

From: "Dave Lochbaum" <dlochbaum@ucsusa.org>
To: <nrcprep@nrc.gov>
Date: Fri, Jan 9, 2004 1:32 PM
Subject: UCS Comments on Post-Fire Safe Shutdown Manual Actions

11/26/03

68FR 66501

Good Afternoon:

Attached are comments submitted by UCS opposing the NRC's proposal to revise its enforcement policy to allow plants to continue operating despite non-compliance with regulations adopted two decades ago following the serious fire at the Browns Ferry nuclear plant.

131

Thanks,

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E-RIDS = ADM-03

Addr = A. Dudley (RFD)
A. Gallucci (RHF)

Template = ADM-013



Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions

January 9, 2004

Chief, Rules and Directives Branch
Division of Administrative Services
Office of Administration, Mail Stop T6-D59
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Submitted via e-mail to nrcprep@nrc.gov

**SUBJECT: COMMENTS ON DRAFT CRITERIA FOR DETERMINING FEASIBILITY
OF MANUAL ACTIONS TO ACHIEVE POST-FIRE SAFE SHUTDOWN**

Dear Sir or Madam:

In response to the notice published in the *Federal Register* (November 26, 2003, Volume 68, Number 228), I submit the enclosed comments on behalf of the Union of Concerned Scientists. I received an e-mail message from Mr. Richard Dudley of the NRC staff in mid-December informing me that a 30-day extension to the original 30-day comment period had been approved. Our comments are provided after the December 26, 2003, deadline specified in the notice but before the January 25, 2004, deadline under the extension.

We feel strongly that the proposed actions by the NRC in this matter are a very poor substitute for what the agency should really be doing – enforcing regulations promulgated after the disastrous Browns Ferry fire to minimize the chances of recurrence. Instead, these proposed actions reward licensees who have scoffed at these safety regulations and punish licensees who spent the money and time to do the right thing.

Sincerely,

<Original signed by>

David Lochbaum
Nuclear Safety Engineer

Enclosure: Comments on Draft Criteria for Determining Feasibility of Manual Actions to Achieve
Post-Fire Safe Shutdown



**Union of
Concerned
Scientists**

Citizens and Scientists for Environmental Solutions

**COMMENTS ON DRAFT CRITERIA FOR
DETERMINING FEASIBILITY OF MANUAL
ACTIONS TO ACHIEVE POST-FIRE SAFE
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UCS COMMENTS ON DRAFT CRITERIA FOR DETERMINING FEASIBILITY OF MANUAL ACTIONS TO ACHIEVE POST-FIRE SAFE SHUTDOWN	
No.	Comment
1.	<p>Approximately two decades ago, the NRC promulgated Appendix R to 10 CFR Part 50 to impose requirements aimed at reducing the likelihood of another fire like the one at the Browns Ferry Nuclear Plant. When its inspections revealed many licensees are “in non-compliance with NRC regulations,” the agency opted to address this rule-breaking with some rulemaking to essentially retroactively legalize what the nuclear outlaws had been illegally doing. Until that rule-making effort is completed, the NRC proposes this change to its enforcement period to provide amnesty to the nuclear outlaws.</p> <p>The NRC allegedly has four strategic goals: (1) maintain safety, (2) reduce unnecessary burden, (3) improve efficiency and effectiveness, and (4) improve public confidence. This proposed change is at best neutral on the first goal and negative for the remaining three goals:</p> <ul style="list-style-type: none"> • This proposed action does not “reduce unnecessary burden” because it makes the nuclear outlaws jump through a bunch of steps now that may or may not be present in the final rulemaking, whenever that occurs. If the final rulemaking does not match these criteria, the nuclear outlaws would have to resolve any deltas (of course, since they are nuclear outlaws, they will probably skip this step anyways). • This proposed change does not “improve efficiency and effectiveness” because it makes the NRC staff evaluate the nuclear outlaws against the proposed criteria that may or may not be present in the final rulemaking, whenever it occurs. • This proposed action does not “improve public confidence” because it is plainly stupid and the public is seldom reassured by the stupid actions of safety regulators. <p>The proposed action may actually reduce safety margins, violating the NRC’s first strategic goal. National Fire Protection Association standard 805 reports “<i>where manual operator actions are relied on to provide the primary means of recovery in lieu of providing fire protection features, risk may be increased.</i>”¹</p> <p>The more prudent regulatory action would be to forget this distracting and wasteful effort at interim criteria and instead devote those resources to enforcing the existing regulations. It is ludicrous for the NRC to be expending this time and effort to reward nuclear outlaws who have scoffed at fire protection regulations. It sends perverse messages, and a figurative kick in the groin, to the licensees who made the investment in the past to maintain their facilities in compliance. It tells them that basically they were suckers for doing the right thing. It urges them to ignore other regulations with real hope of having the meek and mild NRC merely bend its regulations to match their behavior – if they even get caught.</p> <p>It reminds everyone that the NRC is not the public’s guardian but the guardian for licensees who scoff at federal safety regulations.</p>

