DPO Case File for DPO-2017-010

The following pdf represents a collection of documents associated with the submittal and disposition of a differing professional opinion (DPO) from an NRC employee involving a Cooper Nuclear Station Problem Identification and Resolution Inspection.

Management Directive (MD) 10.159, "NRC Differing Professional Opinions Program," describes the DPO Program. https://www.nrc.gov/docs/ML1513/ML15132A664.pdf

The DPO Program is a formal process that allows employees and NRC contractors to have their differing views on established, mission-related issues considered by the highest level managers in their organizations, i.e., Office Directors and Regional Administrators. The process also provides managers with an independent, multi-person review of the issue (one person chosen by the employee). After a decision is issued to an employee, he or she may appeal the decision to the Executive Director for Operations (or the Commission, for those offices that report to the Commission).

Because the disposition of a DPO represents a multi-step process, readers should view the records as a collection. In other words, reading a document in isolation will not provide the correct context for how this issue was reviewed and considered by the NRC.

It is important to note that the DPO submittal includes the personal opinions, views, and concerns by NRC employees. The NRC's evaluation of the concerns and the NRC's final position are included in the DPO Decision.

The records in this collection have been reviewed and approved for public dissemination.

Document 1: DPO Submittal
Document 2: Memo Establishing DPO Panel
Document 3: DPO Panel Report
Document 4: DPO Decision

Document 1: DPO Submittal

NRC FORM 680
(09-2015)
NRCMD 10.159

U.S. NUCLEAR REGULATORY COMMISSION

DIFFERING PROFESSIONAL OPINION

DPO Case Number: DPO-2017-010

Date Received: 10/31/2017

Name and Title of Submitter	Organization	Telephone Number (10 numeric digits)
TROY PRUETT DRP DIRECTOR	RIV	817 200 1248
Name and Title of Supervisor	**Organization**	**Telephone Number (10 numeric digits)**
KRISS KENNEDY RA	RIV	817 200 1225

When was the prevailing staff view, existing decision or stated position established and where can it be found?

Date 8/17/2017 Where (i.e., ADAMS ML#, if applicable): ML17219A742

Subject of DPO

FINDINGS IN REPORT 05000298/2017-010

Summary of prevailing staff view, existing decision, or stated position. (Use continuation pages or attach Word document) SEE ATTACHED

Reason for DPO, potential impact on mission, and proposed alternatives. (Use continuation pages or attach Word document) SEE ATTACHED

Do you believe the issue represents an immediate pubic health and safety concern?	[X] No	[ ] Yes, (Explain on continuation page(s) or attach Word document).
Is the issue directly relevant to a decision pending before the Commission?	[X] No	[ ] Yes, Reference Document (i.e., ADAMS ML#)
[ ] Informal discussions took place (Identify with whom and time frame of discussions) TONY VEGEL, 8/14/2017 (No Action) SCOTT MORRIS, 8/14/2017 (No Action)		[ ] Extenuating circumstances prevented informal discussions

Proposed panel members are (in priority order):

1. KEN OBRIEN, R3
2. JACK GIESSNER, R3
3. WILLIAM JONES, R2

[ ] No names of potential panel members will be provided.

When the process is complete, I would like the DPO case file: [ ] Non-Public [X] Public

SIGNATURE OF SUBMITTER	DATE
	10/31/17
SIGNATURE OF CO-SUBMITTER (If any)	**DATE**

SCAN THE SIGNED AND DATED FORM (INCLUDE ANY CONTINUATION PAGES OR WORD DOCUMENTS) AND E-MAIL TO: DPOPM.Resource@nrc.gov

SIGNATURE OF DPO PROGRAM MANAGER	DATE
Renée Pedersen	11/7/2017

Delete Continuation Page [X] DPO accepted [ ] DPO returned Add Continuation Page

CNS PIR Report Findings

I. Criterion XVI for failure to assign actions to prevent recurrence

This issue is associated with Allen Bradley relays. The report describes an infant mortality due to a manufacturing defect that was not identified by a third party vendor doing a commercial grade dedication for CNS.

