

**Industry Comments on NRC Inspection Procedure 71111.05T,
"Fire Protection (Triennial)"**

No.	Industry Comment	Recommendation
1.	Page 1, Inspection Bases – 1 st paragraph, 2 nd Sentence: "In many cases, the risk posed by fires is comparable to or exceeds the risk from internal events." This statement is subjective and can be misleading.	Delete this sentence.
2.	Page 1, Inspection Bases – clarify the 3 rd sentence in the last paragraph, beginning with; "In response to this Order..." with the recommended wording addition. (Recommended wording in bold.)	Change sentence to read; "In response to this Order (and the subsequent requirements of 10 CFR 50.54 (hh)(2)) licensees proposed/docketed and implemented alternative mitigating strategies intended to maintain ..."
3.	Page 4, 02.02 <u>Fire Protection Inspection Requirements</u> , 4 th paragraph – guidance needs to be updated and clarified for post-79 plants. See recommended rewrite.	Manual actions, classified as required for hot shutdown as outlined in Regulatory Guide 1.189 Revision 2 and NEI 00-01 revision 2 , not part of an NRC approved exemption or deviation used in lieu of one of the means specified in 10 CFR Part 50, Appendix R, Section III.G.2 to ensure one of the redundant trains is free of fire damage are only temporary compensatory measures and therefore will be evaluated using guidance provided in paragraph 02.02.j.2 of this document. If one of the redundant trains in the same fire area is free of fire damage by one of the specified means in section III.G.2, then the use of operator manual actions, or other means necessary, to mitigate fire-induced operation or mal-operation to important to safe shutdown components may be used without prior approval. Operator manual actions on components classified as

		<p>important to safe shutdown, as outlined in Regulatory Guide 1.189 Revision 2 and NEI 00-01 Revision 2, do not require NRC approval.</p> <p>For Post-1979 plants, manual actions should be consistent with the licensing basis.</p>
4.	Page 5, 02.02 b. <u>Passive Fire Protection</u> , 3 rd paragraph – revise the last sentence to be consistent with rest of document.	Sample completed surveillance and maintenance procedures for selected fire doors, fire dampers, and fire barrier penetration seals to ensure they are being properly inspected and maintained.
5.	Page 5, 02.02 b. <u>Passive Fire Protection</u> , 4 th paragraph – the use of engineering evaluations are also appropriate and acceptable for these components.	For unusual installation configurations and/or application of unusual materials verify appropriate fire test data or fire protection evaluations support the configuration.
6.	Page 7, 02.02 f. <u>Circuit Analyses</u> , - this section is dated and does not agree with RG 1.189. See comments 6 thru 10 for recommended re-write. 4 th paragraph – rewrite.	For cables that are important to SSD but not part of the success path, and that do not meet the separation/protection requirements of section III.G.2 of 10 CFR 50, Appendix R, verify that the circuit analysis considered the following for the areas being evaluated:
7.	Page 8, 02.02 f. <u>Circuit Analyses</u> , 1. Cable failure modes, (b) (2) – rewrite.	(2) For cases involving direct current (DC) control circuits, consider the potential spurious operation due to failures of the control cables (even if the spurious operation requires two concurrent hot shorts of the proper polarity, e.g., plus-to-plus and minus-to-minus, when the required conductors are within the same cable). Consider potential spurious actuations when the source and the target conductors are in two independent multiconductor cables for hi/lo pressure interface components only.
8.	Page 8, 02.02 f. <u>Circuit Analyses</u> , 3. – based on comment 6 above, wording is	Verify that for the equipment important to safe shutdown, but not