¹ NRC Presentation “The Use of Manual Operator Actions For Achieving and Maintaining Fire Safe Shutdown,” NRC/NRR/Regions I, II, III, IV Quarterly Workshop, November 14, 2001.

UCS COMMENTS ON DRAFT CRITERIA FOR DETERMINING FEASIBILITY OF MANUAL ACTIONS TO ACHIEVE POST-FIRE SAFE SHUTDOWN	
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2.	<p>This proposed scheme represents an unwarranted shift of burden from licensees to the NRC. As the agency reported in the <i>Federal Register</i> notice, many licensees are “in non-compliance with NRC regulations.” These nuclear outlaws had the option of coming to the NRC seeking exemptions from the regulation. These nuclear outlaws could have provided the NRC with justifications supporting the exemptions. They had the burden to demonstrate that non-compliances were acceptable from a safety perspective.</p> <p>Under the proposed scheme, the burden shifts to the NRC staff to demonstrate that the manual actions that must be taken by licensees fail to meet the proposed criteria. In other words, rather than the nuclear outlaws having to demonstrate that the deltas between the regulations and their configuration are inconsequential, the NRC staff must demonstrate that deltas between the criteria and plant-specific implementation exist. That’s inappropriate.</p>
3.	<p>This proposed scheme represents an unwarranted curtailment of public involvement in the regulatory process. As described in Comment #2, the current process requires nuclear outlaws to seek formal exemptions from the NRC for non-compliances with federal regulations. The exemption requests are publicly available and provide the public with an opportunity to formally register disagreement with the justifications.</p> <p>Under the proposed scheme, the public will not know if the operating reactor in their community meets the fire protection regulations or fails to meet the fire protection regulations but relies on the proposed criteria for manual actions. The only time that the public will learn that the operating reactor in their community has been a nuclear outlaw is when the NRC announces the enforcement discretion after its inspectors discover the non-compliances.</p> <p>When Appendix R to 10 CFR Part 50 was promulgated, the public had a formal opportunity to review where the safety bar was to be set and to intervene if they felt the proposed level was too low (or too high, for that matter). Once Appendix R was promulgated, the public had every right to believe that the NRC would enforce the publicly agreed upon safety level.</p> <p>But now the NRC concedes that nuclear outlaws have scoffed at the safety bar and wants the public to trust that secret, unspecified manual actions provide the same level of safety as the publicly aired regulations. In any case, this proposes scheme denies the public any opportunity to know that the operating reactor in their community is not in compliance with the agreed upon fire protection regulations and to intervene if they disagree that manual actions provide an equivalent safety level.</p> <p>This is unfair and probably violates the Administrative Procedures Act. Addressing widespread rule-breaking by more rule-breaking is imprudent.</p>
4.	<p>Even if UCS were to stipulate that the process proposed by NRC is fair and legal, the proposed change doesn’t pass a sanity check.</p> <p>The situation today is that many of NRC’s licensees are in non-compliance with federal regulations promulgated nearly 20 years ago. These regulations were promulgated after a lengthy rulemaking process involving numerous public meeting and workshops. Over the ensuing 20 years, the NRC has issued innumerable generic correspondence and inspections reports that extensively supplement the rulemaking info-base. Despite that plethora of information, many nuclear licensees failed to comply with the federal regulations. It could be that they didn’t understand the regulations. Or it could be that they understood the regulations, but opted not to comply with them.</p> <p>The NRC proposes to swap conformance with manual action criteria for compliance with regulations. Given that the nuclear outlaws either could not understand or would not abide by the</p>