Concerns:

1. The report does not described if CNS provided Appendix B oversight or if the third party is an Appendix B supplier (Vendor). Which company provided the Appendix B oversight is relevant to the dispositioning of the finding.
   A. If the third party has a program then this is a vendor branch issue for the failure to have adequate test programs for commercial grade dedication (if a vendor – was HQ informed?).
   B. If CNS has the program, then they needed to assure corrective actions were implemented to provide adequate oversight of contractors working for CNS. This line of corrective actions is missing from the report.
2. The report states that corrective actions were not sustainable. There is no regulatory requirement for discrete corrective actions to be sustainable. The requirement is for CA's associated with a SCAQ to preclude recurrence. No recurrence of testing leading to a failed relay has occurred. Additionally, the CA implemented by CNS was still in effect at the time of the inspection.
3. Given the above, this finding should be retracted from the report.

II. Failure to provide timely operability evaluations.

This issue is associated with a RG 1.33 violation for untimely Op Evals. CNS has an administrative procedure suggesting Op Evals be completed in a single shift.

Concerns:

1. For the 2 specific examples provided there is no discussion on the acceptably of the licensee's Op Eval decision.
2. For the 2 specific examples provided the Op Evals appear to have been completed within the TS LCO timeframe.
3. The NRC's is with the quality of the Op Eval decision, not the timeliness of the decision. CNS could be at risk for Op Eval decisions that are protracted that lead to a TS entry condition.
4. The timeliness issue is a good observation.
5. Given the above, this finding should be retracted. At most, the issue is a minor violation of a licensee administrative control program that had no impact on implementation of TS's.

III. Programmatic failure to identify adverse trends.

This issue involves the licensee not identifying several discrete technical issues as an adverse trend.

Concerns:

1. The report does not described why the issue is programmatic. This type of language is inflammatory and should be used when a thorough description of numerous failed barriers exists.
2. While the report describes several examples where discrete technical issues should be identified as a trend, no narrative exists to describe adverse consequences from the failure to identify trends.
3. All of the discrete examples appear to represent CAQs and were identified by CNS. Therefore, the CA's only needed to address the discrete CAQ.
4. The report states CNS failed to address an adverse trend in organizational behaviors. None of the report narrative supports this conclusion.
5. The enforcement paragraph uses an "indefinite" time period. Specific time periods need to be used in enforcement language.
6. Trends are not an adverse condition per Appendix B. What failed as a result of not implementing CAs for the "trends".
7. Given the above, this finding should be retracted. At most, the finding represents the failure to implement an administrative control described in CNS procedures. Since no consequences were described in the report, the concern is minor, at most.

IV. Maintenance rule violation

This issue involves the failure to classify jacket water heater malfunctions as a MRFF for the EDG.

Concerns:

1. EDGs do not need jacket water heaters to operate. The EDG would have continued to auto start and perform its safety function at the time the jacket water heater failed.
2. The report describes a concern involving a lack of specified maintenance for jacket water heaters. However, this concern was not developed in the report.
3. The licensee allowed the jacket water temperature to lower following the heater failure. The licensee could have ran the EDG to maintain temperature. However, the licensee elected to declare the EDG inoperable to complete heater replacement.
4. Given the above, this finding needs to be retracted. Additional review needs to be completed to understand the lack of maintenance for the jacket water heaters.

V. Part 21 procedures

This issue involves the failure to have adequate procedures for making Part 21 decesions.

Concerns:

1. No findings associated with a failure to report are described in the report.

2. See remarks regarding Item I above.
3. The relay in question is installed equipment. The report does not indicate if the licensee had similar components as spares in storage. The review was ongoing at the time of report issuance.
4. The report does not indicate if CNS provided the Appendix B oversight or not. If CNS provided Appendix B oversight, then this is not a Part 21 concern. This is an issue with CNS's commercial grade dedication process.
5. Confusion within industry and the NRC exists regarding what constitutes a substantial safety hazard. The report confuses what safety function is addressed by Part 21 for this condition. Is it the narrow loss of HPCI injection or the broader maintain vessel level? I have concerns regarding the team's conclusion that HPCI alone meets the SSH threshold.
6. The inspectors concluded the condition was reportable, yet there is not missed reporting finding. Additionally, the review work to determine whether the condition should have been reported was ongoing. Therefore, the NRC could not conclude reporting was inadequate.
7. Given the above, this finding should be retracted.

