incentive that might accrue from head replacement. While likely not the sole deciding factor in a replacement decision for an older higher temperature head, this factor could be significant to the more marginal replacement decisions that the remainder of the fleet may consider. The MRP-111 evaluation of laboratory and plant experience indicates a material improvement factor of at least 26 for Alloy 690 versus mill-annealed Alloy 600, with larger improvement factors expected with more years of experience accumulated in the laboratory and field. This factor of 26 is much greater than the factor	

		implied by the code case for resistant materials in comparison to original head materials. Given that operating time has been shown by plant experience and laboratory testing to be a key parameter for determining the likelihood of cracking, the reinspection interval of 10 years for replacement heads with resistant materials is conservative. This interval corresponds to less than 1 year of equivalent degradation time for the original head materials. Alloy 690/52/152 materials have been in service for almost 16 calendar years with no reported indications of PWSCC in any components, including Alloy 690 steam generator tubes, Alloy 690 replacement nozzles, and Alloy 52/152 welds. The cumulative number of EFPYs of service for the U.S. population of Alloy 690 steam generator tubes is estimated to be about 2.1 million tube-EFPYs, corresponding to about 3.3 million tube-EDYs given a temperature normalization from the steam generator hot leg temperatures to 600°F. The overall number of tube-EDYs is estimated to be greater than 10 million, including the worldwide experience. The material and stress condition is acknowledged to be different for the thin-walled application of steam generator tubes compared to thick-walled reactor vessel upper head penetrations. However, historically, cracking in steam generator tubing has been observed to lead by a large time factor the stress corrosion cracking observed in reactor vessel upper head penetrations because the stress and environmental conditions are generally more aggressive for steam generator tubes. Over 1000 other Alloy 690/52/152 component	

		items—including pressurizer heater sleeves, instrument nozzles, and CRDM nozzles—are currently in service in the U.S., with some components in service for nearly 15 calendar years. The cumulative number of EFPYs of service for this population is estimated to be about 2800 part-EFPYs, corresponding to about 7600 part-EDYs given a temperature normalization to 600°F. It is significant that this experience with thick-walled Alloy 690 and with Alloy 52/152 includes about 222 replacement components now in service operating at pressurizer temperatures for up to almost 15 years. This includes about 120 heater sleeves at one CE-design station. Based on a typical activation energy for crack initiation in Alloy 600 of 50 kcal/mole, this 15 years of experience is equivalent to more than 50 years experience at the highest reported temperatures for reactor vessel upper heads. Finally, it is emphasized that the MRP is committed to ongoing evaluation of inspection experience, and a mechanism exists for changing the re-examination interval of the code case for heads with resistant materials if warranted by future inspection results. The MRP is also currently sponsoring a program to generate additional laboratory test data on the performance of Alloys 690, 52, and 152. The implications of the data generated by this program will also be evaluated as these data become available. In contrast, the First Revised Order offers no technical basis or review of test data and operating experience in establishing the re-examination interval for these materials. Despite the modest re-examination interval increase	

		reflected in the code case and MRP-117, it still represents a conservative position as described above and will ensure timely identification of any developing degradation, were it to occur.	
(3)	Instead of fulfilling the specified 'examination method' requirements for volumetric and surface examinations of Note 6 in Table 1, the licensee shall perform a volumetric or surface examination or both of essentially 100 percent of the required volume or equivalent surfaces of the nozzle tube, as identified by Fig. 2 of ASME Code Case N–729–1. A surface examination must be performed on all J-groove welds. If a surface examination is substituted for a volumetric examination on a portion of a penetration nozzle that is below the toe of the J-groove weld (Point E on Fig. 2 of ASME Code Case N–729–1), the surface examination must be of the inside and outside wetted surfaces of the penetration nozzle not examined volumetrically.	Spanner- A surface examination of the J-Groove weld is not necessary as this is not a safety issue. It is estimated that these examinations will increase the duration of the examinations by 7-21 days and result in a personnel dose rate of 5-20 R. Experience since the Executive Order has shown a low frequency of leaks. This is a new requirement that should receive a Backfit Analysis. Constellation - The proposed change does not recognize leak path ultrasonic examination in lieu of surface examination of the RV Head penetration as was permitted when we performed the examinations under the order. This will add substantial unwarranted dose, cost and time to the examination. The ultrasonic leak path exam has been demonstrated and was previously accepted by the NRC. Performance of this exam should be allowed as an alternative to performing a surface exam of the wetted portions of the RV Head penetrations when volumetric examination is performed on the nozzle tube. The condition paragraph (g)(6)(ii)(D)(3) should be modified as such. Constellation - Head replacements designs which have leak pathway designs that permit leakage passage through the nozzle interference fit zone for external detection should be exempt from performing surface examination of the wetted portions of the RV Head penetrations when volumetric examination and the external leakage detection at these leak pathways is performed on the nozzle tube. The condition paragraph	Delete: A surface examination must be performed on all J-groove welds.

