June 10,2013

MEMORANDUM TO: Timothy R. Lupold, Chief
Component Performance, NDE and Testing Branch
Division of Engineering
Office of Nuclear Reactor Regulation

FROM: Gurjendra S. Bedi, Mechanical Engineer ***/RA/***
Component Performance, NDE and Testing Branch
Division of Engineering
Office of Nuclear Reactor Regulation

SUBJECT: STAFF EVALUATION AND RESOLUTION OF THE PUBLIC COMMENTS RELATED TO DRAFT NUREG-1482, REVISION 2, "GUIDELINES FOR INSERVICE TESTING AT NUCLEAR POWER PLANTS."

Enclosed is the staff evaluation and resolution of the public comments received on proposed Draft NUREG-1482, Revision 2, "Guidelines for Inservice Testing at Nuclear Power Plants – Inservice Testing of Pumps and Valves and Inservice Examination and Testing of Dynamic Restraints (Snubbers) at Nuclear Power Plants" (ADAMS Accession No. ML112231412), published in the Federal Register (Volume 76, FR 52355-52356) on August 22, 2011.

Enclosure:
As Stated

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(301) 415-1393

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Staff Evaluation and Resolution of the Public Comments on Proposed Draft NUREG-1482, Revision 2, "Guidelines for Inservice Testing at Nuclear Power Plants"

Proposed Draft NUREG-1482, Revision 2 (ADAMS Accession No. ML112231412) was issued for public comments in *Federal Register* in August 2011 (76 FR 52355-52356) and the public comment period ended on December 20, 2011. Comments were received from the public and organizations listed below. The NRC has combined the comments and NRC staff disposition in the following table.

Comments were received from the following:

1. Mark Shut,
   Duke Energy
   Vice President Snubber User Group (SNUG)
   (ADAMS Accession No. ML 12032A035)

2. Ron Lippy, & Karl Asmundsson
   True North Consulting
   (ADAMS Accession Nos. ML11334A064,
   and ML12032A030)

3. Mark Clouse, & Tony Zimmerman
   Progress Energy &
   Inservice Testing Owner Group (ISTOG)
   (ADAMS Accession No. ML12032A026)

4. Raj Rana
   Energy Northwest
   (ADAMS Accession Nos. ML12032A027,
   and ML12032A028)

Notes:
1. All the comments related to typographic changes, errors, editorial improvements were made as warranted by the staff and no further response is being provided.
2. Based on public comments, NUREG-1482, Rev-2, maintains the same format and section numbers as of the NUREG-1482, Rev-1 with the addition of a new Appendix- A related to inservice examination and testing of dynamic restraints (snubbers).
3. NRC responses to all public comments are arranged by Section numbers of NUREG-1482, Revision 2, because each section contains different topic.

No.	Commenter	Section	Para.	Comment	Response
				Main Section of the Draft NUREG-1482, Revision 2	
1.	True North-1	2.2	1	The regulation at 10 CFR 50.55a(b)(6) incorporates by reference Regulatory Guide (RG) 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code." Licensees may implement the code cases listed in RG 1.192 without obtaining further NRC review or approval if the code cases are used in their entirety with any supplemental conditions specified in the RG. RG 1.193, "ASME Code Cases Not Approved for Use," lists code cases not approved for use. The statement made here regarding Code Case use is NOT complete. The Code also has to be applicable to the Station regarding the Code Edition/Addenda in use at the station.	The NRC agrees with the comment that details about the use of RG 1.192 should be clarified, and revised to include additional information that if the plant-used Code Case Edition and Addenda is different than the approved Code Case Edition and addenda in RG-1.192, then the plant needs NRC approval to use the Code Case. The recommended change provides clarity about the plant-used Code Case Edition and Addenda and approved Code Case Edition and Addenda in RG-1.192. (Section 2.2 details and its changes are now under Section 2.1.1 of NUREG-1482, Revision 2)

ENCLOSURE

No.	Commenter	Section	Para.	Comment	Response
2.	PEnergy-1	2.2	2	Consider a sentence to discuss the nominal revision frequency for RG 1.192	The NRC disagrees with this comment, because NUREG-1482, Rev-2 does not control the revision frequency of any regulatory guides (RG) including RG 1.192. (now this is in Section 2.1.1)
3.	PEnergy-2	4.0	1	Utilizes the term *"limitations and modifications."* I thought the new term was simply "conditions"	The NRC agrees with this comment based on the wordings contained in 10 CFR 50.55a(b)(3). Therefore, the terms "Limitations and modifications" is changed to "conditions," as specified in 10 CFR 50.55a(b)(3). (now this is in Section 2.1.2)
4.	PEnergy-3	4.2	1	"*This condition requires that licensees establish a program to ensure that motor-operated valves (MOVs) continue to be capable of performing their design-basis safety functions."* However, not all credited MOV design basis testing is capable of detecting a detached obturator for some valve designs (e.g., globe). Suggest that the wording be clear such that all Licensees understand that BOTH the IST and MOV Program scope must match, or otherwise be reconciled.	The NRC does not agree with the comment related to changes in specified "conditions" for MOVs, because the conditions listed in Section 4.2 of NUREG-1482, Revision 2 are the same as listed in 10 CFR 50.55a(b)(3), and as well as specified in the ASME OM Code. The ASME OM Code Committee is working on improving the Code to address obturator concerns. Discussion of position verification has been expanded in Section 4.1.7). (now this is in Section 2.1)
5.	PEnergy-4	4.3	1,2 & 3	In the first paragraph, the document concludes that "*the conditions in 10 CFR 50.55a(b)(3)(iv) do not apply to the 2003 Addendum and later editions and addenda to the OM Code because the 2003 Addendum revised the earlier OM Code provisions on which this regulation was based to address the underlying issues that led the NRC to impose the condition."* The remainder of the section discusses conditions that apply to earlier editions of the Code. At first read, it appears that these modifications apply and it is a little confusing. Suggest that a lead in sentence be added prior to the second paragraph to clarify that the following limitations apply to editions and addenda prior to the 2003 addendum. Also, the NRC needs to provide additional information to clarify or limit the statement that *"single direction flow testing of check valves will not always detect degradation of the valve."* The example provided appears to reference a standard swing check valve; however, fails to address other check valves to which this statement may not apply and are used throughout the industry. In fact forward flow testing may very well detect a failure in certain valve designs. For example degradation	The NRC agrees with the suggestion to add a new lead sentence to clarify the applicability of the provided conditions. The wordings in NUREG-1482, Rev-2 and the conditions specified in regulation 10 CFR 50.55a(b)(3)(iv) are the same with some clarification. Therefore no additional change is needed. However, as suggested in the end of the comment regarding the 10 year limit for check valve test interval, NRC staff changed the wording matching with that of 10CFR50.55a. The NRC does not agree to provide additional information to clarify or limit the statement that "single direction flow testing of check valves will not always detect degradation of the valve," because in this section, NRC only provided just an example related to single direction flow testing of check valves. This does not mean that all other types of check valves are to be neglected.

ENCLOSURE

No.	Commenter	Section	Para.	Comment	Response
				in piston, ball, lift and tilting disc check valves would most likely be detected by inadequate forward flow test results. These valve types would tend to block flow if major failures were to occur. This section and that of 10CFR50.55a needs to read the same with regards to the 10 year limit for check valve test intervals.	(now this is in Section 2.1.2.3)
6.	TrueNorrth-2	5.4	2	The most common examples of an ASME non-compliance that can result in a TS violation are either a missed IST test required by TS Surveillance Requirement (SR) or when components fail or are declared inoperable by the OM Code tests. This is a confusing issue because IST is required by Tech Specs however, it may be just a general statement such as "pump A is required to be tested in the IST Program." This is a TS requirement but not necessarily a specific SR. The SR as stated above may just refer to testing per the IST Program. The IST Program is administrative TS in many cases and the issue of whether or not the component's SR is specific enough is always a question. Could you clarify this further? If an operability determination is made and the component is determined to be operable but, cannot be tested for several months and therefore the station is in "noncompliance" with the administrative requirement of the TS, is a verbal or exigent relief required to address the non-conforming condition?	The NRC agrees with this comment related to IST and TS Surveillance (SR) to clarify this section, because IST and TS SR are two different requirements. Therefore, this section is completely revised to remove the confusion between IST and TS Surveillance Requirements. (now this is in Section 2.1.4)
7.	PEnergy-5	5.4	3	*"The inoperable component could be declared operable once the NRC authorizes the alternative and the licensee has successfully completed the alternative test (if applicable). An NRC authorization of the alternative would not be retroactive because the agency must authorize the alternative before it can be implemented."* It is not clear what this last paragraph is referring to. There is no discussion of alternative tests in 5.5.	Section 5.4 is revised and rewritten for clarification. Alternatives and Reliefs are discussed in Section 2.5. (now this under Section is 2.1.4)
8.	PEnergy-6	5.9	1	Section 5.9 states that "*Licensees should exercise caution when applying interpretations because they are not specifically incorporated by reference into 10 CFR 50.55a and have not received NRC approval. The NRC recognizes that ASME is the official interpreter of the OM Code, but the NRC will not accept ASME interpretations that, in the NRC's opinion, are contrary to the agency's requirements or may adversely impact facility operations."* This statement seems to contradict the previous discussion in section 2.1 relative to NRC participation with ASME in development of a consensus standard. In fact, this statement implies that the NRC has line item veto authority and cautions users whom implement the ASME interpretations. This document needs to address how the NRC will effectively communicate differences with ASME regarding approved ASME Code interpretations to end users and provide technical justification as to why the opinion formed by industry experts, consultants and vendors differs from that of the commission. For example:	The NRC does not agree with the comment that ASME OM Code interpretations are to be incorporated by reference into 10 CFR 50.55a, because most interpretations published in the ASME OM Code do not follow the same approval process as the ASME OM Code and Code Cases. Interpretations are not based on industry and expert consensus. Therefore, interpretations are not endorsed in the regulations in 10 CFR 50.55a. (now this is under Section 2.1.5)