	redundant. Also, the reference to "orange box" should be deleted since RG 1.189 does not use that term. See recommended rewrite.	part of the success path (equipment identified as "orange box" per RG 1.189, Rev 2), that the licensee has either (1) determined that ...
9.	Page 8, 02.02 f. <u>Circuit Analyses</u> , 3. (a) and (b) – consider moving these two paragraphs to Section 02.02 f. 1. Cable failure modes since they are more circuit failure mode criteria. See recommended rewrite.	(a) For underground direct current circuits, fire induced faults are not assumed to clear, whereas other circuit types faults may be assumed to clear in 20 minutes. (b) For concurrent faults in equipment that is not sealed in or latched, two cables should be considered for non-high low interface equipment. For high low pressure interface cables, three separate cables should be considered to fault concurrently follow the criteria in NRC Generic Letter 86-10 Paragraph 5.3.1.
10.	Page 8, 02.02 f. <u>Circuit Analyses</u> , 3. (c) – this paragraph is redundant to 02.02 f. 2. Recommend deleting this paragraph.	Delete 02.02 f. 3. (c) Common Power Supply/Bus Concerns.
11.	Page 10, 02.02 j. <u>Compensatory Measures</u> , 1. <u>General guidance.</u> , last paragraph – add verbiage to align with RG 1.189. See recommended rewrite.	If the licensee meets the requirements in 10 CFR Part 50 Appendix R, Section III.G.2, then the use of operator manual actions to mitigate fire-induced operation or mal-operation to the second train may be used without prior approval. Operator manual actions on components classified as important to safe shutdown, as outlined in Regulatory Guide 1.189 Revision 2 and NEI 00-01 Revision 2, do not require NRC approval.
12.	Page 10, 02.02 j. <u>Compensatory Measure</u> , 2. <u>Manual Actions</u> , 1 st paragraph – guidance is out of date and does not allow for approved manual actions. See recommended rewrite.	Manual Actions. The three acceptable methods that meet the requirement for maintaining one of the redundant trains in the same fire area free of fire damage are based on the combination of physical barriers, spatial separation, fire detection and automatic

		<p>suppression systems. These methods are described in 10 CFR Part 50 Appendix R, Section III.G.2. Fire-induced damage to components, classified as required for hot shutdown as outlined in NEI 00-01 Revision 2, must be mitigated in accordance with 10 CFR 50 Appendix, Section III.G.2.</p> <p>Licensee implemented manual actions to respond to potential maloperations to components classified as required for hot shutdown that may result from the failure to meet this requirement do not correct the underlying performance deficiency and therefore will not be accepted as final corrective action. However, the staff concluded that for an interim period, while appropriate corrective actions are implemented or while preparations are made by the licensee to submit exemptions or deviations, compensatory measures in the form of manual actions may be acceptable if the manual actions meet the criteria provided below.</p>
13.	<p>Page 10, 02.02 j. <u>Compensatory Measure</u>, 2. <u>Manual Actions</u>, (a) Applicability - 2nd paragraph does not provide guidance for licensees not committed to III.G.2. See recommended rewrite.</p>	<p>Verify that the licensee is committed to meet the requirements of Section III.G.2. If the licensee is a post-1979 plant, 10 CFR 50 Appendix R does not apply to the licensee other than, possibly, through a licensing commitment. Post-1979 Plants with a Standard Fire Protection License Condition may make changes to their approved Fire protection Program provided the change does not have an “adverse affect” on the plant’s ability to achieve and maintain safe shutdown in the event of a plant fire. For pre-1979 Licensee’s, determine whether the</p>

		<p>requirements are met with or without the use of manual actions. If manual actions are not invoked, this guidance is not applicable. For post-1979 Plants review the evaluation of “adverse affect” to determine the acceptability of the Manual Action.</p>
14.	<p>Page 11, 02.02 j. <u>Compensatory Measure</u>, 2. <u>Manual Actions</u>, (b) Diagnostic Instrumentation – consider addition of sentence at end for clarification. See recommended rewrite.</p>	<p><u>Diagnostic Instrumentation</u>. Verify that adequate diagnostic instrumentation, unaffected by the postulated fire, is provided for the operator to detect the specific spurious operation that occurred. Some licensees may have protected only the circuits specified in Information Notice 84-09. Additional instrumentation may be needed to properly assess a spurious operation. Annunciators, indicating lights, pressure gages, and flow indicators are among the instruments typically not protected from the effects of a fire. Instrumentation should also be available to verify that the manual action accomplished the intended objective. These latter two (2) objectives may be met by inferring the performance of the plant from the instrumentation that is available to the operator and protected from the affects of fire, e.g. spurious operation of SRVs can be inferred from the available reactor pressure instruments even if indicating lights for the specific SRVs are not available; adequate operation of the RHR Suppression Pool Cooling System can be inferred from available Suppression Pool instrumentation even if specific indicating lights for the required pump and valves are not available.</p>

