

NON-CONCURRENCE PROCESS COVER PAGE

The U.S. Nuclear Regulatory Commission (NRC) strives to establish and maintain an environment that encourages all employees to promptly raise concerns and differing views without fear of reprisal and to promote methods for raising concerns that will enhance a strong safety culture and support the agency's mission.

Employees are expected to discuss their views and concerns with their immediate supervisors on a regular, ongoing basis. If informal discussions do not resolve concerns, employees have various mechanisms for expressing and having their concerns and differing views heard and considered by management.

Management Directive, MD 10.158, "NRC Non-Concurrence Process," describes the Non-Concurrence Process (NCP), <http://nrcweb.nrc.gov:8600/policy/directives/catalog/md10.158.pdf>.

The NCP allows employees to document their differing views and concerns early in the decision-making process, have them responded to (if requested), and attach them to proposed documents moving through the management approval chain to support the decision-making process.

NRC Form 757, "Non-Concurrence Process" is used to document the process.

Section A of the form includes the personal opinions, views, and concerns of a non-concurring NRC employee.

Section B of the form includes the personal opinions and views of the non-concurring employee's immediate supervisor.

Section C of the form includes the agency's evaluation of the concerns and the agency's final position and outcome.

NOTE: Content in Sections A and B reflects personal opinions and views and does not represent official factual representation of the issues, nor official rationale for the agency decision. Section C includes the agency's official position on the facts, issues, and rationale for the final decision.

At the end of the process, the non-concurring employee(s):

- Concurred
- Continued to non-concur
- Agreed with some of the changes to the subject document, but continued to non-concur
- Requested that the process be discontinued

- The non-concurring employee(s) requested that the record be non-public.
- The non-concurring employee(s) requested that the record be public.

- This record is non-public and for official use only.
- This record has been reviewed and approved for public dissemination.

ML17271A438



NON-CONCURRENCE PROCESS

NCP-2017-011
NCP PM 8/24/17

SECTION A - TO BE COMPLETED BY NON-CONCURRING EMPLOYEE

TITLE OF SUBJECT DOCUMENT
IR 05000323/2017008 "Diablo Canyon 95001 Supplemental Inspection"

ADAMS ACCESSION NO
ML17271A431

DOCUMENT SIGNER

Troy W. Pruett

SIGNER TELEPHONE NO

(817) 200-1248

TITLE

Director

ORGANIZATION

Region IV/Division of Reactor Projects

NAME OF NON-CONCURRING EMPLOYEE(S)

Charles Peabody

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TITLE

Sr. Resident Inspector - Palo Verde

ORGANIZATION

RIV/DRP/PBD (on loan to PBA to lead this inspection.)



DOCUMENT AUTHOR



DOCUMENT CONTRIBUTOR



DOCUMENT REVIEWER



ON CONCURRENCE

NON-CONCURRING EMPLOYEE'S SUPERVISOR

Geoff Miller

TITLE

Branch Chief

ORGANIZATION

RIV/DRP/PBD



I WOULD LIKE MY NON-CONCURRENCE CONSIDERED AND WOULD LIKE A WRITTEN EVALUATION IN SECTION B AND C.



I WOULD LIKE MY NON-CONCURRENCE CONSIDERED, BUT A WRITTEN EVALUATION IN SECTIONS B AND C IS NOT NECESSARY

WHEN THE PROCESS IS COMPLETE, I WOULD LIKE THE NCP FORM:



PUBLIC



NON-PUBLIC

REASONS FOR THE NON-CONCURRENCE, POTENTIAL IMPACT ON MISSION, AND THE PROPOSED ALTERNATIVES

(use continuation pages or attach Word document)

See attached Word Document.

SIGNATURE

Charles C. Peabody Jr.

DATE

8/24/2017

**Charles Peabody Non-Concurrence to IR 05000323/2017008
Diablo Canyon 95001 Supplemental Inspection Report**

As the principal inspector for the Diablo Canyon 95001 inspection effort, working the Branch Chief, Sr. Resident Inspector, and Sr. Project Engineer, we reached the conclusion that the licensee met the requirements to pass the inspection and close the white finding, and return the station to the licensee response column of the NRC's Action Matrix. A report was developed and submitted to the Division Director for review. Based on his review of the root cause evaluations, the Director contended that the root causes identified were not fully developed and that the licensee should fail the inspection and re-perform the root cause evaluations.