ENCLOSURE

No.	Commenter	Section	Para.	Comment	Response
				• Previous attempts to clarify new Code requirements regarding comprehensive pump tests and design flow rate were opposed by the commission and it was not until several years later that a basis was provided. Design flow rate was introduced in the 1995 edition of the OM Code. This term is critical in complying with the comprehensive pump test requirements and has not yet been defined. The industry has proposed several alternatives to the NRC and the NRC was unable to offer an alternative. This leaves the industry vulnerable to Regulatory Interpretation and enforcement. To date, this question remains unanswered in large part because of initial, baseless NRC opposition. • Preconditioning of structures, systems and components became an industry topic during mid 1990s. The NRC issued Information Notice 96-24, "Preconditioning of Molded-Case Circuit Breakers Before Surveillance Testing" and NRC Information Notice 97-16 "Preconditioning of Structures, Systems, and Components." These documents discussed preconditioning on generic basis and addressed longstanding concerns NRC had regarding unacceptable preconditioning of components prior to testing. In 1998, the NRC issued Part 9900 to Inspection Manual; which discussed staff's perspective with regard to preconditioning of structures, systems, and components. Part 9900 differs significantly from the previous NRC guidance and the industry was not informed until July 2004, when the NRC issued draft NUREG 1482 'Guidelines for Inservice Testing at Nuclear Power Plants', Revision 1. • One utility was recently questioned about the allowance in the ASME OM Code relative to performance of an additional valve stroke if the stroke time exceeded the Alert criteria, but was still below the limiting value. The NRC concern relative to unacceptable preconditioning essentially placed the utility in a unique position of defending their legal requirements against the requirements of an NRC Inspection Procedure. In short, they were being asked why they chose follow the Code instead of ignore the requirements to satisfy a potential concern associated with an Inspection Procedure. In summary, the NRC needs to develop a communication method to immediately notify the industry when the commission opposes the ASME relative to interpretations, or changes their perspective on previous issued guidance related to IST. Holding licensees accountable to Inspection Standards that may conflict with previously published expectations that may not have been adequately communicated to the industry is not consistent with the image of a properly functioning consensus process. This NUREG should consider incorporating guidance based on the concerns identified above.	

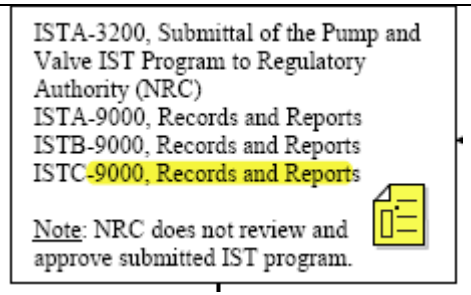
No.	Commenter	Section	Para.	Comment	Response
				Appendix-A, Draft NUREG-1482, Rev-2 (Now Main Body of NUREG-1482, Rev-2)	
9.	TrueNorth-3	1.1	2	The NRC regulations in 10 CFR 50.55a(b)(3) incorporate by reference the 1998 Edition through the 2004 Edition with 2005 and 2006 addendas of the *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code) promulgated by the American Society of Mechanical Engineers (ASME), in which Subsection ISTA provides general IST requirements and Subsections ISTB, ISTC, and ISTD provide specify the IST requirements for pumps, valves, and dynamic restraints, respectively. Need to add a clarification to the 2nd paragraph to state that as of July 21, 2011, the 1998….thru the 2006 addenda.	The NRC agrees with the comment to clarify and provide the applicable date with the ASME OM Code Editions and addendas, to match with the regulation in 10 CFR 50.55a(b)(3). Therefore, for clarification, added as of July 21, 2011, along with the 1995…….thru the 2006 addenda, because the current regulation incorporates ASME OM Code through 2004 Edition with 2005 and 2006 Addendas.
10.	TrueNorth-4	2.1	2	In addition, Paragraph 50.55a(f)(4)(ii) requires that IST conducted during each 120-month interval following the initial interval must be conducted in compliance with the requirements of the latest edition and addenda of the Code incorporated by reference in the version of 10 CFR 50.55a(b) that is in effect 12 months before the start of the interval. The NRC regulations in 10 CFR 50.55a(b) incorporate by reference the 1995 Edition through the 2004 Edition including 2005 and 2006 addendas of the ASME OM Code subject to limitations and modifications conditions. Need to add a clarification to the 2nd paragraph to state that as of July 21, 2011, the 1998….thru the 2006 addenda…	
11.	TrueNorth-5	2.1.1	7	If RG 1.193 identifies a Code case as being unacceptable, licensees may not implement the specified Code case without first obtaining NRC approval. Licensees may request the NRC's approval to implement a Code case listed in the RG under the provisions of 10 CFR 50.55a(a)(3), which permits the use of alternatives to the Code requirements referenced in 10 CFR 50.55a, provided that the proposed alternative results in an acceptable level of quality and safety, by addressing the NRC s concern and submitting a plant-specific relief request. This appears to state that you can ask for an "alternative to the code" the code case which was not approved to an alternative, the alternative to the code case which was not approved". I do not think that this is acceptable to have an alternative to an alternative?	The NRC agrees with the comment to clarify the use of unacceptable Code Cases listed in RG 1.193 with authorization of NRC. Therefore, new wording related to RG 1.193 in the paragraph is added as follows: If RG 1.193 identifies an ASME Code Case as being unacceptable, the NRC is unlikely to approve a licensee request to use that specified Code Case (whether by exemption, authorizing alternatives, or granting relief). Licensees requesting the NRC's approval to implement a Code case listed in the RG 1.193 must show, at minimum, that adequate protection to public health and safety is provided if the Code Case is applied by the licensee/applicant.

No.	Commenter	Section	Para.	Comment	Response
					The NRC staff is considering a petition for rulemaking regarding an authorization of alternatives to NRC-approved ASME Code Cases. Note: This is not an alternative to an alternative.
12.	TrueNorth-6	2.2 & 2.2.1	1	2.2 The intent of General Design Criterion (GDC) 1 (defined in Appendix A to 10 CFR Part 50) and Criterion XI (defined in Appendix B to 10 CFR Part 50) is that all components (such as pumps and valves) that are necessary for safe operation must be tested to demonstrate that they will perform satisfactorily in service. Among other things, GDC 1 requires that components that are important to safety must be tested to quality standards that are commensurate with the importance of the safety function(s) to be performed. Appendix B to 10 CFR Part 50 describes the requisite quality assurance program, which includes testing, for safety-related components. In addition, 10 CFR 50.55a(f) requires that licensees must use the ASME OM Code for inservice testing of components that are covered by the Code. Each licensee has the responsibility to demonstrate the continued operability or functionality of all components within the scope of their IST program. The regulatory guides augment those requirements by providing additional NRC guidance regarding scope and classification. In short, the ASME Code defines the scope, 10 CFR 50.55a endorses the Code with clarifications, and regulatory guides provide additional guidance. 2.2.1 The requirements for the scope of components to be included in an IST program are addressed in 10 CFR 50.55a(f). Specifically, 10 CFR 50.55a(f)(4) states, "Throughout the service life of a boiling- or pressurized-water-cooled nuclear power facility, pumps and valves which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the inservice test requirements set forth in the ASME OM Code." ASME Code Class 1 components include all components within the reactor coolant pressure boundary. RG 1.26, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants," Revision 4, dated March 2007, provides guidelines for establishing the quality group classification (and ASME Code classification) for water-, steam-, and radioactive-waste-containing components of nuclear power plants, other than those in the reactor coolant pressure boundary (i.e., ASME Code Class 2 and 3 components). The ASME OM Code is incorporated by reference in 10 CFR 50.55a(b)(3). The OM Code defines the scope by stating that IST programs shall include pumps and valves that are required to perform	NRC response to questions raised by the True North as follows: The NRC regulations in 10 CFR 50.55a(f) require pumps and valves identified as Class 1, 2 and 3 components in the ASME *Boiler & Pressure Vessel Code* (BPV Code) to meet the inservice testing (IST) requirements specified in the ASME *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code). The scope of IST requirements specified in 10 CFR 50.55a(f) is based on the classification system for components in Section III of the ASME BPV Code. ASME published the OM Code to specify IST requirements for pumps and valves that had previously been included in Section XI of the ASME BPV Code. Rather than referencing the ASME BPV Code classification system, the ASME OM Code defines the scope of the IST requirements for pumps and valves as those required to perform a specific function in shutting down the reactor to a safe shutdown condition, maintaining the safe shutdown condition, or mitigating the consequences of an accident; and for pressure relief devices that are used to protect systems that perform a required safety-related function. Therefore, ASME has established the scope of IST requirements for pumps and valves in the ASME OM Code that might exclude certain Class 1, 2 or 3 components or might extend beyond the scope of Class 1, 2 and 3 components identified by the ASME BPV Code. Although there appears to be an apparent discrepancy between the scope of components required by 10 CFR 50.55a and that specified in the OM Code, the variability provides flexibility in establishing the scope of components to be included in a specific plant's IST program depending on the vintage and type of facility, specific system configuration, and component function. The NRC Standard Review

No.	Commenter	Section	Para.	Comment	Response
				a specific function in (1) shutting down the reactor to a safe shutdown condition, (2) maintaining the safe shutdown condition, or (3) mitigating the consequences of an accident. The scope of the OM Code also covers pressure relief devices that are used to protect systems (or portions of systems) that perform a required safety-related function. Therefore, the scope of components to be included in an IST program must encompass ASME Code Class 1, 2, and 3 components that are covered in Subsection ISTA of the ASME OM Code. Why do the federal regulations limit the IST scope to ASME Class 1, 2 and 3 components and why is the limit to safe shutdown instead of cold shutdown. The Code (other than RVs and Snubbers), no longer refers to class of components. As evidenced by recent industry issues throughout the world shouldn't all IST components be pumps, valves, snubbers, dampers, etc., that perform the safety related functions and NOT be limited to ASME Class 1, 2 and 3. Also, shouldn't the safe shutdown for ALL facilities be Cold Shutdown?	Plan in Section 3.9.6 specifies that the NRC staff will review the scope of the IST program during the licensing of nuclear power plants to determine whether any pumps and valves that perform safety-related functions should be included in the IST program in addition to ASME Class 1, 2 and 3 pumps and valves. While 10 CFR 50.55a delineates the testing requirements for ASME Code Class 1, 2, and 3 pumps and valves, licensees may elect to not limit their inservice testing to only those pumps and valves that are covered by 10 CFR 50.55a. For example, the emergency diesel generator air start system is typically not Code Class 1, 2, or 3 and, therefore, 10 CFR 50.55a does not require licensees to test the related components under the provisions of the ASME Code. However, emergency diesel generator air start, cooling water, and fuel oil transfer systems are considered safety-related and, as such, Appendices A and B to 10 CFR Part 50 require that they must be included in the scope of a component testing program and must undergo the required testing. In a future rulemaking, the NRC staff may consider whether the scope of the IST requirements for pumps and valves in 10 CFR 50.55a should be updated for new nuclear power plants and future 10-year IST program intervals for currently operating plants to be consistent with the scope of the ASME OM Code. Also, the comment related to Fukushima, Japan issue, lessons learned from Fukushima event will be considered and addressed in a future revision.
13.	TrueNorth-7	2.2.1	7	Need to provide a more solid clarification that IST components are NOT limited to just those in Chapter 14 or 15 accidents but, are required for essentially any "transients" that could cause a decrease to the health and safety of the public. In my opinion, the NRC causes confusion with the "safe shutdown" statement and the "vagueness" in NOT stating that accidents are NOT just Chapter 14 or 15 but any transients. To me the term should be licensing bases and not just design bases accidents as has been described in the past. Especially in lieu of the Japan issue.	
14	TrueNorth-9	2.2.4	1	If a licensee includes a component in the IST program, the component is considered to be within the scope of the program and may only be removed if the licensee meets the applicable criteria of 10 CFR 50.55a and 50.59. Similarly, if the TSs requires a licensee to test a component in accordance with the 10 CFR 50.55a IST program, it is considered to be within the scope. The component is within the IST scope even if it is NOT ASME Class 1, 2 or 3?	
15	TrueNorth-22	3.4	1	Since ASME no longer references Class except for RVs and snubbers, may want to remove the limitation to bring CFRs up to industry standards.	
16.	PEnergy-7	2.2.1	7	Suggest referring to INPO AP-913 as an alternative to the sentence pertaining to "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants (the Maintenance Rule). Licensees may elect to consolidate testing for pumps and valves, designating any non-Code	The NRC does not agree with the comment to add reference to INPO AP-913 as an alternative to the sentence pertaining to "Monitoring the Effectiveness of Maintenance at Nuclear Power