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	<p>regulations, why does the NRC believe they will either understand or follow the criteria? After all, the regulations were accompanied by considerably more regulatory guidance documents and implementation feedback data than are being provided with the criteria. Nuclear outlaws who intentionally disrespected a regulation are highly unlikely to revere mere criteria. The NRC would be crazy to even attempt this experiment.</p> <p>Furthermore, the NRC has evidence that many licensees were in compliance with the fire protection regulations but took recent steps to violate these regulations:</p> <p><i>Findings which were identified during recent inspections indicated that licensees had removed rated fire barriers, which were required for compliance with Section III.G.2 of Appendix R to 10 CFR Part 50, and replaced those barriers with a manual action.²</i></p> <p>Why did the licensee's terminate compliance with the fire protection regulations?</p> <p><i>NEI stated that Section III.G.2 of Appendix R to 10 CFR Part 50, allows manual actions to accomplish fire protection safe shutdown activities (in lieu of physical fire protection features) without prior staff review and approval through the exemption and deviation processes. The staff does not agree with NEI's position.³</i></p> <p>So, apparently the licensees did not understand what 10 CFR 50 Appendix R paragraph III.G.2 allowed. Was this 20-year old requirement tricky or confusing?</p> <p><i>Mr. Payne: In other words, for example, they determine that Kaowool isn't a three-hour fire wrap, so they take off the Kaowool and then say we're going to use operator actions as a substitute for that. That's not something that's allowed in III.G.2, III.G.2 doesn't talk about...</i></p> <p><i>Dr. Powers: That's not one of the options.</i></p> <p><i>Mr Payne: And what they're arguing is that, well, it doesn't say we can't, it just says this is what ...</i></p> <p><i>Dr. Powers: It's pretty explicit about saying you have to do one of three things.⁴</i></p> <p>So, the licensees got confused about how to conform to explicit regulations. They therefore cannot be trusted to satisfy less explicit criteria on manual operator actions. Such trust would be ludicrous in this matter.</p> <p>The NRC lacks adequate basis to believe that the nuclear outlaws will be any better at satisfying the proposed criteria than they've been in meeting the old regulations. Therefore, the NRC must not adopt the proposed enforcement discretion policy change.</p>
5.	<p>In the <i>Federal Register</i> notice, the NRC states "<i>The industry also believes that most operator manual actions used by licensees for operation of a safe shutdown train during a fire do not involve any safety significant feasibility concerns and would likely be approved by the NRC if processed as an exemption or deviation request.</i>"</p>

² NRC Letter dated February 14, 2002, from Jon R. Johnson, Deputy Director – Office of Nuclear Reactor Regulation, to Joseph A. Murphy, Chairman – Committee to Review Generic Requirements.

³ NRC Letter dated February 14, 2002, from Jon R. Johnson, Deputy Director – Office of Nuclear Reactor Regulation, to Joseph A. Murphy, Chairman – Committee to Review Generic Requirements.

⁴ Transcript of June 19, 2002, ACRS Plant Operations and Fire Protection Subcommittees meeting, page 118.