Document 2: Memo Establishing DPO Panel

November 27, 2017

MEMORANDUM TO: Joel T. Munday, Panel Chairperson
Region II

Chris G. Cahill, Panel Member
Region I

Mark J. Marshfield, Panel Member
Office of Enforcement

THRU: Anne T. Boland, Director ***/RA/ by JPeralta for/***
Office of Enforcement

FROM: Renée M. Pedersen ***/RA/***
Sr. Differing Professional Views Program Manager
Office of Enforcement

SUBJECT: AD HOC REVIEW PANEL - DIFFERING PROFESSIONAL OPINION ON A COOPER PROBLEM IDENTIFICATION RESOLUTION INSPECTION REPORT (DPO-2017-010)

In accordance with Management Directive (MD) 10.159, "The NRC Differing Professional Opinion Program;" and in my capacity as the Differing Professional Opinion (DPO) Program Manager; and in coordination with Anne Boland, Director, Office of Enforcement, Kriss Kennedy, Regional Administrator, Region IV; and the DPO submitter; you are being appointed as members of a DPO Ad Hoc Review Panel (DPO Panel) to review a DPO submitted by an U.S. Nuclear Regulatory Commission (NRC) employee.

The DPO (Enclosure 1) involves five findings/Non-Cited Violations (NCVs) in a Cooper problem identification resolution inspection report. The DPO has been forwarded to Mr. Kennedy for consideration and issuance of a DPO Decision.

CONTACTS: Renée Pedersen, OE
(301) 287-9426

Gladys Figueroa-Toledo, OE
(301) 287-9497

The DPO Panel has a critical role in the success of the DPO Program. Your responsibilities for conducting the independent review and documenting your conclusions in a report are addressed in the handbook for MD 10.159 in Section II.F and Section II.G, respectively. The DPO Web site also includes helpful information, including interactive flow charts, frequently asked questions, and closed DPO cases, including previous DPO Panel reports. We will also be sending you additional information that should help you implement the DPO process. Because this process is not routine, we will be meeting and communicating with all parties during the process to ensure that everyone understands the process, goals, and responsibilities.

Disposition of this DPO should be considered an important and time sensitive activity. The timeliness goal for issuing a DPO Decision is 120 calendar days from the day the DPO is accepted for review. In this case, the DPO was accepted for review on November 7, 2017. The timeliness goal for issuing this DPO Decision is March 7, 2018.

Process Milestones and Timeliness Goals for this DPO are included as Enclosure 2. The timeframes for completing process milestones are identified strictly as goals—a way of working towards reaching the DPO timeliness goal of 120 calendar days. The timeliness goal identified for your DPO task is 75 calendar days from the date of this memorandum (February 10, 2018).

Although timeliness is an important DPO Program objective, the DPO Program also sets out to ensure that issues receive a thorough and independent review. The overall timeliness goal should be based on the significance and complexity of the issues and the priority of other agency work. Therefore, if you determine that your activity will result in the need for an extension beyond the overall 120-day timeliness goal, please send an e-mail to Mr. Kennedy with a copy to DPOPM.Resource@nrc.gov and include the reason for the extension request and a proposed completion date for your work and a proposed timeliness goal for issuance of a DPO Decision. Mr. Kennedy is responsible for subsequently forwarding the request for a new DPO timeliness goal to the EDO for approval.

An important aspect of our organizational culture includes maintaining an environment that encourages, supports, and respects differing views. As such, you should exercise discretion and treat this matter appropriately. Documents should be distributed on an as-needed basis. In an effort to preserve privacy, minimize the effect on the work unit, and keep the focus on the issues, you should simply refer to the employees as the DPO submitters. Avoid conversations that could be perceived as “hallway talk” on the issue and refrain from behaviors that could be perceived as retaliatory or chilling to the DPO submitters or that could potentially create a chilled environment for others. It is appropriate for employees to discuss the details of the DPO with their co-workers as part of the evaluation; however, as with other predecisional processes, employees should not discuss details of the DPO outside the agency. If you have observed inappropriate behaviors, heard allegations of retaliation or harassment, or receive outside inquiries or requests for information, please notify me or Gladys.

On an administrative note, please ensure that all DPO-related activities are charged to Activity Code ZG0007.

We appreciate your willingness to serve and your dedication to completing a thorough and objective review of this DPO. Successful resolution of the issues is important for NRC and its stakeholders. If you have any questions or concerns, please feel free to contact me or Gladys.

We look forward to receiving your independent review results and recommendations.