No.	Commenter	Section	Para.	Comment	Response
				components as such in the IST program". INPO has developed an acceptable approach to 'Critical' and 'Important' classified valves that should be acceptable to the NRC for those components outside of IST but are important to safety.	Plants, because INPO AP-913 is not a publically available document. Therefore, NRC is not in position to accept the suggestion to include INPO AP-913 in this Section. 2.2.1 and 2.2.3.
17	PEnergy-8	2.2.3	3	Suggest referring to INPO AP-913 as an alternative to the sentence pertaining to "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants (the Maintenance Rule). Licensees may elect to consolidate testing for pumps and valves, designating any non-Code components as such in the IST program". INPO has developed an acceptable approach to 'Critical' and 'Important' classified valves that should be acceptable to the NRC for those components outside of IST but are important to safety.	
18.	TrueNorth-8	2.2.2	1	Licensees should review their IST programs to ensure adequate scope. Components that are frequently erroneously omitted from IST programs include the following examples: What about Excess Flow CVs? These have always been an issue and there needs to be some clarification as to the NRC requirements, NEDO document, BWROG paperwork/....etc.	The NRC agrees with the comments to add excess flow check valves with others listed examples of valves, because excess flow check valves are part of IST and must be included in the IST program. Therefore, excess flow check valves are included in this section's list.
19.	TrueNorth-10	2.4.5	2	Check valves that can be stroked quarterly, but must be monitored by a nonintrusive technique to verify full stroke, may be full-stroke tested during cold shutdown or refueling outages if another method of verifying full-stroke exists during such plant conditions. The NRC would not require a licensee to invest in nonintrusive equipment for the purpose of testing check valves quarterly (instead of testing them during cold shutdown or refueling outages), even though the use of nonintrusive techniques is recommended where practical. However, the NRC would continue to require the quarterly partial-stroke testing as applicable. (See also Section 3.1.1) The Code no longer requires that the check valve (CV) be partial stroke exercised except upon reassembly where practicable.	The NRC agrees with the comment that ASME OM Code no longer requires check valve be partial stroke exercised except upon reassembly where practicable. Therefore, the last sentence in Section 2.4.5, 2nd paragraph is deleted, because now this is not required by the ASME OM Code.
20.	TrueNorth-11	2.4.5	3	A licensee may request relief from quarterly testing where such testing would impose a hardship (e.g., entering a limiting condition for operation of 3 to 4 hours in duration, repositioning a breaker from "off" to "on," and necessitating for manual operator actions to restore the system if an accident were to occur while the test was in progress). Why would a relief request be required here? Wouldn't this be satisfied by a CSJ or ROJ?	The NRC does not agree with the comment. The request for relief from quarterly testing due to hardship is required, because 10 CFR 50.55a requires submitting a relief request for hardship. This does not satisfy cold shutdown justification (CSJ) or refueling outage justification (ROJ).

No.	Commenter	Section	Para.	Comment	Response
21.	TruyeNorth-12	2.4.5	3	A licensee may request relief from quarterly testing where such testing would impose a hardship (e.g., entering a limiting condition for operation of 3 to 4 hours in duration, repositioning a breaker from "off" to "on," and necessitating for manual operator actions to restore the system if an accident were to occur while the test was in progress). Could you use dedicated operators for these types of tests? Would Relief be required to use dedicated operators?	In this section, the NRC provided just an example of hardship where relief could be required. Relief is required on a case by case basis.
22.	PEnergy-9	2.4.5	4 & 2	The first sentence in fourth paragraph implies that testing at cold shutdown is optional. This sentence needs to be corrected. I believe the intent of the sentence is to state that not all CSD components are required to be tested. Also, need to add a consideration that partial stroke testing (of check valves) at a quarterly interval may not be prudent in all cases and may contribute to accelerated wear of critical mating pieces where sufficient flow rates cannot be developed to achieve disc stability. In this condition, the NRC would consider this condition to constitute adequate justification for deferral (to conditions where full flow can be achieved); therefore, a request for relief is not required. The following statement relative to check valve exercise tests is made in 2.4.5 "However, the NRC would continue to require the quarterly partial-stroke testing as applicable. (See also Section 3.1.1)". This section pertains to check valves; which are Category C valves. The partial stroke exercise only applies to Category A & B valves. There is no requirement to perform a partial stroke exercise of a Category C valve.	The NRC agrees with the comment that the sentence related to testing at cold shutdown needs to be corrected, because the ASME OM Code requires that if quarterly testing is not possible, testing can be performed at cold shutdown. Therefore, the first sentence of fourth paragraph is changed to add word "some or all" with valves in a cold shutdown mode as follows: "In the event of a planned or unplanned maintenance outage, a licensee may decide to test **some or all** valves in a cold shutdown mode, rather than waiting for the refueling outage," because ASME OM Code allows testing during cold shutdown. The second comment related to section 2.4.5 is not applicable because sentence "However, the NRC would continue to require the quarterly partial-stroke testing as applicable. (See also Section 3.1.1)," is already deleted in response to other comment No. 18.
23.	PEnergy-10	2.4.5	6	The first bullet regarding "inaccessibility" can be explained in more detail. For example, can ALARA and unplanned entry into containment be considered as adequate examples pertaining to inaccessibility? In section 2.5.1(4), it appears as though ALARA can be used to justify a deferral with submittal of a relief request (e.g., it may be a basis for relief **OR** for deferring a test.). It is unclear if a relief request is needed or if the licensee can follow the intent of the Code and document a basis for deferred testing.	The NRC does not agree to provide any additional details about "inaccessibility," because every plant has its own criteria or justification of inaccessibility based on their design, etc. Therefore, licensees need to make their own decisions for inaccessibility on a case by case basis and justification if relief is needed.
24.	TrueNorth-13	2.5.3	1, 8th bullet	Basis for relief: Clearly state the legal basis under which relief is requested, and then explain the reasons why complying with the Code requirements is impractical, poses a hardship, or otherwise should not be enforced. Include justification for each test frequency deferral (e.g., quarterly to cold shutdown), and state and justify the proposed	The NRC staff agrees with the comment that now the ASME OM Code allows to defer the test frequency from quarterly to cold shutdown and refueling shutdown. Therefore, the sentence "Include justification for each test frequency

No.	Commenter	Section	Para.	Comment	Response
				frequency. Include all information that the NRC staff might need to complete its review. For example, most relief requests for check valves list the test direction(s) for which relief is requested. Again, it appears that the NRC is requiring relief for a test frequency deferral of Quarterly to CSD or Refueling.	deferral (e.g., quarterly to cold shutdown), and state and justify the proposed frequency," is deleted.
25.	TrueNorth-14	2.7	4	For a COL issued per 10 CFR Part 52, the NRC regulations in 10 CFR 50.55a(f)(4)(i) and (g)(4)(i) state that inservice tests and inspections conducted during the initial 120-month interval to verify operational readiness of applicable plant components, whose function is required for safety, must comply with the requirements in the latest edition and addenda of the ASME Code, incorporated by reference in 10 CFR 50.55a(b) on the date 12 months before the date scheduled for initial fuel loading (or the optional ASME Code cases listed in RG 1.192) subject to the limitations and modifications listed in 10 CFR 50.55a. Licensees may submit a request under 10 CFR 50.55a to apply the edition and addenda of the ASME OM Code specified in the COL application for the initial 120-month IST interval as an alternative to the latest edition and addenda of the ASME OM Code, where the differences between the IST provisions in these Code editions and addenda are addressed. Would this be an "alternative" under (10 CFR 55a(a)(3)(i)) or just an approval per RIS 2004-12? Is it permitted to use an earlier edition of the Code?	Yes, it is an alternative, this is explained in NRC Regulatory Issue Summary (RIS) 2012-08, "Developing IST and ISI Program under 10 CFR Part 52." Accordingly for clarification reference to RIS 2012-08 is added in Section 2.7 for new reactors. Please note that RIS 2004-12, "Clarification on use of Later Editions and addenda to the ASME OM Code and Section XI," is only applicable to operating reactors.
26.	TrueNorrth-15	Figure 2.1		 What about ISTD?	The NRC does not agree with comment to include Subsection ISTD in the Figure 2, because the flow chart Figure 2.1, only covers pumps and valves (Subsections ISTB and ISTC). ASME OM Subsection ISTD, which is related to inservice examination and testing of snubbers, is covered under newly added Appendix A, Figure A2.1 for snubbers in NUREG-1482, Rev-2.
27.	PEnergy-11	3.1	1	Section 3.1 states*: "Subsection ISTC of the Code allows licensees to defer valve exercising to cold shutdown or refueling outages if it is not practical to exercise the valves during plant operation. The NRC staff*	The NRC agrees with the comment that now the ASME Code allows to extend tests to shutdown conditions. Therefore, the first paragraph of