		(g)(6)(ii)(D)(3) should be modified as such. Calvert Cliffs is unique in that we have this design in our replacement heads.	
(4)	Ultrasonic examinations must be performed using personnel, procedures and equipment that have been qualified by blind demonstration on representative mockups using a methodology that meets the conditions specified in paragraphs (g)(6)(ii)(D)(4)(*i*) through (*iv*) of this section instead of using a methodology that satisfies the conditions specified by the qualification requirements of Paragraph–2500 of ASME Code Case N–729–1.	Spanner-MRP is developing a qualification program for vessel head penetrations based on ASME Section V, Article 14, intermediate rigor so there is no need for these conditions.	**** using a methodology that meets the (Insert) intermediate rigor requirements of ASME Section V, Ariticle 14. Delete the rest of the paragraph beginning with "conditions"
(i)	The diameters of pipes in the specimen set shall be within 1.5 in. (13 mm) of the nominal diameter of the qualification pipe size and a thickness tolerance of ± 25 percent of the nominal through-wall depth of the qualification pipe thickness. The specimen set must contain geometric and material indications that normally require discrimination from primary water stress corrosion cracking (PWSCC) flaws.	Lareau - This paragraph imposes limits on the range of diameters and wall thicknesses that can be used for a given demonstration. The existing demonstrations have been performed using the nominal dimensions of a CRDM (typically 4.0" diameter by 0.625" wall). The reactor vessel head may also include in core instrumentation (ICI) nozzles and a vent line which would fall outside the stated dimensional limits in his paragraph.	ASME Section V, Article 14 is cited in the Code Case as the basis for technique qualification. This Article allows the use of field experience and analytical modeling to augment a qualification. In the case of RPVH inspections, extending the application of ultrasonic time of flight diffraction (TOFD) from one right cylinder to another right cylinder is trivial. As for field experience, over 100 ICI nozzles have been inspected and there have been no leaks. Similarly, the vent line inspection is done with a surface eddy current exam, which is independent of diameter or wall thickness. This technique is virtually identical to the standard inspections performed on 100,000's of steam generator tubes. It would be very costly to manufacture mockups over all these sizes and the field experience and analytical approaches allowed in Article 14 have demonstrated no need for this additional cost of manufacturing mockups and conducting additional demonstrations.

(ii)	The specimen set must have a minimum of ten (10) flaws that provide an acoustic response similar to that of PWSCC indications. All flaw depths in the specimen set must be greater than 10 percent of the nominal pipe wall thickness. A minimum number of 30 percent of the total flaws must be connected to the outside diameter and 30 percent of the total flaws must be connected to the inside diameter. Further, at least 30 percent of the total flaws must measure from a depth of 10 to 30 percent of the wall thickness and at least 30 percent of the total flaws must measure from a depth of 31 to 50 percent of the wall thickness and be connected to the inside or outside diameter, as applicable. At least 30 percent, but no more than 60 percent, of the flaws must be oriented axially.	Spanner- The current set of mockups that have been in use for over 10 years do not meet all of these conditions. New mockups would be necessary to meet these conditions.	Replace after 2nd sentence with - A minimum of 20% of the total flaws shall initiate from the inside surface and 20% from the outside surface. At least 20% of the flaws shall be in the depth ranges of 10%-30% and at least 20% within a depth range of 31% -50%. At least 20% and no more than 40% of the flaws shall be oriented axially.
(iii)	The procedures must identify the equipment and essential variable settings used to qualify the procedures. An essential variable is defined as any variable that affects the results of the examination. The procedure must be requalified when an essential variable is changed to fall outside the demonstration range. A procedure must be qualified using the equivalent of at least three test sets that are used to demonstrate personnel performance. Procedure qualification must require at least one successful personnel performance demonstration.	Spanner- The MRP Program Description for penetration qualifications already includes the requirement to use the equivalent of three test sets for procedure qualification.	Procedure requalification should be based on Art. 14 so use of technical justifications, modeling, or non-blind demonstrations using at least three flaws should be permitted.
(iv)	Examination procedures, equipment, and personnel must be considered qualified for depth sizing only if the root mean square (RMS) error of the flaw depth measurements, as compared	Spanner -The condition of flaw sizing tolerance is generally less than the accuracy of the flaw fabrication and a significant number of current techniques cannot meet	Insert – The RMS error of the flaw depths shall not exceed .125 inch and the length sizing error shall not exceed .375 inch.

	to the true flaw depths, does not exceed 1/32-inch (0.8 mm). Examination procedures, equipment, and personnel must be considered qualified for length sizing if the RMS error of the flaw length measurements, as compared to the true flaw lengths, does not exceed 1/16-inch (1.6 mm).	this. The recommended values are based on Section XI, Appendix VIII, probabilistic analysis and deterministic calculations.	
(5)	If flaws attributed to PWSCC have been identified, whether acceptable or not for continued service under Paragraphs -3130 or -3140 of ASME Code Case N–729–1, the reinspection interval must be each refueling outage instead of the reinspection intervals required by Table 1, Note (8) of ASME Code Case N–729–1.	The technical basis for the reinspection interval established in the Case was analytically derived with a solid technical basis. MRP previously provided the following response to an NRC comment on this same requirement and we are not aware of any alternative crack growth analysis that refutes the basis for the subject requirement as stated in the Case and therefore replacing this requirement is not justified. "The proposed requirement for an inspection to be performed during each refueling outage for heads for which PWSCC flaws have been detected, either acceptable or unacceptable for continued service, is not justified for heads having a low to moderate operating temperature based on the safety assessment results nor based on plant experience. As discussed elsewhere in this document, PWSCC initiation is assumed to have already occurred and the re-examination intervals of the code case are sufficient to ensure low probability of leakage and to preserve structural integrity thereby ensuring safe operation. A review of past inspection experience indicates no cases in which the frequency of re-examinations required by the code case would have been insufficient to ensure robust safety margins and defense in depth. It is noted that the code case would have required the same one cycle re-examination interval at Millstone 2 and St. Lucie	Delete (5)