Enclosures:
1. DPO-2017-010
2. Process Milestones and Timeliness Goals

cc:
K. Kennedy, RIV
S. Morris, RIV
T. Pruett, RIV
B. Welling, RI
J. Peralta, OE
A. Boland, OE
G. Figueroa-Toledo, OE

SUBJECT: AD HOC REVIEW PANEL - DIFFERING PROFESSIONAL OPINION ON A COOPER PROBLEM IDENTIFICATION RESOLUTION INSPECTION REPORT (DPO-2017-010) DATE: November 27, 2017

ADAMS Package: ML17331B097
MEMO: ML17331B104
Enclosure 1 – ML17311A564
Enclosure 2 – ML17331B151 OE-011

OFFICE	OE: DPO/PM	OE: DPO/PM	OE: D
NAME	GFigueroa	RPedersen	ABoland */RA/ by JPeralta for/*
DATE	11/ 27 /2017	11/ 27 /2017	11/ 27 /2017

OFFICIAL RECORD COPY

Document 3: DPO Panel Report

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

April 13, 2018

MEMORANDUM TO: Kriss M. Kennedy, Regional Administrator
Region IV

FROM: Joel T. Munday, DPO Panel Chair ***/RA/***
Chris G. Cahill, DPO Panel Member ***/RA/***
Mark J. Marshfield, DPO Panel Member ***/RA/***

SUBJECT: DIFFERING PROFESSIONAL OPINION PANEL REPORT ON COOPER PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT (DPO-2017-010)

In a memorandum dated November 27, 2017, we were appointed as members of a Differing Professional Opinion (DPO) Ad Hoc Review Panel (Panel) to review a DPO regarding a Cooper Nuclear Station Problem Identification and Resolution Inspection (Inspection Report 05000298/2017010; ADAMS Accession No. ML17219A742). The Panel conducted the review in accordance with the guidance in Management Directive 10.159, "The NRC Differing Professional Opinion Program." The scope of the review was limited to the five issues identified in the DPO, as clarified in the Statement of Issues, which essentially involved interpretation of NRC requirements and guidance. The Panel evaluated the issues through interviews of knowledgeable NRC staff and managers and a review of various documents, including Agency and licensee records and procedures.

It was the Panel's intent to identify the Agency position for each of the five issues being evaluated. However, the Panel found this review to be challenging, in part, due to lack of clarity in guidance, and in the end had to rely on its best efforts in drawing conclusions for the issues. As a result, in addition to the Panel's conclusions, recommendations are being offered suggesting development of clarifying guidance in several areas. After considerable review effort, the Panel disagreed, at least in part, with the conclusions documented in the Cooper Nuclear Station Problem Identification and Resolution Inspection Report for four of the five findings. The Panel's report is enclosed for your consideration in issuing a DPO decision.

Please do not hesitate to contact us if you have any questions regarding the enclosed report.

Enclosure:
DPO Panel Report

cc: A. Boland, OE
G. Figueroa-Toledo, OE
T. Pruett, RIV/DRP

CONTACT: J. Munday, RII/DRP
404-997-4500

SUBJECT: DIFFERING PROFESSIONAL OPINION PANEL REPORT ON COOPER PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT (DPO-2017-010) April 13, 2018

ADAMS Accession No. ML18102A038

OFFICE	OE/EB	RI/DRS	RII/DRP		
NAME	MMarshfield	CCahill	JMunday		
DATE	4/11/2018	4/11/2018	4/12/2018		

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Differing Professional Opinion (DPO)
On a Cooper Problem Identification and Resolution Inspection Report
(DPO-2017-010)

DPO Panel Report

/RA/
Joel T. Munday, Panel Chair

/RA/
Chris G. Cahill, Panel Member

/RA/
Mark J. Marshfield, Panel Member

Date: **April 13, 2018**

Introduction

The Differing Professional Opinion (DPO-2017-010) was received on October 31, 2017. The issues in the DPO involved five findings documented in a Cooper Problem Identification and Resolution Inspection Report (05000298/2017-010). A memorandum from the Differing Professional Opinion Program Manager, Office of Enforcement, establishing the DPO Panel (Panel) was issued on November 27, 2017. The memorandum tasked the Panel with conducting an independent review of the issues in accordance with Management Directive (MD) 10.159, "The Differing Professional Opinion Program."