No.	Commenter	Section	Para.	Comment	Response
				may approve relief to extend a test interval for extenuating circumstances in which (1) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, or (2) the system design makes compliance impractical." This paragraph seems to be contradictory, e.g., *the Code allows deferral / the staff may approve relief to extend the test interval*. Recommend deleting the reference to NRC approval of relief. It is permissible per ASME Code to extend tests to shutdown conditions without NRC approval.	Section 3.1 is revised as follows: The ASME OM Code generally specifies quarterly testing of valves. Subsection ISTC of the Code allows licensees to defer valve exercising to cold shutdown or refueling outages if it is not practical to exercise the valves during plant operation. Impractical conditions justifying test deferrals are those that could result in an unnecessary plant shutdown, cause unnecessary challenges to safety systems, place undue stress on components, cause unnecessary cycling of equipment, or unnecessarily reduce the life expectancy of the plant systems and components. Table 3.1 lists the tests and associated test frequencies required by the Code.
28.	TrueNorth-16	3.1.1		This is all going to be made "null and void" based on TIA information. May want to refer to ASME OM Code Case.	This comment is actually related to Sections 3.1.2 and 3.1.3, where testing timing with grace period of 25% is discussed. The ASME OM Code Case has been developed and approved to include this grace period of 25% for inservice testing of pumps and valves. Once this Code Case is published, NRC will incorporate this Code Case into Regulatory Guide 1.192 and 10 CFR 50.55a for use. Until that time, industry can use this guidance in NUREG-1482, Revision 2. Therefore, the NRC staff concludes that changes to Sections 3.1.1, 3.1.2 and 3.1.3 of NUREG-1482, Revision 2 are not appropriate at this time. For more detail, see the NRC's Enforcement Guidance Memorandum (EGM) 12-001 dated February 24, 2012 (ADAMS No. ML11258A243).
29.	TrueNorth-17	3.1.1	7	Check valves that can be stroked quarterly, but must be monitored by a nonintrusive technique to verify full stroke, may be full-stroke tested during cold shutdown or refueling outages if another method of verifying full-stroke exists during such plant conditions. The NRC would not require a licensee to invest in nonintrusive equipment for the purpose of testing check valves quarterly (instead of testing them during cold shutdown or refueling outages), even though the use of nonintrusive techniques is recommended where practical. However, the NRC would continue to require the quarterly partial-stroke testing as applicable. (See also Section 2.4.5) Quarterly part stroke exercising of check valves is no longer required.	The NRC agrees with the comments that the ASME Code no longer requires quarterly partial stroke exercising of check valves. Therefore, this paragraph is deleted to avoid any confusion.

No.	Commenter	Section	Para.	Comment	Response
				Part stroke exercising of check valves is only required for when CVs have been reassembled if practical.	
30.	PEnergy-12	3.1.1	7	*"However, the NRC would continue to require the quarterly partial-stroke testing as applicable. (See also Section 2.4.5)".* This section pertains to check valves; which are Category C valves. The partial stroke exercise only applies to Category A & B valves. There is no requirement to perform a partial stoke exercise of a Category C valve.	
31.	TrueNorth-18	3.1.1	8	A licensee may request relief from quarterly testing where such testing would impose a hardship (e.g., entering a limiting condition for operation of 3 to 4 hours in duration, repositioning a breaker from "off" to "on," and necessitating for manual operator actions to restore the system if an accident were to occur while the test was in progress). A relief request would not be required for "quarterly testing". A CSJ or ROJ could be used which does not require relief.	The NRC does not agree with the comment. The request for relief from quarterly testing due to hardship is required, because 10 CFR 50.55a requires submitting a relief request for hardship. This does not satisfy cold shutdown justification (CSJ) or refueling outage justification (ROJ).
32.	PEnergy-13	3.1.2	1	3.1.2 - Need to address entry into multiple LCOs or complete removal of an ESF from service.	The NRC does not agree with the comment to address entry into LCOs or complete removal of ESF from service, because NUREG-1482 only discusses the IST. For detailed entry into LCOs, see plant's Technical Specification (TS).
33.	PEnergy-14	3.1.3	3	Section 3.1.3 – This section continues to refer to the use of grace (25%). The NRC staff at the symposium mentioned a change coming thus not allowing the use of grace. Section 3.1.3 – Paragraph states "The Code specifies performing the tests throughout extended shutdown periods for equipment that must be returned to operable status. Most equipment must be tested before being returned to service after being out-of-service for an extended period in accordance with TS requirements (if applicable). The OM Code provisions in Subsections ISTB-3420 and ISTC-3570 specify that licensees need not follow the test schedule if the system in which the component was installed was declared inoperable or was not required to be operable. **However, this applies only if the component was not out-of-service for repair or replacement**. For repair or replacement, the component must be tested within 3 months of the system being returned to service." Comment: Need to clarify the intent of this paragraph. It would seem that this paragraph is redundant and overly complicated. Whether a component's testing was discontinued IAW ISTB-3420 or ISTC-3570 OR due to repair / replacement, the end result would be that a test be required within 3 months of the system being returned to service in order for the component (and therefore system) to be considered operational. Section 3.1.3 – "The NRC recommendation for testing during extended shutdown periods is consistent with TS and Code	The NRC does not agree to further clarify the wordings of Section 3.1.3, because the ASME OM Code Case OMN-20 for 25% grace period was published in 2012 Edition of the ASME OM Code. Now NRC staff will review this Code Case OMN-20 for acceptance in RG 1.192, and the wording of this section in NUREG-1482 will be revised accordingly. For more detail, see the NRC's Enforcement Guidance Memorandum (EGM) 12-001 dated February 24, 2012 (ADAMS No. ML11258A243).

No.	Commenter	Section	Para.	Comment	Response
				requirements, whichever are more conservative. Responding to inquiry IN 92-025A, the ASME Code Committee stated that Subsection ISTC-3510 intends that testing be conducted **every 3 months, including during extended shutdown periods, for valves other than those declared inoperable in accordance with ISTC-3570**." Need to clarify if this paragraph applies to Cold Shutdown frequency tests AND Refuel Frequency tests. In other words, if a valve is tested on a Refuel Frequency, is the expectation to test the valve every 3 months during an extended outage.	
34.	TrueNorth-19	3.3	1	After the initial 120-month interval, in accordance with 10 CFR 50.55a(f)(4)(ii), licensees must conduct inservice tests during successive 120-month intervals to verify the operational readiness of pumps and valves within the scope of the ASME Code. In conducting these inservice tests, licensees must comply with the provisions of the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) 12 months before the start of the 120-month interval, subject to the limitations and modifications listed in paragraph (b). In addition, 10 CFR 50.55a(f)(5)(iv) specifies that where a pump or valve test requirement by the Code or addenda is determined to be impractical by the licensees and is not included in the new inservice test program interval, such that "the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months" from the start of the interval. This has recently been changed in July 2011 to submit the relief to the commission not to have it approved. .	The NRC agrees with the comment to change the wording of Section 3.3 to match with the new wording in the rulemaking of July 2011. Therefore the wording is changed as follows (Section 3.3 is changed accordingly as specified in italics and underlined): In addition, 10 CFR 50.55a(f)(4)(ii) specifies that where a pump or valve test requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice test program as permitted by paragraph (f)(4) of this section, the basis for this determination must be *submitted for NRC review and approval not later than 12 months after the expiration of the initial 120-month interval of operation from start of facility commercial operation and each subsequent 120-month interval of operation during which the test is determined to be impractical.*
35.	TrueNorth-20	3.3.3	5	In accordance with the regulations, when updating a program to a later edition of the ASME Code, licensees must implement the updated program at the beginning of a 120-month interval. The regulations state that, where a pump or valve test specified by the Code is determined to be impractical and is not included in the revised IST program, the licensee must demonstrate the basis for the determination to the satisfaction of the Commission not later than 12 months after each 120-month interval. This statement appears to require Commission approval, but the revised CFR states that the impracticality relief must be submitted NOT approved not later than 12 months after the interval starts.	
36.	TrueNorth-21	3.3.3	5	Because the requirements are impractical, the licensee would test the applicable components using the method proposed in the relief request in the period of time from the beginning of the new interval (or from the time of identification) until the NRC staff completes its	This example is referring to a newly identified solenoid valve that must, per ISTC-5151, be stroke time tested. However, due to the lack of position indicating lights, the stroke time test is

No.	Commenter	Section	Para.	Comment	Response
				evaluation (e.g., if a licensee identifies a solenoid valve that is within the scope of the IST program and is stroke-time tested but has no position indication, the licensee cannot meet the Code requirements because of design limitations and an alternative method may not comply with the Code requirements). Per ISTC-3700, the SOV would NOT require RPI to be performed and no relief would be required. RPI is ONLY required if the valve has position indication.	impractical. Licensees are encouraged to submit a relief request when they identify this condition. The example is not referring to position verification testing (ISTC-3700) which, as you pointed out, is not required. Therefore, no change required.
37.	PEnergy-15	3.5.4	1	The preconditioning discussion needs, particularly as it relates to the venting of pumps needs to acknowledge that the Code requires that instruments be properly vented to ensure accurate test results. The venting of test instruments; therefore, is a Code requirement and should be discussed at this juncture to prevent inadvertent accusations of unacceptable preconditioning in a scenario that does not meet original concept related to masking or grooming component condition. The venting of test instruments does not mask equipment performance; it ensures that the instrument reading is accurate and repeatable as intended by the Code. A simple statement here may help prevent future questions when licensees are simply trying to obtain accurate data.	The NRC agrees with the comment to add preconditioning related to "test instrument venting directly prior to equipment testing," to ensure accurate test results. Therefore, a new acceptable precondition Item No. 5 is added as follows: "test instrument venting directly prior to equipment testing,"
38.	PEnergy-16	3.6	1	Second sentence structure: "I staff review..." Also, need to address 10CFR50 Appendix J Option A vs. Option B as it relates to preconditioning and ASME OM Code tests for valves taking credit for App J leak rate testing and reference the discussion on this topic in section 4.4.7.	NRC agrees with the comments and corrected the wording to "NRC staff review……." NRC staff believes Appendix J discussion is not needed under 3.6. Note: This inspection manual chapter can be found on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/technical-guidance/tgprecond.pdf).
39.	PEnergy-17	3.7	2	The second paragraph implies that testing a particular pump may be impractical to test quarterly and be deferred to shutdowns. The remaining discussion is limited to valves; however. Recommend eliminating the term "pump" from this discussion. A pump must be tested quarterly and a deferral is not permitted. This paragraph only applies to valves.	NRC agrees with the comment to delete the pump from the discussion, because this discussion is related to valves.
40.	TrueNorth-23	4.1	4	The categorization of a check valve is not solely dependent on the function performed by the valve, such as whether it is a containment isolation valve.	The NRC agrees with comment and the sentence "The categorization of a check valve is not solely dependent on the function performed by the valve, such as whether it is a containment isolation