Based on my complete inspection review, I do not feel that this conclusion is correct. This decision will have real consequences as licensee resources that will be spent re-performing the root cause analysis will be diverted from other initiatives at the station. If the NRC is going to require that the licensee undertake this effort, it is imperative that we have reasonable belief that such an effort will produce meaningful results to ensure that we are performing our role as a regulator in good faith.

It is also apparent that root causes identified and addressed by the licensee meet the definitions of root and contributing causes very well. I acknowledge that the depth of the why questioning is less than normal because this issue is essentially an old design issue. Old design issues challenge the corrective action program in evaluating the issue because it is not indicative of broader current licensee performance. This is further indicated by an absence of realistic missed opportunities to identify and correct the underlying causes prior to the event occurring. Therefore the depth and breadth issues of the cause evaluation is not necessarily a significant weakness in the cause evaluation that would warrant holding open the white finding per the requirements of inspection procedure 95001 section 02.

Station RCE 50870357 reached the conclusion that a significant root cause of the event was an unusual design application of using external limit switches to provide input to the ECCS interlocks. This is an unconventional root cause, it satisfies the definition of a root cause only on a technicality, because if you removed the external limit switches from the design you prevent the event because the failed switch does not exist. However the unusual design element is a pervasive factor in the root cause evaluation process, it keeps coming up and complicating the answers to the why questions and casting doubt on any reasonable likelihood of identifying the problem earlier. While the Namco limit switches are very commonly used in Air Operated Valve applications, their use on Motor Operated Valves, much less as ECCS interlock inputs is very rare, resulting in less vendor attention and operating experience.

Both RCE 50870357 and RCE 50886801 acknowledge that the design control issue had been missed during the Generic Letters 89-10, 96-01, and 96-05 response efforts. However the design control issue is complicated by the fact that these efforts reconstituted and supplanted the design bases. Therefore when the external switches were missed in these efforts, future efforts to reconstitute the design bases could not reasonably be expected to detect that

oversight. These generic efforts were reviewed extensively by industry peers and inspected by the NRC. None of the review efforts at the time identified the omission. These generic letter omissions are not only valid contributor to the event, but they also complicate the cause evaluation process by discounting future opportunities to identify the event prior to its occurrence.

The white finding meets all of the qualifications of IMC 0305 for treatment as an Old Design Issue except for one, it was not licensee identified, and therefore cannot be treated as an Old Design Issue. Unsurprisingly, it maintains many of the nagging attributes that led the NRC to establish the Old Design Issue resolution in the first place: namely it is difficult to address in the corrective action program because it is not necessarily indicative of broader current licensee performance, the long passage of time involved adds uncertainty to the conclusions of the cause evaluation, and there is a marked absence of recent reasonable opportunities to foresee and correct the problem prior to the equipment failure. These factors also predict a relatively shallow cause evaluation, where the more meaningful and actionable causes appear very close to the surface, but then it is difficult to proceed with certainty due to the meager evidence available in the time frame of current licensee performance. The inspector discussed current licensee performance with the Diablo Canyon Sr. Resident inspector and confirmed that there is no current adverse trend in design control at the station.

There was no history of service failures of this external limit switches, and no post maintenance testing issues since 1989. There is nothing that the inspectors could have reasonably construed after the Generic Letters discussed in the design control section above (1996 being the most recent), that would have prompted the licensee to evaluate the affected external limit switch maintenance activities. In other words, in the time frame we are evaluating (ROP years 2000-2013) the licensee has decades of satisfactory component performance with no reasonable indication of a problem. There is no identifiable performance gap, much less a performance deficiency.

There was a previous discussion regarding operating experience missed opportunities in the early 2000s. The operating experience in question if fully evaluated, occurred at a time when none of the external limit switch fingers happened to be misaligned. If a full inspection had been performed it would have reinforced that the people, procedures, and processes the station had been using to maintain this equipment without failure for over two decades was effective, not inadequate. This highlights the Old Design Issue type conundrum that is impeding the cause evaluation. When you postulate potential missed opportunities, but are forced to realize that instead of positively identifying the cause ahead of time, it is much more likely that the opportunity would end up becoming a negative reinforcement of the programs in place at the time because there was no viable evidence of the failure susceptibility given the strong operating track record of the component at the time.