UCS COMMENTS ON DRAFT CRITERIA FOR DETERMINING FEASIBILITY OF MANUAL ACTIONS TO ACHIEVE POST-FIRE SAFE SHUTDOWN	
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	<p>Given that these views are espoused by the exact same folks who (a) were clueless that they were not complying with fire protection regulations or (b) deliberately violated the fire protection regulations, their assertions on the safety significance of the manual actions cannot be given much weight. If these folks really knew their stuff, they wouldn't have operated their facilities in violation of federal regulations.</p>
6.	<p>In the <i>Federal Register</i> notice, the NRC states "<i>The results from NRC fire protection inspections to date indicate that there is insufficient evidence that the generic use of these manual actions poses a safety concern.</i>"</p> <p>It appears that the <i>Federal Register</i> notice contains misleading, perhaps even deliberately false, information. To wit, this NRC document from 2001:</p> <p style="padding-left: 40px;"><i>Recent inspection [sic] have found that some licensee's [sic] have taken manual actions to the extreme interpretation such that no wrap is provided with operators solely relying on responding to mal-operations after they occur in III.G.2 fire areas. This condition is similar to the condition Browns Ferry was in prior to the 1975 fire.</i>⁵</p> <p>So, the 2003 notice claims that NRC inspection findings do not suggest a safety concern with the use of manual actions whereas the NRC presentation from 2001 claims inspection findings comparable to the very same unsafe conditions that Appendix R was promulgated to remedy. Was the NRC lying in 2001 or in 2003?</p> <p>Furthermore, it is totally inappropriate for the NRC to maintain that both compliance and non-compliance with regulations provides adequate protection of public health and safety. The public cannot maintain that compliance with regulations is inadequate. Likewise, the NRC cannot maintain that non-compliance is adequate:</p> <p style="padding-left: 40px;"><i>Generally, then, an intervenor cannot validly argue on safety grounds that a reactor which meets applicable standards should not be licensed. By the same token, neither the applicant nor the staff should be permitted to challenge applicable regulations, either directly or indirectly. Those parties should not generally be permitted to seek or justify the licensing of a reactor which does not comply with applicable standards. Nor can they avoid compliance by arguing that, although an applicable regulation is not met, the public health and safety will still be protected. For one a regulation is adopted, the standards it embodies represent the Commission's definition of what is required to protect the public health and safety.</i>⁶</p> <p>The NRC has no right to substitute its gut feelings or hunches for promulgated regulations.</p>
7.	<p>Criterion 8 states "<i>The capability to successfully accomplish required operator manual actions within the time allowable using the required procedures and equipment shall be demonstrated using the same personnel/crews who will be required to perform the actions during the fire; documentation of the demonstration shall be provided.</i>"</p> <p>The wording for this criterion would not preclude a one-time demonstration by a single operating crew who finally beat the time clock after numerous failures with no other operating crews even attempting the prescribed manual actions. It would not preclude a one-time demonstration by a well-rehearsed, "all-star" crew whose performance is virtually guaranteed not to represent that of the crews who would be responding to an actual fire. The criterion cannot be so lame.</p>

⁵ NRC Presentation "The Use of Manual Operator Actions For Achieving and Maintaining Fire Safe Shutdown," NRC/NRR/Regions I, II, III, IV Quarterly Workshop, November 14, 2001.

⁶ NRC Atomic Safety and Licensing Appeal Board, Memorandum and Order (ALAB-138), July 31, 1973.

UCS COMMENTS ON DRAFT CRITERIA FOR DETERMINING FEASIBILITY OF MANUAL ACTIONS TO ACHIEVE POST-FIRE SAFE SHUTDOWN	
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	<p>Criterion 6 states <i>“Procedural guidance on the use of required operator manual actions shall be readily available, easily accessible and demonstrated to be effective.”</i></p> <p>The wording for this criterion would not preclude a one-time demonstration by a single operating crew who finally beat the time clock after numerous failures with no other operating crews even attempting the prescribed manual actions.</p> <p>For manual actions to be credited, there must be more than a one-time “pass.” There must be periodic training of all personnel who might be called upon to perform the necessary actions. It may not be necessary for all operating crews to demonstrate completion of the manual actions within the allotted time (although it would not be unprecedented – all operating crews must demonstrate proficiency responding to simulated events such as steam generator tube rupture). Instead, it may be sufficient for one representative crew to demonstrate that the procedural steps can be completed within the necessary time period and for all other crews to receive training and periodic retraining on the procedure.</p> <p>That the proposed criteria totally lack any training requirement is puzzling considering that NRC has long recognized the vital need for such training. Among many examples, Dr. J. S. Hyslop of the NRC’s Office of Nuclear Reactor Regulations made a presentation titled “SDP and Manual Actions” during a two-day meeting at NRC Region III on January 3rd and 4th 2001. The fifth slide in this presentation listed three conditions necessary for credit to be given for fire protection manual actions: (1) “functionality,” (2) “impact of fire/smoke,” and (3) “procedures, training.” The eighth slide of Dr. Hyslop’s presentation reported that minimal training increased the chances of human error by a factor of three over the chances from routine training. Thus, abandoning the training tenet violates the NRC’s strategic goal to “maintain safety” since it significantly increases the likelihood of operator error during a time when errors cannot be tolerated. [NOTE: Unlike the majority of regulations in 10 CFR Part 50, Appendix R does not require the single-failure criterion to be satisfied. Thus, there is no safety net for equipment failures and operators errors during a fire.]</p> <p>That NRC omitted the training requirement from the proposed criteria is baffling considering that (a) the agency requires training for its inspectors who examined fire protection and manual actions related to Appendix R paragraph III.G.2 and (b) that this formal training directs the NRC inspectors to answer the following questions when assessing whether operator actions can be credited: “Have operators been trained on special manual actions?” and “Have operators been trained on the procedure?”⁷</p> <p>As currently proposed, the criteria fail to ensure that all personnel who may be tasked with performing manual actions during a fire receive training so as to provide adequate assurance that their actions will be successful.</p>
8.	<p>Criterion 3 states <i>“There shall be a sufficient number of plant operators, under all staffing levels, to perform all of the required actions in the times required for a given fire scenario. The use of operators to perform actions shall be independent from any collateral fire brigade or control room duties they may need to perform as a result of the fire.”</i></p> <p>It is conceivable that the fire resulted from an act of sabotage. In other words, sabotage could be the cause of a “given fire scenario.”</p>