No.	Commenter	Section	Para.	Comment	Response
				Not sure that I agree with this. Subsection ISTC-1300 (a), (b), (c)...refer to "...fulfillment of their required function(s), as specified in para. ISTA-1100. In my opinion, based on this statement, the categorization of a check valve (or any other valve) in the IST Program is solely dependent on the function, the specific function performed by the valve. In particular, the function of the obturator.	valve," is deleted, because check valve categorization depends their function(s) as specified in ISTA-1100, which are already included in the Section 4.1.
41.	TrueNorth-24	4.1.1	5	If it is not practical to flow test the pair of valves in accordance with the Code, the licensee may demonstrate the closure safety function of each valve by other positive means, such as nonintrusive testing, or disassembly and inspection. However, licensees must not use these methods to verify leak tightness, which requires Category A valve testing. Relief is not required to perform testing of each valve in the valve pair. Not sure what you mean here by Relief not being required to perform testing of each valve in the valve pair?	The NRC agrees with the comment that the sentence 'Relief is not required to perform testing of each valve in the valve pair" is confusing and unnecessary in the discussion. Therefore, this sentence is deleted.
42.	PEnergy-18	4.1.3	1	The following statement is not accurate*: "A check valve's full-stroke to the open position may be verified by passing the maximum required accident condition flow through the valve…. Any flow rate less than this is considered a partial-stroke exercise"* It is also acceptable to pass the quantity of flow required to perform the specified function. This flow rate may not be the maximum accident flow rate. Suggest aligning the terms to match the Code.	The NRC agrees with the comment and wording is changed to match with the ASME OM Code to read as follow: "A check valve's full-stroke to the open position may be verified by passing the necessary flow through the valve to perform its safety function……
43.	PEnergy-19	4.1.3.3	1	"The phrase "maximum required accident condition flow" is the largest flow rate for which a licensee takes credit in a safety analysis for this component in any flow configuration." Once again, it is acceptable to pass the flow rate required to perform its specified function. This may not be maximum required accident flow. The term '*maximum required accident flow'* is not used in the Code. Suggest aligning the terms to match the Code.	The NRC agrees with the comments and wording is changed to match with the ASME OM Code as follows: "necessary flow through the valve for safety function."
44.	PEnergy-20	4.1.4	2	In the NRC Recommendation for check valve disassembly, the NRC states that *"Following reassembly, a partial flow test is expected to be performed."* The term "if practical" should be added as it may not be possible to perform a partial flow test following disassembly.	The NRC agrees with the comment and added "if practical" at the end of the sentence, because it may not be possible to perform a partial flow test following disassembly.
45.	PEnergy-21	4.1.5.1	1	The words "For example, when verifying the closure capability of the check valves on the discharge of parallel pumps, achievement of the required safety flow rate from one running pump with the idle pump's discharge check valve providing the barrier for recirculation flow would be considered an acceptable test configuration" would seem to contradict with CDBI findings that have occurred in the industry. Several CDBIs have insisted that absence of reverse rotation be included whereas others challenge the 'flow' that might be through the idle pump having detrimental effects on pump start.	The NRC agrees with the comment that the provided example creates confusion. Therefore, the sentence containing example is deleted to avoid any confusion.

No.	Commenter	Section	Para.	Comment	Response
46.	TureNorth-25	4.1.5.3	1	Subsection ISTC-3630(e) requires that the licensee must specify a permissible leak rate for a specific valve. The Code does not require that the leakage be measured for a specific valve but you can use a "grouping" of valves with a "system" or "group" leakage limit for some valves rather than leakage criteria for each valve.	The NRC agrees with the comment that the ASME OM Code, Subsection ISTC-3630(e) requires that "Leakage rate measurement shall be compared with the permissible leakage rate specified by the plant Owner for a specific valve or valve combination." Therefore, Section 4.1.5.3 is revised to reflect the wording of the ASME OM Code.
47.	TrueNorth-26	4.1.5.4	4	If closure testing using flow can only be done at an extended interval, the licensee should close the valve using a hand wheel or hand switch on a quarterly frequency, in conjunction with the flow test on the extended interval, if practical. The code does not require this.	The NRC agrees with the comment that the ASME OM Code does not require this closure testing. Therefore, this sentence is deleted.
48.	TrueNorth-27	4.1.6	2	**NRC Recommendation** The OM Code states that open and close tests need only be performed at an interval "when it is practicable to perform both tests." The OM Code also states that licensees are not required to perform open and close tests at the same time if they are both performed during the same interval. Therefore, since the closure test is extended to the refueling outage by the refueling justification, the quarterly open exercise test may also be extended to the refueling outage or may be performed anytime during the fuel cycle interval. The same situation exists with a close test as well. No. ATJ required	The NRC agrees with the comment related to the last sentence wording, and for clarification, the last sentence is changed as an example.
49.	PEnergy-22	4.1.8	6	The NRC discusses the "*classic example of the flawed single-direction testing strategy is that the loss of the disk would not be detected during forward flow tests. The detached disk could be lying at the bottom of the valve body or another part of the system, and could move to block flow or disable another valve or component".* This is a good example, but does not apply to all check valve types; however, the NRC concludes: *"testing or examination of the check valve obturator movement to both the open and closed positions necessary to assess its condition and confirm acceptable valve performance."* There should be some acknowledgment that both the open and closed tests may NOT be necessary for certain valve designs (lift checks, ball checks, tilting disc). Dependent on the valve type and application, a forward flow test may provide adequate assessment of the working parts of the valve and provide assurance that the valve will properly function when called upon; however, each valve/test must be evaluated individually and relief granted in accordance with 10 CFR 50.55a(a)(3)(i).	The NRC does not agree with the comment to discuss more details, because the NUREG provides an example for consideration. No additional discussion is considered necessary.

ENCLOSURE

No.	Commenter	Section	Para.	Comment	Response
50.	TrueNorth-28	4.2	1	Power-operated valves (POVs) are equipped with actuators that use motive force to change the position of the valve obturator. The types of actuators may include, for example, motor actuators, pneumatic actuators, hydraulic actuators, solenoid actuators, and pyrotechnic actuators. In addition, in the ASME OM Code, Subsection ISTC defines a power-operated relief valve (PORV) as a POV that can perform a pressure-relieving function and is remotely actuated by either a signal from a pressure-sensing device or a control switch. The code also states that the PORV is not capacity certified under ASME Section III Overpressure Protection requirements	The NRC agrees with the comment that the NUREG wording should match with the wording of the ASME OM Code. Therefore, the sentence is reworded to read, "In addition, in the ASME OM Code, Subsection ISTC defines a power-operated relief valve (PORV) as a POV that can perform a pressure-relieving function and is remotely actuated by either a signal from a pressure-sensing device or a control switch and is not capacity certified under ASME Section III Overpressure Protection requirements."
51.	PEnergy-23	**4.2.1**	**5**	The limiting value of full-stroke time should be based on the reference (or average) stroke time of a POV when it is known to be in good condition and operating properly. I am not sure that average and reference stroke time are equivalent.	The NRC agrees with the comment that the reference and average stroke time cannot be equivalent. Therefore, the phrase '(or average)' is deleted from this sentence.
52	TrueNorth-29	4.2.2	2	The traditional method of stroke timing POVs was to use stopwatches to measure the stroke time from initiation of the signal at the handswitch to the change in position-indicating lights (switch to light). The traditional method includes signal processing time from the switch to the valve actuator. Monitoring stroke times for valves that stroke in milliseconds using diagnostic equipment that measures only actual valve travel is acceptable to indicate degrading trends; however, the method does not indicate increases that could occur in the signal to the valve, which may be important in meeting safety analysis limits for certain valves. Typically, the valves that would benefit from this monitoring are rapid-acting valves. The traditional method would have a set limit of 2 seconds, which masks any signal processing time unless a gross change occurs. If measuring the stroke times locally needs to be supplemented by a periodic test to include the signal processing times, a periodic 2-second limit test could be performed to augment the IST. The Code does not specify a particular method, so there would be no conflict in using more than one method. I do not believe that this is a Code requirement although it may be a good idea.	The NRC agrees with the comments that the provided detailed requirements are beyond the ASME OM Code. Therefore, the entire second paragraph of Section 4.2.2 is deleted.
53.	PEnergy-24	4.2.7	5, 7	In the Basis for Recommendation section, the following statement is made: *The staff indicated its interpretation of the Code requirement by stating that for certain types of valves that can be observed locally, but for which valve stem travel does not assure the stem is attached to*	The NRC agrees with the comment and Sections 4.2.7 and 4.2.8 are revised to discuss inadequacy of ASME OM Code provisions for valve position verification, and the responsibility of licensees to

No.	Commenter	Section	Para.	Comment	Response
				the disk, the local observation must be supplemented by observing an operating parameter as required in the Code. The use of the term and resultant conclusion are inappropriate. First, the NRC endorses the Code and is not authorized to interpret the Code. Secondly, the statement that *the local observation must be supplemented by observing an operating parameter as required in the Code* appears to be incorrect. Although the concept is justified, the Code does not make this statement. Supplemental verification is only mandatory where local observation cannot be completed. Lastly, there is no guidance related to measures or positions that may be taken with respect to the frequency of the supplemental test, or the inability to perform a supplemental test. It would be helpful to be able to take credit for other design bases test programs (MOVs) even though the design bases test may not occur at the same two year interval. Based on industry feedback, many plants are equipped with POVs that cannot be reasonably credited or tested using supplemental means. Since this is currently not a Code requirement, some guidance would be helpful in this area. The following statement appears is confusing: *"Nuclear power plant operating experience has revealed that reliance on indicating lights and stem travel are not sufficient to satisfy the requirement in ISTC 3700 to verify that valve operation is accurately indicated for those valves where the integrity of the stem-to-disk connection cannot be assured."* What type of valves does this condition apply to and what collection of OE supports this conclusion?	meet Appendix A and Appendix B to 10 CFR Part 50 to supplement inadequate codes and standards.
54.	PEnergy-25	4.2.8	1	This section implies that passive valves must be tested to verify obturator position, yet passive valves are not subject to additional test requirements. The conclusion in this section essentially states that a passive valve with remote position indication should be tested as an active valve. This position seems to be in conflict with the actual Code requirement; which originally did not require RPI for passive valves. RPI testing of passive valves with remote indication was inserted into the Code; however, no technical basis for this change can be located. Some discussion as to why additional tests are necessary for passive valves simply because they are equipped with remote position indicators should be provided to alleviate confusion relative to the scope of testing that seemingly must be applied.	
55.	TrueNorth-30	4.2.10		**NRC Recommendation** The staff recommends that licensees should consider previous NRC guidance that the PORVs should be included in the IST program as Category B valves and should be tested to the OM Code. Recognizing that the PORVs have shown a high likelihood of sticking open and are not needed for overpressure protection during power operation, the provisions in Subsections ISTC-3500 and ISTC-5100 for exercising	The NRC does not agree with the comment, because PORVs testing are covered under ISTC-3500 and ISTC-5100 (which are already mentioned in the NRC recommendation). ISTC-3310 only requires testing after repair, replacement or maintenance, etc. Therefore, the first sentence of the NRC recommendation is