		2 as required by the revised NRC Order, due to the relatively high head temperature for these units. It is also noted that the apparent rate of "spreading" of PWSCC at Millstone 2 has been determined very likely to be primarily the result of an increase in examination sensitivity rather than high rates of crack initiation and growth. The RIY methodology of the code case for setting the frequency of volumetric/surface examinations is a conservative methodology that is designed to prevent the occurrence of leakage given the conservative assumption that active cracking is occurring, even in the case that actual past examinations of the subject head have not indicated service-induced cracking. In other words, the intervals required by the RIY criterion conservatively presuppose that crack initiation has already occurred and that cracks are actively growing, while also recognizing the fact based on overwhelming plant experience and laboratory data that the rate of PWSCC flaw growth is sensitive to temperature. Furthermore, the code case requires that the volumetric/surface re-examination interval be reduced to a maximum of two operating cycles (if the RIY criterion results in greater than a two cycle period) in the event that service-induced cracking requiring repair is detected. In this circumstance, the code case also requires that the bare metal visual examinations be performed during every refueling outage. These requirements are made by the code case even though a longer re-examination interval is justified by the safety assessments on the basis of the reduced rate of crack growth.	

		In summary, the requirements specified in Note (5) of the code case are appropriate to ensure safety and adequate defense in depth."	
(6)	Appendix I of ASME Code Case N–729–1 must not be implemented without prior NRC approval.	N-729-1 allows for modification to the required inspection coverage of Figure 2 by use of the methodology defined in Appendix A (I) Appendix A includes sufficient detail to produce adequate and consistent adjustments to the inspection coverage specified in Figure 2 of the Code Case. MRP disagrees with this proposed paragraph that requires separate NRC approval of Appendix I evaluations. MRP recommends that the specific previously approved Relaxation Requests for reduced coverage requirements remain valid.	Appendix I should be Appendix A This condition should be deleted.
E (1)	*Reactor Coolant Pressure Boundary Visual Inspections.* (*1*) All licensees of pressurized water reactors shall augment their inservice inspection program by implementing ASME Code Case N–722 subject to the conditions specified in paragraphs (g)(6)(ii)(E)(*2*) through (*4*) of this section. The inspection requirements of ASME Code Case N–722 only apply to components fabricated with Alloy 600/82/182 materials not mitigated by weld overlay or stress improvement.		
(2)	If a visual examination determines that leakage is occurring from a specific item listed in Table 1 of ASME Code Case N–722 that is not exempted by the ASME Code, Section XI, IWB–1220(b)(1), additional actions must be performed to characterize the location, orientation, and length of crack(s) in	Spanner- It should be sufficient to demonstrate the ability to characterize location, orientation and length of cracks with calibration blocks or mockups containing a notch in the axial and circumferential orientation.	

	Alloy 600 nozzle wrought material and location, orientation, and length of crack(s) in Alloy 82/182 butt welds. Alternatively, licensees may replace the Alloy 600/82/182 materials in all the components under the item number of the leaking component.		
(3)	If the actions in paragraph (g)(6)(ii)(E)(*2*) of this section determine that a flaw is circumferentially oriented and potentially a result of primary water stress corrosion cracking, licensees shall perform non-visual NDE inspections of components that fall under that ASME Code Case N–722 item number. The number of components inspected must equal or exceed the number of components found to be leaking under that item number. If circumferential cracking is identified in the sample, non-visual NDE must be performed in the remaining components under that item number.		
(4)	If ultrasonic examinations of butt welds are used to meet the NDE requirements in paragraphs (g)(6)(ii)(E)(*2*) or (g)(6)(ii)(E)(*3*) *of this section, they* must be performed using the appropriate supplement of Section XI, Appendix VIII of the ASME Boiler and Pressure Vessel Code.		

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Date: Tue, Jun 19, 2007 11:15 PM
Subject: Spanner Comments to 10CFR50

<<Spanner Comments to 10CFR50.doc>>
<<JCS comments to 10CFR50 ltr.doc>>

Attached are my comments and cover letter to the April 5, 2007 Proposed Rules.

CC: "Terence Chan" <tlc@nrc.gov>, "Wallace Norris" <WEN@nrc.gov>, "Selby, Greg" <gselby@epri.com>, "Ashwin, Phil" <pashwin@epri.com>

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Options
Expiration Date: None
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Junk Mail settings when this message was delivered
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