The decision to hold open the white finding is being made solely on what the consideration of an inadequate level of depth in the cause evaluation. That decision will have consequences, and require the licensee to take additional corrective actions. There is an opportunity cost to the

corrective actions resources required to re-perform the evaluation. To justify that cost, the NRC should have a good reason to suspect that the benefits of the additional evaluation will reasonably offset the cost of diverting the resources from other projects. This cost argument is not meant to be taken in the context of fiscal expenses. This cost argument is about ensuring that the NRC is fulfilling its role as a safety regulator in good faith. If the cause re-evaluation pursuit is of little or no final benefit in the corrective action program and we suspected as much upon the outset of our direction to re-perform the analyses, then the NRC will have imposed an undue regulatory burden and would be subject to a loss of stakeholder and public confidence.

Furthermore the apparent lack of depth being used to justify the re-evaluation is not unexpected given the many parallels of this white finding to a, old design issue as defined in IMC 0305. Subsequent root cause efforts can be expected to encounter additional difficulty in proceeding because of the long time frames involved, relatively few missed opportunities and little available evidence because the old design issue is clearly not indicative of broader current licensee performance. For these reasons, the inspector cannot reasonably conclude that further cause evaluation in the corrective action will produce meaningful results.

The causes already identified by the licensee, supervisory oversight, procedural adequacy, and unusual design do satisfy the definition of root cause quite well. Any of the three clearly would have prevented the event from happening. The interlock monitoring and testing cause identified also meets the definition of a contributing cause because it would have identified the failure within three months, instead of eighteen, greatly reducing the exposure time, and thereby mitigating the consequences. These licensee identified root and contributing causes have produced solid corrective actions to prevent recurrence and restored compliance with technical specifications.

The inspector concludes that the licensee's root cause evaluation did meet the requirements of IMC 95001 Section 03.03. The licensee's questioning process appeared to have been conducted until the causes were beyond their control. In this case, the conclusion was reached at a higher than expected level because of the parallels to an old design issue that is not indicative of current licensee performance. However further questioning is hampered by a lack of reasonable opportunities to identify and correct the condition and causes between 1996 and 2013. Furthermore, the problem was evaluated to ensure that other root and contributing causes were not inappropriately ruled out. The evaluation collectively reviewed all root and contributing causes for indications of a more fundamental problems with a process or system. The root cause evaluation properly ensured that correcting the causes would preclude repetition of same and similar problems. The root cause evaluation appropriately considered other possible root causes.

For the reasons summarized here, the depth of the licensees cause evaluation does not constitute a significant weakness of a substantial inadequacy in the evaluation of the root causes per IMC 95001 Section 02. There is no apparent reason to hold open the white finding at this time. The cause evaluation does satisfactorily meet the requirements of IMC 95001 and the white finding should be closed.

NON-CONCURRENCE PROCESS

NCP-2017-011

SECTION B - TO BE COMPLETED BY NON-CONCURRING EMPLOYEE'S SUPERVISOR

TITLE OF SUBJECT DOCUMENT

IR 05000323/2017008 "Diablo Canyon 95001 Supplemental Inspection"

ADAMS ACCESSION NO.

ML17271A431

NAME

Geoffrey Miller

TITLE

Branch Chief

TELEPHONE NUMBER

(817) 200-1173

ORGANIZATION

RIV/DRP/D

COMMENTS FOR THE NCP REVIEWER TO CONSIDER (use continuation pages or attach Word document)

I fully support Mr. Peabody's use of the non-concurrence process. I am not in a position to make an assessment of the specific points raised related to the subject inspection report and defer to the judgment of Mark Haire (DRP/A), since I was not involved in the original issue and have not reviewed the licensee's cause evaluations or related documentation.

I reviewed the draft inspection report and determined it did not provide sufficient basis to support the conclusion that the licensee's evaluation lacked sufficient depth and breadth. Specifically, the report did not provide enough information for an informed reader to determine what was lacking from the licensee's evaluation. I provided this observation to the cognizant branch chief and the document signer.

SIGNATURE



DATE

8/30/17

NON-CONCURRENCE PROCESS

NCP-2017-011

SECTION C - TO BE COMPLETED BY NCP COORDINATOR

TITLE OF SUBJECT DOCUMENT

IR 05000323/2017008 "Diablo Canyon 95001 Supplemental Inspection"

ADAMS ACCESSION NO.

ML17271A431

NAME

Troy Pruett

TITLE

DRP Director

TELEPHONE NUMBER

(817) 200-1248

ORGANIZATION

Region IV

AGREED UPON SUMMARY OF ISSUES (use continuation pages or attach Word document)

Mr. Peabody's formal nonconcurrency described two primary areas of concern, which were confirmed with Mr. Peabody on September 1, 2017:

1. The NRC must have a reasonable belief that additional root cause evaluation will produce meaningful results.
2. The evaluation of the licensee's root cause efforts should be treated analogous to an old design issue.