No.	Commenter	Section	Para.	Comment	Response
				quarterly during power operation are not practical and, therefore, exercising may be performed during cold shutdown conditions. Subsection ISTC-3310 requires licensees to perform testing after maintenance or repair. Test methods must confirm that the PORV has been reassembled correctly and is capable of performing its design Need to also perform the tests required by ISTC-5110; ISTC-5111, ISTC-5112, ISTC-5113...etc.)	deleted for clarification. Note: ISTC-5110, ISTC-5111, ISTC-5112, and ISTC-113 are the subsections of ISTC-5100.
56.	PEnergy-26	4.3.1	3	Pertaining to thermal relief valves, the NUREG states "If the results of an overpressure protection "re-analysis" for a particular system indicate that a relief valve is not necessary, it may be removed from the scope of the IST program." Some utilities have questioned what constitutes an overpressure protection analysis and whether the analysis may take credit for administrative controls. Specifically, would it be permissible to remove a thermal relief valve from the program if an evaluation concludes that failure of a thermal relief valve to open or close during normal plant operation would not impact an SSC or the associated system and proper controls are taken to eliminate the need for thermal relief when the component is isolated. Essentially, this is an overpressure protection analysis, but incorporates controls to remove the need for thermal protection. It would extremely beneficial if the NUREG stated whether the use of administrative controls is viewed as an acceptable practice in forming a portion of the overpressure protection analysis and if not, clearly state this position to prevent others from using a engineering judgment that the NRC does not endorse.	The NRC agrees with the comment to provide additional information for thermal relief valves testing regarding the use of administrative control and acceptable practices. Therefore, a new fourth paragraph in Section 4.3.1 is added as follows: "As required by ASME Section III, Article NX-7200, it is the Owner's responsibility to prepare, certify and file an Overpressure Protection Report for the facility. The Overpressure Protection Report defines the protected systems and the integrated overpressure protection provided. Article NX-7200 also contains requirements regarding verification that pressure relief devices are not required and reconciliation of the Overpressure Report following modifications."
57.	PEnergy-27	4.3.3	3	Most plants have enough data to ascertain the impact of the jack and lap process. Recommend that the use of previous as-found test history for valves that have undergone this process be included to further document the acceptance of this necessary practice.	The NRC does not agree with the comment to provide previous as-found history for valves as acceptable practice, because it is the Owner's responsibility to determine whether a maintenance activity could affect a valve's performance and certainly prior experience with the activity would play into the determination. Therefore, no change is needed.
58.	TrueNorth-31	4.4.2	5	**NRC Recommendation** The staff has determined that it is acceptable for licensees to perform an engineering evaluation of the impact of adjusting valve stem packing or backseating a valve to demonstrate that the performance parameters are within acceptable limits if a stroke test cannot be performed under current plant conditions. If it is necessary to adjust the stem packing or backseat a valve to stop packing leakage and if a required stroke test or leak rate test is not practical in the current plant mode, the licensee must, at a minimum, justify by analysis that (1) the packing adjustment is within manufacturer-specified torque limits for the existing packing configuration, (2) the backseating does not deform the valve stem, and (3) the performance parameters of the	Note: Comments 58, 59, 60 and 61 are all applicable to Section 4.4.2. For valve packing adjustments or backseating, the licensee must verify that reference values are not affected or a relief request must be submitted.

No.	Commenter	Section	Para.	Comment	Response
				valve are not adversely affected. In addition, the licensee must perform a confirmatory test at the first available opportunity when plant conditions allow testing. Packing adjustments beyond the manufacturer's limits may not be performed without (1) an engineering analysis showing that the performance parameters of the valve are not adversely affected, and (2) input from the manufacturer, unless tests can be performed after adjustments. How does this satisfy the Code requirement for PMT? This to me would require relief for the alternative to not performing a PMT which could affect reference values.	
59.	TrueNorth-32	4.4.2	6	Examples of such valves are MSIVs and main feedwater isolation valves, which must remain open to continue power operations. The licensee must evaluate any data available from previous testing with the packing torqued to the specified limit, and must verify that the valve was leak tight and previously stroked within acceptable limits with the packing adjusted to the higher value, or from previous instances of backseating a valve. Relief is not appropriate because this action is in accordance with the Code requirements if the licensee can demonstrate that the performance parameters will not be adversely affected. In implementing this guidance, licensees must perform a partial-stroke test, if practical, to obtain further assurance that the valve stem is free to move. At the first opportunity when the plant enters an operating mode in which testing is practical, the licensee must test all valves that have had packing adjustments or been backseated without post-maintenance testing. The maintenance procedure used to adjust the packing must include the limits, and any changes to the torque limits are subject to a 10 CFR 50.59 review. Licensees should avoid adjusting redundant valves without performing post-maintenance testing. Backseating procedures should include precautions to prevent stem deformation. I do not think that these are code words. The code requires that a PMT be performed if the reference value may be affected by the maintenance. To me, adjusting packing and such MAY affect maintenance therefore, a PMT ST would be required unless alternative is approved.	For valve packing adjustments or backseating, the licensee must verify that reference values are not affected or a relief request must be submitted.
60..	TrueNorth-33	4.4.2	10	**Basis for Recommendation** The NRC would not require a licensee to shut down a plant to perform IST unless the licensee has no alternative to ensure that the operational readiness of components is maintained or unless a safety issue exists. The IST requirements do not prohibit or discourage a	For valve packing adjustments or backseating, the licensee must verify that reference values are not affected or a relief request must be submitted.

No.	Commenter	Section	Para.	Comment	Response
				licensee from making limited adjustments to packing to stop a leak that may be adversely affecting the valve or surrounding components. Therefore, the licensee can perform an analysis of the packing adjustment and, upon demonstrating that the adjustment does not adversely affect the stroke time (or leakage rate) such that it would not exceed its limiting value, can make the adjustment without a post-maintenance stroke time measurement (or leakage test). Confirmatory testing must be performed at the first available opportunity when plant conditions allow testing. This guidance applies only to valves that need adjustment during power operation and cannot be fully stroked in the plant operating mode. The guidance does not apply merely as a convenience to the licensee and does not supersede any related guidance associated with GL 89-10. Again, although a good idea I do not believe that this is per Code. How can we throw out some code requirements but not others? This seems inconsistent to me.	
61.	TrueNorth-34	4.4.2	11	NRC IN 87-40, "Back Seating Valves Routinely to Prevent Packing Leakage," gives information related to backseating valves. Both Westinghouse and General Electric had issued guidance on performing backseating to minimize deformation to valve stems. Backseating is not listed as an example of a maintenance activity in ASME OM Subsection ISTC-3310. The licensee would have to assess the effect of backseating on valve operation and determine whether post-maintenance testing is required. The code provides examples of maintenance activities that may affect stroke time and in particular reference values. Just because backseating is not listed does not mean it is excluded.	For valve packing adjustments or backseating, the licensee must verify that reference values are not affected or a relief request must be submitted.
62.	TrueNorth-35	4.4.3	1	**Manual Valves** The staff has received questions about the requirements for including manual valves in the IST program. The Code includes manual valves that meet the scope requirements of 10 CFR 50.55a. To comply with the OM Code, manual valves must be exercised in accordance with applicable requirements of Subsection ISTC if the licensee's safety analysis credits the manual valve to perform a specific function in shutting down the reactor to a safe shutdown condition, maintaining the safe shutdown condition, or mitigating the consequences of an accident. Manual valves that perform only a pressure boundary safety function are omitted from the scope of the IST program. Disagree. The manual valve is still within scope of IST but, no testing is required.	The NRC agrees with the comments 62, 63, 64, 65, and 66 and the wording of Section 4.4.3 is revised to provide more details about manual valves in IST. Revised Section 4.4.3 as follows: The staff has received questions about the requirements for including manual valves in the IST program. The Code includes manual valves that meet the scope requirements of 10 CFR 50.55a. To comply with the OM Code, manual valves must be included in the IST Program and tested in accordance with applicable requirements

No.	Commenter	Section	Para.	Comment	Response
63.	TrueNorth-36	4.4.3	1	**Manual Valves** If the manual valve is included in actions in emergency operating procedures, but is not credited in the safety analysis, it does not fall within the scope of the IST program; however, such a valve may be periodically tested at an appropriate frequency to ensure that it can function satisfactorily. How does this relate to the statement that accidents are NOT just safety accidents? To me if the manual valve has a safety function to go to safe shutdown, maintain safe shutdown or mitigate the consequences of an accident, and is ASME Class 1, 2 or 3 or equivalent per NUREG 0800 section 3.3.2, it is IST.	of Subsection ISTC if they are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. Applicable tests could include exercising, leak testing, and/or position indication verification, at the frequency specified in the Code. For some valves, no tests are specified depending on their active/passive classification and their performance and design attributes. For example, a passive manual valve with no position indication has no tests specified. However, it must still be considered and listed in the IST Program. .
64.	TrueNorth-37	4.4.3	1	**Manual Valves** Applicable tests could include exercising, leak testing, and position indication verification, at the frequency specified in the Code. Passive manual valves that have position indication could be subject to position indication verification. Per the code ALL valves in the IST Program that have RPI are required to have a PIT performed.	
65.	TrueNorth-38	4.4.3	1	**Manual Valves** Applicable tests could include exercising, leak testing, and position indication verification, at the frequency specified in the Code. Passive manual valves that have position indication could be subject to position indication verification. Again, the manual valves are scoped in IST per ISTA-1100 but, may not have testing required.	
66.	TrueNorth-39	4.4.3	1	**Manual Valves** If the manual valve is included in actions in emergency operating procedures, but is not credited in the safety analysis, it does not fall within the scope of the IST program; however, such a valve may be periodically tested at an appropriate frequency to ensure that it can function satisfactorily. How does this relate to the statement that accidents are NOT just safety accidents? To me if the manual valve has a safety function to go to safe shutdown, maintain safe shutdown or mitigate the consequences of an accident, and is ASME Class 1, 2 or 3 or equivalent per NUREG 0800 section 3.3.2, it is IST.	
67.	TrueNorth-40	4.4.4.2	1	**Leak Rate Testing of PIVs**	The NRC agrees with the comments that now the

