

01 May 1996

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Milhoan
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(TAC M94847, M94848)

Addendum to Catawba 2.206 petition of 13 Feb 96

The following addendum to my 10 CFR 2.206 petition of 13 Feb 96 is necessary because of deficiencies in your reply of 02 Ap 96 which are described following:

1. In your first paragraph you wrote, "In addition your petition requests that certain requirements be added to the...[NRC]... regulations. If you want to formally request the NRC to revise its regulations, you can follow procedures set forth in 10 CFR 2.802"

Comment: This is a sad and shocking response to a notice to the NRC that a practice commonly required even in commercial electrical work; viz., to coordinate circuit breakers (CB) has never been required by the NRC for nuclear power plants. To write me that, "If you want to formally request...." is an evasive, non-responsive, but revealing reply to a suggestion that the date for such an inclusion is long overdue. As you well know, when I was a member of your staff, I repeatedly addressed this very concern; e.g., at TMI in 1989-- with as much success, then. To say, now, that if you want to formally request would be comic, if it were not so serious.

Formality is a consideration of importance only to government clerks who do not intend to perform their duty to safeguard the public safety as they should. Have you forgotten the oft repeated announcements to the staff, by the EDO, et al., that the public safety is your primary concern? And you ask for a formal request at this late date! You are incredible!

Have you forgotten your memo of December 10, 1987 to T. Murley, erstwhile Director of NRR, in which you wrote that uncoordinated CB were a significant safety concern? What has persuaded you, since, that you were then wrong and are now correct ?

It would be embarrassing to you to admit that such a basic requirement was overlooked for twenty years or more by the NRC, but errors are not properly disposed of by bluff, obfuscation, and resistance. Instead, the NRC should correct the lacuna, as quickly as possible and with as good grace as possible.

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You will not expect, surely, that I am going to be put off for long by this pointless evasion. While I prepare a 10 CFR 2.802 petition to this lack on the agency's part, why don't you begin that glacially slow process, which the NRC always follows, to add the CB coordination requirement to your regulations, before one of the legion of uncoordinated CB bites you and the public ?

2. I find some more, redundant insincerity in the third paragraph, same page, to wit: "... based on your concern that the staff was inclined to accept a licensee proposal to change the FSAR commitment rather than the circuit breaker without adequate justification...."

Comment: Inclined to accept! This petitioner was ordered to write an SER accepting the licensee's proposal to change the FSAR and not the defective hardware, by a pair of managers who had no relevant experience, as to the risk of so doing. If public safety were your primary concern, as you keep repeating it is, in announcements to staff, which all of whom who wish to survive, have the sense to ignore, you would be very careful before removing safeguards such as the coordinated CB to which the licensee committed.

3. "This specific technical issue was reviewed by the NRR Standing Panel whose review results are documented in the NRC memorandum of July 21, 1994, which you included with your Petition. The July memorandum supports our conclusion that this issue does not warrant the immediate and urgent actions requested in your Petition."

Comment: There can be few words as ambiguous and tepid as, "supports." Every grammatical particle supports, in some sense, every statement of every proposition. Had you read the DPV/O you might not have relied on the July 21st report (J2R) but decided for yourself that the CB should be changed. Even a casual analysis of the J2R should have inclined someone interested in public safety to do so.

But an even better basis exists to reject the J2R: The J2R does not simply support your conclusion: it is, in fact, the sole basis for your present conclusion, which, accordingly, stands or falls with that report. I shall now proceed to argue that the J2R, because of its many defects, should never have been accepted by NRR, as responsive to my DPV/O.

A defect in this report, one which the staff seems unable to avoid when writing ex cathedra, is ambiguity, as above with "supports." Thus, A. Thadani, in the J2R said, "... that the crux of the concerns associated with this DPV were...." Let me interrupt this retelling of the J2R to say that the crux of the DPV, as seen by the standing panel, may well have been the lack

of a formal submittal (whatever that may mean) but it was not the crux of the DPV as seen by its author. The crux of the matter of the DPV, as stated therein, was letting a licensee continue to operate with CB that did not meet ordinary commercial standards of reliability, in that they were not coordinated.