EVALUATION OF NON-CONCURRENCE AND RATIONALE FOR DECISION (use continuation pages or attach Word document)

See attached document.

TYPED NAME OF NCP COORDINATOR

Troy Pruett

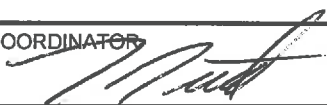
TITLE

DRP Director

ORGANIZATION

Region IV

SIGNATURE--NCP COORDINATOR



DATE

9/22/17

TYPED NAME OF NCP APPROVER

Troy Pruett

TITLE

DRP Director

ORGANIZATION

Region IV

SIGNATURE--NCP APPROVER



DATE

9/22/17

I want to thank Mr. Peabody for his use of both the informal and formal nonconcurrency processes to ensure his viewpoints are understood as part of the decision making process. Multiple conversations were held with Mr. Peabody prior to the submittal of the formal nonconcurrency. The basis for the decision to hold the White finding open pending additional root cause evaluation by the licensee fully considered Mr. Peabody's concerns presented during the informal nonconcurrency phase.

Mr. Peabody's formal nonconcurrency describes two primary areas of concern, which were confirmed with Mr. Peabody on September 1, 2017:

1. The NRC must have a reasonable belief that additional root cause evaluation will produce meaningful results.
2. The evaluation of the licensee's root cause efforts should be treated analogous to an old design issue.

I. NRC must believe additional root cause evaluation will have meaningful results

Mr. Peabody is correct in that the results of additional root cause analysis might not produce a substantial benefit to the licensee's performance improvement efforts. However, the NRC cannot predict what the outcome of a properly performed root cause evaluation might contribute to performance improvement. The decision to hold the White finding open is a function of the licensee's failure to fully evaluate the causes for the performance deficiency. Inspection Procedure 95001, Section 02.02.b requires the NRC to determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem. Guidance provided in Section 03.03.b has the NRC determine, in part, that the questioning process appeared to have been conducted until the causes were beyond the licensee's control and that the problem was evaluated to ensure that other root and contributing causes were not inappropriately ruled out due to assumptions made as a part of the analysis.

The NRC identified performance deficiency involved the failure of the licensee to have adequate procedures for maintenance and testing of externally mounted limit switches. The Notice of Violation (NOV) was for the failure to have adequate procedures. The NOV instructed the licensee to evaluate the reasons for the violation (reasons for having inadequate procedures). The licensee performed two root cause evaluations which identified the following causes:

1. Electrical Maintenance MOV leadership was not ensuring that workers were performing procedures as written.

The licensee did not question why leadership at Diablo Canyon did not provide oversight of temporary outage workers. As a result, additional factors within the control of the licensee were not fully evaluated (e.g., adequacy of: measurement tools, interfaces between licensee and contractor organizations, training of temporary workers, expectations for leaders, roles and responsibilities of leaders, site policies for oversight of the workforce, schedule impacts on leadership tasks, understanding of risk significant work activities, anticipation of failures, and more).

2. Guidance for determining Maintenance Verification Testing work instructions in the electrical maintenance procedure writing process was not sufficient.

The licensee did not question why the procedure was inadequate. Essentially, the licensee concluded the reason for the NOV involving inadequate procedures was having an inadequate procedure. As a result, additional factors within the control of the licensee were not fully evaluated (e.g., adequacy of: measurement tools, interfaces between organizations, training of staff, expectations for leaders, roles and responsibilities of leaders and the workforce, site policies for oversight of the workforce and procedure development, schedule impacts on review of maintenance instructions, understanding of risk significant work activities, anticipation of failures, and more).

3. The use of the external limit switches for safety-related interlocks was an unusual, non-standard design feature of the emergency core cooling system (ECCS) at Diablo Canyon which resulted in a failure mechanism that was not immediately recognizable.

The use of externally mounted limit switches is a common practice. How the licensee uses the electrical output once the limit switch makes contact is a licensee specific decision. Diablo Canyon decided to use the electrical output as part of a risk significant interlock feature. The licensee is then required to develop procedures and instructions to incorporate the design into plant activities as part of the design control process. The use of this type of design is not a cause for having failed to develop adequate procedures.

4. The external limit switch was not identified as requiring additional post-maintenance testing to verify proper operation.