No.	Commenter	Section	Para.	Comment	Response
				The leak rate testing specified in a plant's TSs must meet the intent of Subsection ISTC-3600. A licensee should ensure that each PIV is individually leak tested (or that the measured leakage is adjusted) in accordance with the differential pressure requirements of the OM Code. If the TSs are not sufficiently detailed to ensure individual valve leak testing, the licensee is responsible to ensure that the test procedures are themselves adequate for individual valve leak testing. The code per ISTC-3630 does not require valves to be individually leak tested.	ASME OM Code does not require valves to be individually leak tested. Therefore, the wording of last sentence of Section 4.4.4.2 is changed as follows, to add valve combination per ASME OM Code. If the TSs are not sufficiently detailed to ensure individual valve leak testing, the licensee is responsible to ensure that the test procedures are themselves adequate for valve and valve combination leak testing.
68.	TrueNorth-41	4.4.4.2	1	**NRC Recommendation** A licensee may consider the leakage testing performed to meet TS requirements to also meet IST requirements if the intent of the OM Code is met (e.g., leakage limits are established, corrective actions are taken as required, and valves are individually leak tested). Again, individually leak testing valves is NOT required by the Code see ISTC-3630.	
69.	TrueNorth-42	4.4.6	3	The control rod drive system valves that perform an active safety function in scramming the reactor are the scram discharge volume vent and drain valves, scram inlet and outlet valves, scram discharge header check valves, charging water header check valves, and cooling water header check valves. With the exception of the scram discharge volume vent and drain valves, exercising the other valves quarterly during power operations could result in rapid insertion of one or more control rods. If practical, licensees should test control rod drive system valves at the Code-specified frequency. However, for those control rod drive system valves for which testing could result in rapid insertion of one or more control rods, the rod scram test frequency identified in the facility s TSs may be used as the valve testing frequency to minimize rapid reactivity transients and wear of the control rod drive mechanisms. This alternative test frequency should be clearly stated and documented in the IST program document. and require relief approval	The NRC agrees with the comments that whenever there is deviation from the ASME OM Code, an alternative must be authorized or relief must be granted. Therefore, the wording is changed accordingly.
70.	TrueNorth-43	4.4.6	5	Closure verification of the charging water header check valves requires that the control rod drive pumps must be stopped to depressurize the charging water header. This test should not be performed during power operation because stopping the pumps results in a loss of cooling water to all control rod drive mechanisms, and seal damage could result. Additionally, this test cannot be performed during each cold shutdown because the control rod drive pumps supply seal water to the reactor recirculation pumps, and one	

No.	Commenter	Section	Para.	Comment	Response
				of the recirculation pumps is usually kept running. Therefore, the HCU accumulator pressure decay test, as identified in the facility's TSs may be used as the charging water header check valve alternative testing frequency for the reasons stated above. If this test is not addressed in the licensee's TSs, this closure verification should be performed at least during each refueling outage, and this alternative test frequency should be specifically addressed in the IST program document. again, this is a deviation from the code and would require relief.	
71.	TrueNorth-44	4.4.6	6	The scram inlet and outlet valves are power-operated valves that full-stroke in milliseconds and are not equipped with indications for both positions; therefore, it may be impractical to measure their full-stroke time as required by the Code. Verifying that the associated control rod meets the scram insertion time limits defined in the plant's TSs can be an acceptable alternative method of detecting degradation of these valves. Also, it may be impractical and unnecessary to trend the stroke times of these valves because they are indirectly stroke timed, and no meaningful correlation may be drawn between the scram time and valve stroke time. Furthermore, conservative limits are placed on the control rod scram insertion times. If the above test is used to verify the operability of scram inlet and outlet valves, it should be specifically documented in the IST program document. Relief would be required	
72.	TrueNorth-45	4.4.8	1	**4.4.8 Pyrotechnic-Actuated Valves in New Reactors** Some designs for new nuclear power plants include pyrotechnic-actuated (squib) valves that have more safety significance than squib valves in currently operating nuclear power plants. In addition, squib valves for new reactors might have different designs and be much larger than squib valves used in current plants. Paragraph ISTC-5260 in the ASME OM Code specifies that at least 20% of the charges in explosively activated valves shall be fired and replaced at least once every 2 years. If a charge fails to fire, the ASME OM Code specifies that all charges with the same batch number shall be removed, discarded, and replaced with charges from a different batch. The NRC staff considers the provisions for IST surveillance of squib valves in the ASME OM Code to be insufficient for the design and application of squib valves in some new reactors. At this time, reactor vendors for new nuclear power plants have not completed the design and qualification of squib valves to be used in their new reactors. The NRC staff is monitoring the design and qualification process for squib valves to be used in new reactors by the applicable reactor vendors. The staff is also participating in international efforts to provide improved design, qualification, and testing for squib valves to be used in new reactors. ASME is developing improved OM Code provisions to address new	The NRC agrees with the comment that for operating plants, this item is not clear. The ASME OM Code needs to be revised for Squib Valves in current plants. This issue should be resolved by the ASME OM Code.

No.	Commenter	Section	Para.	Comment	Response
				reactors, including the consideration of surveillance activities for squib valves. Nuclear power plant licensees for new reactors will need to incorporate the lessons learned from the design and qualification process in the development of IST surveillance activities for squib valves. For example, in addition to the test firing sample of squib valve charges specified in the ASME OM Code, licensees of new nuclear power plants should address the following aspects in providing reasonable assurance of the operational readiness of squib valves: (1) verification of the structural integrity of external and internal parts of the actuator and valve; (2) identification and removal of foreign material, fluid and corrosion within the actuator and valve that might interfere with the operation of the actuator or valve; and (3) confirmation of the capability of the pyrotechnic charge in the actuator to provide the necessary motive force to operate the valve under design-basis conditions without damage to the valve body or connected piping. Subsection ISTC-1300 would also require that the Squib Valves be determined to be Category A or B which would require exercising, stroke timing and PIT.	
73.	TrueNorth-46	5.3	6 thru 10	The allowed tolerance for setting the fixed parameter must be established for each case individually, including evaluation of throttling capability. Licensees should consider improvements in throttling methods where system control is especially poor. A total throttling tolerance of + 2 / -1 percent of the flow rate reference value is considered as meeting the requirements of the code sections. For a tolerance greater than + 2 / -1 percent of the flow rate reference value, a corresponding adjustment to acceptance criteria shall be made to compensate for the uncertainty, or an evaluation would be performed and documented justifying a greater tolerance. The variance and the method for establishing the variance must be documented in the IST program documents or implementing procedures. **The basis for the Code change is as follows:** The ASME OM Code does not address the possibility that a flow rate or differential pressure may not be controllable to an exact value. When the Code specifies that the system resistance be varied until either the flow or differential pressure equals the corresponding reference value, it does not literally intend that the "set value" be precisely attained without any fluctuations. Licensees recognize that the reference value for certain pumps can only be achieved within a specified tolerance. Licensees shall attempt to set the repeatable parameter as close as possible to the reference value during each	The NRC does not agree with the comments to change the wording in NUREG-1482 based on the current ASME OM Code Edition and addenda which is incorporated by reference in the regulation in 10 CFR 50.55a. The ASME OM Code change for the use of a tolerance of +2/-1 percent of the reference point is being developed by the ASME OM Code. Once this Code change is approved and published, the NRC staff will review this Code, and the wording of Section 5.3 in NUREG-1482 will be revised accordingly. Until that time a relief request is needed to use of the +2/-1 percent tolerance of the reference point. The ASME is currently in the process of developing a Code change as follows to address this issue: The allowed tolerance for setting the fixed parameter must be established for each case individually, including evaluation of throttling capability. Licensees should consider improvements in throttling methods where system control is especially poor. A total throttling

No.	Commenter	Section	Para.	Comment	Response
				test. The basis for allowing a variance of + 2 / -1 percent from the flow rate reference value deals with instrument fluctuations and system stability issues. The Code allows symmetrical damping devices or averaging techniques to be used to reduce instrument fluctuations to within 2 percent of the observed reading for values specified in the implementing procedures. Greater variances must be justified and acceptance criteria adjustments made as necessary. The limitation of 1% in the negative direction reduces the non-conservative impact on the variable parameter. The total 3% allowable variance provides for a reasonable throttling control range while minimizing the impact on trendability of the variable parameter. Licensees should ensure that performance trending of pumps is capable of detecting degradation as early as possible. Larger variances in the reference parameter will induce scatter in the variable parameter data. Techniques such as data normalization, where recorded test data is corrected by the known pressure to flow relationship, should be used when necessary to provide for accurate short term trending. The code (later codes) does not state that the fluctuation must be within 2% this has been removed. The later code only specifies that fluctuations may be reduced by certain methods NOT a limit.	tolerance of + 2 / - 1 percent of the reference point when the reference point is flow rate, or + 1 / - 2 percent of the reference point when the reference point is differential pressure or discharge pressure, is considered as meeting the requirements of the code sections. For a tolerance of greater than + 2 / - 1 percent of the reference point when the reference point is flow rate, or + 1 / -2 percent of the reference point when the reference point is differential pressure or discharge pressure, a corresponding adjustment to acceptance criteria shall be made to compensate for the uncertainty, or an evaluation would be performed and documented justifying a greater tolerance. The variance and the method for establishing the greater variance must be documented in the IST program documents or implementing procedures. **The basis for the Code change is as follows:** The ASME OM Code does not address the possibility that a flow rate or differential pressure (or discharge pressure) may not be controllable to an exact value. When the Code specifies that the system resistance be varied until either the flow rate or differential pressure (or discharge pressure) equals the corresponding reference point, it does not literally intend that the "set point" be precisely attained without any fluctuations. Licensees recognize that the reference point for certain pumps can only be achieved within a specified tolerance. Licensees shall attempt to set the repeatable parameter as close as practical to the reference point during each test. The NRC staff agreed with the above position.
74.	PEnergy-28	5.3	9	Basis for Recommendation uses the term +2/- 1% of flow rate. The term "reference value" may be more appropriate and recognize that flow rate or differential pressure may be used as the reference point.	
75.	TrueNorth-47	5.5.2	7	Pump discharge pressure will match system pressure up to the shutoff head of the positive displacement pump. Because of the characteristics of a positive displacement pump, there should be virtually no change in pump discharge flow rate as a result of the rising tank level. Therefore, rising tank level will not have an impact on test results. By having approximately the same level in the tank at the beginning of each test, licensees can achieve repeatable results. In addition, the suction would be from a large source at a constant pressure, which will allow pump performance parameters to stabilize	The NRC does not agree with the comments because Subsection ISTB 3510 is related to Instrument Data Collection, whereas Section 5.5.2 describes an acceptable test method to calculate flow rate. Therefore, a Relief Request is required to use the method described in Section 5.5.2.