A second concern of the DPV/O was that the licensee was relying on the presence of a redundant safety train, and that other licensees have relied, and will continue to rely, on a second safety train to save them in an accident, and not just from uncoordinated CB, but from failures of all kinds, the cumulative effect of which could be fatal.

A. Thadani, in the J2R, was also concerned with the absence of "documentation"; another windy, vague term. The missing documentation is the calculation from data to demonstrate the no significant hazards, said to attend the change to the FSAR. It was my contention, in the DPV/O, that the absence of data; i.e., the reliability of the cables at their terminals and throughout their runs; and for the specific cables installed; and the way that they are installed; and all the circumstances affecting their reliability, made assurances regarding the cables' reliability from the staff, of both the NRC and CNS, useless except as evidence of naivete.

Let me repeat here, for W. Russell's edification, a saying whose truth and humor, alike, escaped him when I first proposed it in March 1981, during consideration of the RTB life test DPV/O, which was treated in the same way as the present Catawba CB DPV/O, to wit: "Absence of evidence is not evidence of absence." Lest the meaning of this aphorism once again escape, let me spell out its relevance. To conclude that the cables are reliable one needs data collected to demonstrate the cables' reliability, in its present application. Needless to say (he wrote, saying it) the process is not easy and requires thought, effort, and experience; and any number of personal virtues in those engaged.

It is not enough to say that we didn't find any failures, where we looked, for the period in which we looked. Presence is easy to demonstrate; one case will do it. Absence is more difficult; although certainty may grow with time, certainty of absence is never achieved.

The absence of failures detected could have more to do with the process of looking for the failures than with the failures themselves; e.g., telephoning people in the nuclear power business and asking them to admit to the NRC to failures, over the telephone, sounds like a doubtful way to get reliable data, like looking for fish in a cloud, yet this is about all CNS and the NRC have done. Neither looked for data bases, and probably just as well, because of differences between the cables listed in

say IEEE 500 and the cables in Catawba. NPRDS and LERS are, also, largely useless for reliability calculations.

How did NRC reach "our conclusion that immediate and urgent actions" were not required? From some closely reasoned process, based on extensive data and experience? Not at all, but on "a general feeling," i.e., a disinclination to act, not least because of the superior safety which inaction commonly brings, as opposed to acting on imperfect information, which is the only kind there is. No doubt the ostrich has a general feeling of some kind when his head is buried.

Feeling, that is belief, is a poor basis for assessing reliability because every failed component is thought good until its failure. And not all components thought good have failed; some are good. Then a feeling, general or other, about the reliability of an installation is irrelevant to whether or not the installation is in fact reliable.

Yet you are doing this when on the basis of a general feeling among some ordinary people, good fellows, some of the time, no doubt, but unqualified to offer opinions on the reliability of cables of any construction, in configurations none of them has seen, *you conclude that no immediate action are necessary.*

When the NRC does react to a reliability concern, as with station blackout, it seems moved by strange subterranean tides of which the majority of the staff never learn, as, you may recall, in the panic over pipe snubbers that finally abated as mysteriously, as it had come. Perhaps the initiator for a general concern is just a visceral feeling, spread by pheromones, or a herd instinct, like that which moves cattle to stampede.

Because of the NRC's mission, the agency should lean towards not removing safeguards without strong evidence that they are not needed, rather than dropping safeguards unless they can be proved to be needed, as is often the case.

The "general feeling" is misplaced, and though every one is permitted an opinion, every opinion cannot be the basis for reducing nuclear plant protections. None of the members of the panels which reviewed the DPV/O and this 2.206 petition, including W. Russell, have any training or experience in reliability engineering and, therefore, their unsupported opinions should not constitute an acceptable basis for a reliability argument.

What seems to have happened here is that once again the extent of ignorance has been underestimated and a dangerous conclusion arrived at. It's not what one doesn't know that is the principal obstacle to progress, but the conviction that one knows what one

does not. Perhaps you will have this thought in mind when you write me in your reply to this addendum that it contained no new information.