15.	<p>Page 12, 02.02 j. <u>Compensatory Measure</u>, 2. <u>Manual Actions</u>, (h) <u>Procedures</u>, (3) – states in part “...the inspector should assess whether this strategy unnecessarily removes equipment that might be available for safe shutdown with more complete cable routing information.”</p> <p>This recommended review does not seem to be valid inspection scope for Regional inspectors, it is discussing an author’s recommended preference for how an analysis should be performed, and not a compliance issue. Recommend deleting.</p>	Delete 02.02 j. 2. (h) (3) entirely.
16.	<p>Page 13, 02.02 j. <u>Compensatory Measure</u>, 2. <u>Manual Actions</u>, (k) <u>Review and Documentation of Fire Protection Program Changes</u> – later recommendation is to delete Enclosure 3. Guidance for Fire Protection Program Changes should be sought in the already established and accepted documents such as NEI 02-03 and GL 88-12.</p>	Delete last sentence: “See Enclosure 3 for detailed information.”
17.	<p>Page 15, 03.01 b. 3. <u>Plant licensed after January 1, 1979</u>. – see recommended rewrite.</p>	<p>These plants are subject to requirements as specified in the conditions of their facility operating license, UFSAR, in commitments made to the NRC, or in deviations exemptions or licensee amendments granted by the NRC. These requirements are generally similar to those in 10 CFR 50, Appendix R. Comparisons to BTP, Appendix R, etc., are at-most commitments, and may be changed.</p>
18.	<p>Page 15, 03.01 b. 4. <u>Changes to the fire protection program</u>. – start paragraph with clarification on allowance to make changes. See rewrite/addition.</p>	<p>If the licensee has adopted the Standard Fire Protection License Condition, then the licensee may make changes to the approved fire protection program without prior approval by the Commission...</p>
19.	<p>Page 18, References – Regulatory Issue Summary 2004-03 – this RIS is out of date.</p>	Delete reference to RIS 2004-03.

20.	Page 19, References – Regulatory Issue Summary 2005-20 – contains no actual guidance. The guidance is contained in Inspection Manual 9900. Section C.5 of 9900 is clear that substituting operator actions for automatic protection of “safety limits” is not appropriate, but allows flexibility for operator action for other situations. Discussion in the RIS about manual actions is limited to “safety limits,” and does not apply to FP situations.	Delete reference to RIS 2005-20 and, if necessary, replace with reference to Inspection Manual 9900.
21.	Page 19, References – Regulatory Issue Summary 2005-30 – this RIS is out of date.	Delete reference to RIS 2005-30.
22.	Page 19, References – B.5.b Inspection Community of Practice – this is a hyperlink to a NRC only available database. Reference is not publically available and therefore not aligned with commitments to maintain transparency.	Delete reference to B.5.b Inspection Community of Practices.
23.	Page 19, References – WCAP 16800-NP, Revision 0 – this document is not publically available. Only intended to apply to beyond design bases scenarios.	Delete reference to WCAP 16800-NP.
24.	Page 19, References – NEI 00-01 Rev 2 is not included in the references.	Add NEI 00-01, Revision 2, “Guidance for Post Fire Safe Shutdown Circuit Analysis” as a reference.
25.	Pages E3-1 thru E3-4, Enclosure 3 – GL 86-10, GL 88-12, SECY 85-306, 85-306A and 85-306B and docketed correspondence establishing the Fire Protection License Condition set the precedent and provide the guidance for determining whether or not a change is an “adverse affect”. NEI 02-03, “Guidance for Performing a Regulatory Review of Proposed Changes to the Approved Fire Protection Program” was reviewed by the NRC (reference ML032400012). The NRC noted in their review letter, “Using published guidance, such as NEI 02-03, for evaluating changes to the AFPP should ensure consistent evaluations and will improve the efficiency and effectiveness of	Delete Enclosure 3 entirely.

the regulatory process.” Enclosure 3 is not consistent with the existing guidance and these previous docketed positions. For example, Enclosure 3 (Example g) “Appendix R, Section III.L” directly conflicts with the NRC staff position documented in the February 10, 2005 letter, “Resolution of Questions Concerning Compliance with Section III.L.2 of Appendix R” from Sunil Weerakkody to John Hannon (ML0503304170). The CO2 example in Enclosure 3 (Example a) is not correct for all situations. If a GL 86-10 engineering evaluation is on file for NRC review (prepared by a qualified FPE) that justifies that the hazards are low enough that suppression is not warranted, and the suppression is not used to meet Appendix R III.G2.b or .c, then neither 10 CFR 50.48 or 10 CFR 50 Appendix R apply and no NRC approval is required. Additionally, this CO2 example is not consistent with NRC’s prior position on handling of design changes to CO2 fire suppression systems including removal as addressed in NRC letter dated July 20, 2005 (ML051740050).

Enclosure 3 clouds the existing understanding of the “adverse affect” standard and appears to redefine the standard that has been incorporated into the licenses of nuclear power plants via the standard fire protection license condition. Redefining this standard would require more formal regulatory action by the agency, such as license amendments or regulatory changes. It is not appropriate to implement such changes via inspection guidance.