⁷ Letter dated November 29, 2001, from John N. Hannon, Chief – Plant Systems Branch, Division of Systems Safety and Analysis, Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission to Alexander Marion, Director – Engineering, Nuclear Energy Institute.

**UCS COMMENTS ON DRAFT CRITERIA FOR DETERMINING FEASIBILITY
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No.	Comment
	<p>By memo dated November 17, 2000, and titled, "Conduct, Agenda, and Rules of Engagement for Operational Safeguards Response Evaluations," Mr. Glenn M. Tracy of the NRC headquarters staff informed the NRC regional staffs of the criteria to be used when determining if operator actions can be credited in simulated acts of sabotage. The five criteria were:</p> <ol style="list-style-type: none"> (1) sufficient time is available to implement the manual actions, [Criterion 8] (2) environmental conditions allow access where needed, <u>including any unconstrained adversary activity</u>, [Criterion 2] (3) approved procedures exist, [Criterion 6] (4) training is conducted on the existing procedures <u>under conditions similar to the scenario assumed</u>, and (5) any equipment needed to complete the manual actions is available and ready for use. [Criterion 5] <p>As noted in the brackets, the November 17, 2000, criteria are captured by the proposed criteria for manual actions with two significant exceptions. The missing training criterion is addressed in Comment #7.</p> <p>A gap exists in the criterion for environmental conditions. The periodic security tests are presumed to ensure that operator actions needed to mitigate an attack on target set(s) can be performed. But since the target sets are not publicly available, the saboteurs may inadvertently ignite a fire in a non-target set area. Thus, manual actions necessary to mitigate a fire in a area not containing target set equipment should also consider the need for security guard escort/protection for the operator(s). Of course, the extra time necessary to arrange and implement this security protection must be factored into the timelines.</p>
9.	<p>Criterion 8 states "<i>The capability to successfully accomplish required operator manual actions within the time allowable using the required procedures and equipment shall be demonstrated using the same personnel/crews who will be required to perform the actions during the fire; documentation of the demonstration shall be provided.</i>"</p> <p>U.S. nuclear power plant operating history repeatedly shows that the timeline demonstrations during non-stress, non-fire conditions do not reflect what really happens in the "heat" of battle. In 1995, a fire blazed out of control for approximately an hour at the Waterford nuclear plant because its fire brigade opted not to put water on the electrical fire. A major lesson of the Browns Ferry fire (the event that prompted Appendix R to be promulgated) was that electrical fires must be extinguished even if fire must be used. More recently, this failure re-appeared during a recent nuclear plant fire as related by Dr. Dana Powers of the NRC's ACRS:</p> <p><i>They sat around, the guys handling the fire were saying we want to spray water on this, and the guys in the control rood were saying "Oh dear, oh dear, oh dear," and yet it's been in innumerable information notes and bulletins that say in electrical fires in nuclear power plants spray some water on it, because otherwise you can't put out a cabinet fire, it just reignites every time you let the air in."</i>⁸</p> <p>Therefore, the proposed demonstration hardly provides assurance that the manual actions will be performed within the necessary time period during an actual fire. Consequently, the NRC must require some time margin to account for uncertainties in getting the necessary manual actions completed. This margin, say 25 percent of the start-to-finish time recorded during the demonstration, must be added to cover the 'daze' factor described by Dr. Powers.</p>

⁸ Transcript of June 19, 2002, ACRS Plant Operations and Fire Protection Subcommittees meeting, page 119.