The J2R response quoted by J. Milhoan in his belated letter to me of March 19, 1996 is incoherent; did they really say this? I think not. Let me elucidate.

"(2) while there is a general feeling that these faults [which faults? a relative pronoun is not relative to the state of mind of the writer, but to the immediately preceding subject or predicate.] do not have a very high probability of occurrence [How high is a high probability of occurrence? You haven't a clue. Is this some of that healthy ambiguity one of my erstwhile NRC section chiefs recommended that I use more often? Is it 1E-3, 1E-4, ... or what? The panel was supposed to be composed of experts, and is paid like experts. Is this all an expert can produce?]

Was the general feeling shared only by members of the panel?, by many experts in reliability engineering?, or by those members of the staff whose careers depend on making this licensee deficiency go away? Among whom does this general feeling exist? How many experts share it? Do they have a basis, or did they, too, have only a gut feeling instead of something from the upper end of the spine? To sum up, a general feeling is no basis for a safety judgement; but that is all you have.

On page 2 of the March 19, 1996 letter telling me of the state of my DPO, cited by W. Russell in his reply to my 2.206 Petition of February 13, 1996, J. Milhoan says that the DPV panel recommended that the licensee response to the deviation [sic] should be formally submitted on the docket; and in the next paragraph Milhoan says, "The NRC staff transmitted such a request [sic] for additional information to Duke Power Company on September 14, 1994. At present, [March 19, 1996] the NRC staff has not yet completed its review of Duke Power's response."

Yet on April 2, 1996, (a day late?) W. Russell wrote, "This specific CNS technical issue was reviewed by the NRR Standing Panel whose review results are documented in the NRC memorandum of July 21, 1994....The July 21 memorandum provides information that supports our conclusion that this issue does not warrant the immediate and urgent actions requested in your Petition."

Nowhere in his letter of April 2nd does W. Russell allude to the not reviewed response to the September 14, 1994 RAI. In it the licensee has tried to make the consequences of not coordinating some safety breakers appear negligible. I will address that licensee submittal, which the staff had not reviewed, as of March 19th, below. Here, however, I want to remark on the strange

circumstance of W. Russell affirming that the Standing Panel report supports his position that nothing needs to be done about the circuit breakers at Catawba, when the SPR recommended that the licensee be asked for the additional information listed by Project Manager R. Martin in his September 14th RAI.

The consequence of W. Russell so doing has to be a loss of confidence in his assurance that the 2.206 petition was properly considered, before being dismissed. It is true that he only says that the SPR "supports" his conclusion, but when a study has been done by the licensee, of which the author of W. Russell's memo seems unaware, his conclusion could not have been supported, in any way, by the information in the RAI response, since the staff had not reviewed it. We are left then with the "general feeling." While Pascal said that, "When we do not know the truth of a thing, it is of advantage that there should exist a common error.", the advantage to the staff is not shared by the public. Then general error is not a substitute for analysis and conservatism; i.e., erring if you do err, on the side of safety, rather than, as you invariably do, on the side of economy, except when prevented by an alarmed public.

Let me end this section by saying, one more time, that a feeling, however general, is no way to resolve a reliability question.

I next address the DPO matter of the argument that the presence of a redundant safety train is grounds for permitting deviations from good or required practice as in the case of the Catawba safety circuit breakers.

On page two of his March 19th letter to C. Morris, J. Milhoan writes, "The panel concluded that: Currently there is no agency policy or criterion that prohibits granting an exemption or... based upon a redundant system or component." It is not true, however, that everything not prohibited is compulsory, and that common sense and prudence, as explained in my Catawba DPV/O, says that the redundant train is provided to cover those unexpected failures that recur and that the redundancy should not be used to permit operations with known deficiencies; e.g., uncoordinated circuit breakers, but instead is part of the basic defense-in-depth philosophy which concedes that when nuclear power plants were first proposed not everything could be foreseen; it still cannot.