No.	Commenter	Section	Para.	Comment	Response
				quickly. This method would provide reasonable assurance of operational readiness, provided that the licensee measures the test tank level in accordance with the accuracy requirements of OM Table ISTB-3500-1. The implementing procedures should document the calculation method and test conditions required to achieve this accuracy. Therefore, the proposed alternative of using the tank level to calculate the flow rate provides reasonable assurance of operational readiness. Licensees must submit a relief request to implement this proposed alternative. Why is relief request required when the alternative appears to be allowed by ISTB?	
76.	PEnergy-29	5.5.2	7	In the Basis for Recommendation there is a very good discussion related to positive displacement pumps and the use of tank level to calculate flow rate; however, the last sentence concludes: "Licensees must submit a relief request to implement this proposed alternative." Subsection ISTB-3510 includes provisions for analytical measurements and the NRC discussion mirrors that of the Code; however, the last sentence implying that a relief request is needed does not appear to be appropriate.	
77.	TrueNorth-48	5.5.3	2	**NRC Recommendation** When inlet pressure gauges are not installed in the inlet of a vertical line shaft pump, it is impractical to directly measure inlet pressure for use in determining differential pressure for the pump. The staff has determined that, if the licensee uses the bay level to calculate the suction (inlet) pressure as described in Subsection ISTB-3520(b), the implementing procedure must include the calculation. The licensee must also verify that the reading scale for measuring the level and the calculational method yield an accuracy within +/-2 percent for Group A and B tests, and +/-1/2 percent for Preservice and Comprehensive tests. Can't the method be described in the IST Program Plan and not be in the ST?	The NRC agrees with the comment that the IST implementing method can be described in the IST Program, because the ASME Code does not provide any implementing methods.
78.	PEnergy-30	5.5.3	2 & 3	It may be appropriate to acknowledge that suction source of the equation is typically a very small part of the overall differential pressure determination.	The NRC does not agree with the comment to add acknowledgement that the pump's suction source pressure is typically small in the calculation, because NRC staff does not see any value by adding this information.
79.	PEnergy-31	5.7	1	The recommendation to operate a Group B pump for a minimum of two minutes seems to contradict the whole premise behind the Group B test; which was to minimize pump run time in less than optimum conditions, recognizing that there were no degradation mechanisms in place for a standby pump. Although a two minute run time is not a problem, it may not be the best advice and should probably be handled on a case by case basis, at a minimum.	The NRC agrees with the comment to change and clarify the last sentence of recommendation. Therefore, the last sentence is changed to read: "The staff recommends, if practicable, that this duration also be applied to Group B pump tests."

No.	Commenter	Section	Para.	Comment	Response
80.	PEnergy-32	5.9	5	"In cases where only the minimum-flow return line is available for pump testing, regardless of the test interval, the staff's position is that flow instrumentation that meets the requirements of Subsection ISTB-3500 should be installed in the mini-flow return line." This section goes on to state that flow rate measurement is necessary to monitor pump degradation. This is not true for fixed resistance systems and is only true if the flow rate can be varied in a manner that can mask true system performance. This statement also fails to account for the rationale associated with testing and degradation mechanisms of standby pumps. The NRC position contradicts the ASME OM Code requirement; therefore, the NRC position may constitute a back fit for many older plants.	The NRC does not agree with the comment because NRC believes that a flow rate measurement is necessary to monitor pump degradation. This is the NRC position. However, relief requests have been approved for minimum flow return lines without flow instrumentation.
				Appendix – B of Draft NUREG-1482, Revision 2 (Now Appendix- A of NUREG-1482, Revision 2)	
81.	Shut-1	1.1	9	The restriction regarding the VT-3 method described in IWA-2213 was first invoked with the 2000 rulemaking, and remains through the current rulemaking. However, Section XI revised IWA-2213 in the 2003 addenda to the 2001 edition. It appears that the change was not accounted for in subsequent rulemakings. The paragraph originally invoked by rulemaking identified the scope of examinations that are required. The revised section retains this as paragraph 2213(a) but adds additional examiner qualifications in paragraphs (b) through (g). The rulemaking is unclear as to which revision of IWA-2213 applies, but it is assumed that a licensee would use whichever edition of Section XI is the basis for their program in a given interval. However, in the case of a licensee updating from a pre-2003 code the additional requirements are burdensome and do not seem to be the intent of the original rulemaking reference to IWA-2213. If it is the regulatory intent to require the additional examiner requirements be applicable to these licensees then the NUREG should clearly state that. If only the scope of exams is required as noted in the original 2000 rulemaking, then that needs to be clarified as well.	The NRC does not agree with the comment, because all the details about VT-3 visual examination are as defined in the applicable ASME Code Section XI which is incorporated by reference in 10 CFR 50.55a. In the publication of the ASME Section XI 2001 Edition with 2003 addenda, there was an error in 2003 addenda which added new qualification sections (b) through (g) in IWA-2213. To correct this error, the ASME issued Errata for the ASME Section XI, Interpretation Volume 53. This Erratum deletes the newly added IWA-2213 Sections (b) through (g). The 2004 Edition of the ASME Section XI does not include these IWA-2213 sections (b) through (g). ASME added these requirements of IWA-2213 Sections (b) through (g) in the 2005 addenda of the ASME Section XI. Therefore, while using ASME Section XI, Edition 1995 through 2004 Edition, the licensees shall use only IWA-2213. Whereas while using 2005 Addenda of ASME Section XI, the licensees shall use only IWA-2213(a). This clarification is added in Section 1.1 of Appendix-A.
82.	PEnergy-33	2.2	1	Delete introductory paragraph before section 2.2.1 as it will generate confusion.	The NRC does not agree with the comment to delete the information related to requirements in 10 CFR Part 50, "Licensing of Production and Utilization Facilties." NRC believes that these requirements are important for development of the snubber program. This information related to General Design Criterion (GDC) 1, "Quality

No.	Commenter	Section	Para.	Comment	Response
					Standards and Records," of Appendix A, "General Design Criteria for Nuclear Power Plants," to the 10 CFR Part 50. GDC 1 requires that all structures, systems, and components that are necessary for safe operation must be tested to demonstrate that they will perform satisfactorily in service. Appendix B to 10 CFR Part 50 describes the requisite quality assurance program, which includes testing, for safety-related components.
83.	PEnergy-34	2.2.1	1 thru 10	This section appears to apply mostly for Pumps and Valves (it's almost repeat to that in Appendix A). For this Appendix B section on snubbers, is an introductory section to state the plants safe-shutdown condition really required?	The NRC does not agree with the comment that 10 CFR Part 50 only applies to pumps and valves. General Design Criterion (GDC) 1, "Quality Standards and Records," of Appendix A, "General Design Criteria for Nuclear Plants," to the 10 CFR Part 50 is applicable to all structures, systems, and components that are necessary for safe operation and must be tested to demonstrate that they will perform satisfactory in service. Therefore, GDC 1 is applicable to component snubbers (which are part of supports)
84.	Rana-1	2.4.4.1	1	Delete item 1, it is part of ISI program plan. All other items are either ISTD or TRM requirements that are detailed in the implementing surveillance procedures.	NRC does not agree to delete this item because some of the licensees are still performing snubber examination along with their ISI program. Item 1 is kept with clarification by referencing Section 2.8 (these items are covered under ASME Section XI).
85.	PEnergy-35	2.4.4.2	Items 5 thru 7	Failure evaluation requirements and methods, Failure Mode Grouping methodologies, and Corrective Actions for each sample plan and FMG identified are too numerous to detail within a Program Plan document. There are hundreds of potential possibilities and combinations to describe, define and provide a basis for.	The NRC agrees with the comment to clarify. Section 2.4.4.2, Items 5 through 7 revised by adding words (Reference applicable documents) to trace the applicable documents.
86.	PEnergy-36	2.4.4.3	2	States: "Licensees should use the above guidelines as a minimum and consult with the Snubber User Group (SNUG), when developing guidance for snubber programs and their bases, to help ensure consistency throughout the industry." Suggest removing the *consulting with the SNUG when developing guidance for their service life monitoring (SLM) program and basis,* as being in this document will no doubt be interpreted as a requirement that the utility will need to document officially on how they met this.	The NRC agrees with the comment to delete the reference to SNUG, and adding SLM requirements based on the ASME OM Code as follows: Program documentation shall provide information regarding specific SLM requirements and how requirement are satisfied. This may bring consistency across the industry.
87.	Rana-2	2.4.5	4	Delete the requirement to list revision date on each page of the bases document. Under test frequency change to read, list the frequency of visual examination and testing. Also delete the requirement to list relief request(s) in the snubber list.	The NRC does not agree to delete this information, instead the NRC added the new leading paragraph for clarification as follows: The following items may not normally be included in a list of individual snubbers, as they typically apply to entire populations. This information shall

No.	Commenter	Section	Para.	Comment	Response
					be included as annotations for any individual snubbers for which a specific frequency or relief request applies on a unique basis.
88.	PEnergy-37	Figure 1		On the flow diagram, far right column for a TS, TRM or other licensee-controlled program – The very last block which describes the applicable ASME XI or OM Code requirements should be deleted as this flow chart line is for those programs that are in lieu of ASME Sect. XI and/or OM Codes and are have been submitted for review and approval by the NRC. The note is incorrect as well since programs in this flowchart line are submitted for review and approval.	The NRC does not agree with the comment. Commenter statement is only true, when licensee submitted snubber program to NRC during approval of alternative in lieu of the ASME XI or OM Code requirements and licensee specifically requested relief from the IWA-1400(c) or ISTA-3200. A clarification statement is added in Figure 1.