The licensee did not sufficiently question why testing requirements were not identified for the limit switches. The licensee failed to assess why numerous opportunities did not result in an adequate test program (several generic letters, plant specific operating experience, industry operating experience, revisions to the procedure writer's guide, and development and review of numerous work order packages on the affected components).

As a result of the lack of questioning by the licensee, the NRC concluded that the root cause evaluations were not conducted to a level of detail commensurate with the significance of the problem. Consequently, the licensee likely missed the organizational and programmatic concerns that provide the reasons for the NOV.

II. The root cause effort should be treated as analogous to an old design issue

Mr. Peabody believed that the depth of the licensee's root cause evaluation should take into consideration factors that are analogous to an old design issue. As a result of the nonoccurrence, the old design criteria and associated guidance were evaluated for consideration regarding the depth and breadth of the licensee's root cause evaluation.

Inspection Procedure 95001, Section 02.05 provides guidance on review of old design issues. This section of the procedure is implemented when the licensee has requested credit for self-identification of an old design issue and when sufficient information was not previously available to allow the NRC staff to determine whether the finding met the old design issue criteria. Manual Chapter 0305 allows credit to be given to licensees for self-identification of certain old design issues, such as those pertaining to engineering calculations, engineering analyses, associated operating procedures, or plant equipment installations. In such cases, the inspectors

should evaluate whether the performance issue meets the criteria in Manual Chapter 0305 to determine if the issue is an old design issue.

The licensee never requested the issue be treated as an old design issue. Additionally, the NRC never believed the old design criteria had been satisfied as part of the deliberative process to issue the White finding. Old Design Issue is defined as, "An inspection finding involving a past design-related problem in the engineering calculations or analyses, the associated operating procedure, or installation of plant equipment that does not reflect a performance deficiency associated with existing licensee programs, policy, or procedures." To be considered an old design issue the deficiency must meet all of the following criteria:

1. It was licensee-identified as a result of a voluntary initiative, such as a design basis reconstitution. For the purposes of Manual Chapter 0305, self-revealing findings, which are defined in Manual Chapter 0612, are not considered to be licensee-identified.

The deficiency does not meet this criteria because the valve failure was self-revealed and because the NRC identified the scope of inadequate procedures. Additionally, the licensee missed an opportunity to identify the concern during a design basis review effort (Licensing Basis Verification Project). The licensee also failed to question why prior opportunities did not successfully identify and resolve the deficiency prior to the valve's failure.

2. It was or will be corrected, including immediate corrective actions and long-term comprehensive corrective actions to prevent recurrence, within a reasonable time following identification (this action should involve expanding the initiative, as necessary, to identify other failures caused by similar root causes). For the purpose of this criterion, identification is defined as the time when the significance of the finding is first discussed between the NRC and the licensee. Accordingly, issues being cited by the NRC for inadequate or untimely corrective action are not eligible for treatment as old design issues.

Following the self-revealing failure, the licensee restored the functionality of the valve. The licensee did not question the reasons for having inadequate procedures; therefore, the NRC was unable to conclude that the licensee had identified all appropriate causes. Because some causes have yet to be identified, the NRC was unable to conclude all appropriate corrective actions have been developed.

3. It was not likely to be previously identified by recent ongoing licensee efforts, such as normal surveillance, quality assurance activities, or evaluation of industry information.

The deficiency does not meet this criteria. The licensee had numerous opportunities to determine an adequate test program did not exist (several generic letters; plant specific operating experience; industry operating experience; the Licensing Basis Verification Project; revisions to the procedure writer's guide; and development, review, and approval of numerous work order packages on the affected components). The licensee failed to question why prior opportunities did not successfully identify and resolve the deficiency prior to the valve's failure.

4. It does not reflect a current performance deficiency associated with existing licensee programs, policy, or procedure.

The deficiency does not meet this criteria. As noted in the licensee's root cause evaluations, current performance deficiencies existed with respect to management oversight of work activities, a deficient procedure writer's guide, and deficient work instructions. The licensee did not perform a root cause evaluation to a level of detail commensurate with the significance of the problem because the questioning process was not conducted until the causes were beyond the licensee's control and the problem evaluation did not ensure that other root and contributing causes did not exist.

In conclusion, the NRC's determination that the White finding should remain open pending further root cause evaluation by the licensee is the correct determination.

The Part B reviewer, Geoff Miller, indicated the report needed additional narrative to support the conclusion that the White finding should be held open because the root cause evaluation lacked breadth and depth. Accordingly, the report details were expanded to include an enhanced basis for the conclusion to hold the White finding open.