In addition, 10 CFR 50 GDC 1 says that the reliability of a system and its components should be commensurate with the importance of the function performed. The staff should not try to take advantage of the layman. As said in the DPV/O, NRC oversights are not a basis for permitting everything not prohibited. It is late to pretend, that the NRC, before the first plant had been built, had anticipated all the contingencies which would arise, as the failure to specifically require

coordinated CB shows. The proper course for the NRC to follow when a defect in the rules is found is to rectify the defect.

The reason for the strange answers to this 2.206 petition may well be what George Orwell described in 1946: "... the great enemy of clear language is insincerity. When there is a gap between one's real and one's declared aims, one turns as it were instinctively to long words and exhausted idioms, like a cuttlefish squirting out ink."

NRC responses to this 2.206 petition are not consistent with Chairman Jackson's program to control exceptions to requirements, which the NRC has granted so liberally over the years, both formally and de facto, without public notice.

Now let this petitioner address the CNS submittal of December 29, 1994 written in reply to PM R. Martin's RAI of September 14, 1994.

"Unreviewed Safety Question Evaluation"

Page 5, par. 4: "Reference 15 indicates that sometimes changes can be made to a plant that may slightly increase the probability of an accident and the changes are still acceptable with respect to 50.59 criteria." No increase is permitted by 50.59, as a revisit of the section will show. However, with all too typical consistency, 10 CFR 50.92 does allow that no significant hazards considerations are involved, if the change would not involve a "significant increase in the probability or consequences of an accident previously evaluated;...." When government clerks are allowed, in the absence of adequate data and an adequate model of plant reliability (not the static PRA) to decide when an increase is significant, what could not be allowed. [fortunately no licensees have intentionally exploited this loop hole, by not evaluating an accident path.]

It is inconsistent to reject this petitioner's position in the original SER written on 18 August 1993, as excessively legalistic and then find in the denial of April 2, 1996 of this 2.206 petition, a legalistic hair-splitting argument regarding what is required in the rules and what is not, so as to cause a reduction of safety systems' reliability, rather than erring in the absence of data, on the side of safety.

I will now pass over defects in this section of the licensee's reply, such as, "The EPE system is not identified as an accident initiator should an uncoordinated fault occur." after one pause, following. Of what possible relevance is this ambiguous sentence? Does a branch fault leading to the loss of an entire bus and, thereby, a division, increase the probability of a CDF?

That should have been the question. A series of assertions follows that the NRC staff, if they were to review this submittal, would have to take on faith; as of the date of Russell's answer to the 2.206, the staff has not even done that.

The staff should not consider affirming the conclusions of a licensee bottom-line submittal an adequate review, however much it may be true that this is pretty much all they can do. A review should be capable of duplicating, if so desired, every line in the submittal and the reviewers should have the PRA and its event trees and the rationale and the verified data used by CNS.

Attachment 2 For 10 CFR 50.59

The procedure, used by CNS in this section, is to assume the loss of that safety equipment that would be lost, if a branch fault led to the loss of a load distribution center, or of an auctioned bus and its loads; and then to calculate the change in CDF. The resultant increase in CDF is said by CNS to be negligible. But this could be so only if the redundant safety division is assumed operative. And so we see why the argument must be resorted to; viz., that one relies on the redundant safety division and why the NRC is adamant with respect to its use in the justification of continued known defects in the EDS.

The position of this petitioner continues to be that the PRA and its incorporated data are not known to represent the actual reliability of any plant and that, therefore, safety train redundancy must be reserved to cover what is not known, but may be revealed, in an accident.

Some characteristics of any complicated system are always unknown before its use; were everything needed to be understood before it could be operated, few systems would be. But the case of the uncoordinated safety breakers is not subject to the circumstance that risk must be taken or no plant would ever be operated, because the designers did anticipate the need for additional safety and therefore committed to providing coordinated circuit breakers so as to minimize the loss of safety equipment if one branch load were to fail. Numerous Event Notices record the simultaneous loss of putatively independent equipment following an accident initiator. It is to deny experience to say that one safety train is completely independent of the other and will therefore be unaffected by the loss of the other.

The calculations, said by the licensee to have been done in answer to the September 14, 1994 RAI, or that much as is shown in the answer in attachment 2 are point values. To compensate for the lack of a known distribution, CNS has done a sensitivity

analysis by assuming that the true breaker fault probability could increase by an order of magnitude. Such a restriction is based on wishful thinking and desperation; one must do something! But one could fix the CB.

Ten Other Licensees With Uncoordinated Breakers

W. Russell in his response of April 2, 1996 to the subject 2.206 Petition wrote, "...regulations... require that the facts that constitute the basis for the request be set forth. However your petition only provides an assertion that uncoordinated breakers may exist in ten unspecified facilities....Because your request related to ten unidentified plants does not meet the standards for treatment under 10 CFR 2.206, no action is being taken."

This petitioner has a capacity for being shocked that matches W. Russell's capacity for shocking; the facts that constitute the basis for the request to shut down the ten plants which had not fixed their uncoordinated breakers since they were identified in EDSFI in 1991 and 1992 are in the EDSFI files under your nose. That this is the basis of my request was described in the attachment dated 21 September 1993 and entitled Catawba Breaker Coordination (TAC M86367,-8) to my 2.206 petition of 13 February 1996. Since no attachments without relevance to it were included in the 2.206 petition, I should be surprised that you didn't read them all; why aren't I?

But to the point: On page 2 of petitioner's memorandum of 21 September 1993 to E. Weiss, quondam S/C, SELB; attached to the 2.206 petition of 13 February 1996, an attentive reader could find, under "PURPOSE", an eye-catching title, the following: "In response to EW instructions to find out how others might have resolved similar coordination problems, CM spoke to project managers for ten nuclear power plants at which EDSFI, in 1991 and 1992, found uncoordinated breakers.

Some plants had made [were said by PM to have made] the necessary changes; others have deferred resolving the breaker coordination issue. CNS appears to be the first plant to argue that they need not change their breakers and would instead change their FSAR."

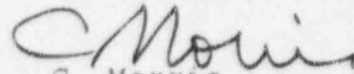
Thus, knowing that the names of the plants were carried in the EDSFI file, and the years in which the inspections were made, the most indifferent staff could have within an hour discovered whether or not the named plants had fixed their safety circuit breakers which had been found uncoordinated. And you, sir, have the innocence to write me that the facts that constitute the basis must be provided. Fie on you! For shame sir! But no doubt the other ten plants are waiting to see how Catawba fares before presenting their own requests for FSAR amendments.

J.M. Taylor (Addendum)

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Since I must, in the interest of public safety, help you to find what you have had all along, I attach a list of the plants and their EDSFI report numbers.

Yours truly,



C. Morris

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Attachment: As stated

cc: S. Jackson, Chairman

22 April 1996

LIST OF NUCLEAR POWER PLANTS WHICH HAD
UNCOORDINATED SAFETY CIRCUIT BREAKERS
AS OF 17 SEPTEMBER 1993
BASED ON EDSFI FINDINGS

<u>PLANT</u>	<u>FINDING NUMBER</u>	<u>DATE</u>
(1) Oyster Creek	219/ 92.80.11	09 July 1992
(2) Nine Mile Point	220/ 91.80.07	10 January 1992
" "	220/ 91.80.07a	" "
" "	220/ 91.80.07b	" "
" "	220/ 91.80.07c	" "
(3) Dresden	237/ 91.208.05	20 September 1991
(4) Quad Cities	254/ 91011.09A	24 June 1991
" "	254/ 91011.09B	24 June 1991
" "	254/ 91011.09C	24 June 1991
(5) Hatch	321/ 91.202.07	22 August 1991
(6) McGuire	369/ 91.09.01	19 February 1991
(7) Fort Calhoun	285/ 9101- 03	20 May 1991
(8) WNP2	397/ 92-01-20	05 May 1992
(9) Beaver Valley	412/ 91.80.02	01 April 1992