The Panel met with the submitter on December 21, 2017, and established a concise statement of the submitter's issues (see below). The submitter approved the Statement of Issues on January 3, 2018. During the course of its review, the Panel interviewed the DPO submitter on several occasions, conducted numerous NRC and Cooper Nuclear Station document reviews, and interviewed staff from multiple NRC Offices and Region IV, including the Cooper Problem Identification and Resolution Team Leader, Branch Chief, and Deputy Division Director for the subject Inspection Report.

As stated above, the finding and opinions of this panel were derived from the available information and NRC staff interviews. The panel recognizes that these types of team inspections are dynamic with thoughtful interactions occurring between the team and the licensee to develop an assessment of the inspection objectives and finding development. It should be expected that an in-office review of issues such as these after significant period of time has passed could result in different outcomes. It is worth noting that for all of these issues, the licensee did not contest the characterization of the inspection team's findings.

Summary of Issues (SOI)

Based on a review of the DPO submittal and associated references, and an interview with the submitter, the following issues were identified by the Panel:

Five findings identified in NRC Problem Identification and Resolution Inspection Report 05000298/2017010 (Cooper Nuclear Station) should be retracted. Specifically:

1. "Failure to Assign Corrective Actions to Prevent Recurrence of High Pressure Coolant Injection Failure" (Green NCV) against 10 CFR Appendix B, Criterion XVI

    - The report did not sufficiently describe what party was responsible for the Appendix B oversight.
    - There is no regulatory requirement for corrective actions to be sustainable for a condition adverse to quality.
    - Corrective actions implemented by the licensee were in effect at the time of the inspection.
    - The 10 CFR 50 Appendix B, Criterion XVI non-cited violation (NCV) for failure to assign action to prevent recurrence should be retracted.
    - The issue, at best, is a licensee administrative control requirement and not a regulatory requirement.

2. "Failure to Provide Timely Operability Evaluations" (Green NCV) against Technical Specification (TS) 5.4.1.a

- The examples cited do not address the acceptability of the evaluations.
- The example evaluations appear to be completed within the TS allowable outage time.
- At most, the issue is a minor finding of self-imposed administrative requirement and has no impact on the implementation of the TS.
- The violation associated with issue should be retracted. The NRC does not have requirements for "timely" completion of an operability determination. As such, a violation cannot exist.

3. "Programmatic Failure to Identify Adverse Trends" (Green NCV) against 10 CFR 50 Appendix B, Criterion XVI

   - Programmatic language is inflammatory and should be used when numerous examples can be cited. The report identifies only three examples over an indeterminate time period (see below):
     - Numerous digital rod position indication failures, traversing in core probe ball valve (PCIVs) failures, and momentary losses of annunciator panels occurred which did not result in loss of functionality.
   - No adverse consequences were identified from the adverse trends identified in this report, so limited justification exists to identify a programmatic failure that is more than minor.
   - Examples presented are licensee-identified CAQs which, therefore, only require the discrete CAQ to be addressed.
   - Report states that an "adverse trend in organizational behaviors" exists, but there is no report narrative to support this conclusion in the analysis section.
   - The enforcement paragraph cites an indefinite time period contrary to NRC norms.
   - Failure to trend is not required by Appendix B and nothing failed as a result. At most, this is a failure to implement an administrative control described in CNS procedures.
   - "Trends" are not conditions adverse to quality as defined in Part 50.

4. "Failure to Monitor No. 2 Diesel Generator under 50.65(a)(1) due to Inadequate Maintenance Rule Evaluation" (Green NCV) against 10 CFR 50.65(a)(1)(a)(2)

   - The EDG did not need the jacket water heater to operate and could have auto-started and performed its safety function at the time the heater failed.
   - Report describes a concern involving a lack of specified maintenance for the jacket water heaters, but there was no report narrative developing the issue.
   - Although the licensee could have started the EDG to maintain appropriate temperature, they elected to remove the EDG from service to perform repairs on the jacket water heater.
   - The violation associated with issue should be retracted.

5. "Failure to adopt appropriate procedures in accordance with 10 CFR 21" (SL-IV) against 10 CFR 21.21(a)
   - Failure to report is not the deficiency identified. Why?
   - If it is just procedural, why is it more than minor?
   - Report does not describe what entity is responsible for the equipment being deficient (i.e., infant failure prone). (The manufacturer made a Part 21 report after this report was issued?)
   - The relay was installed equipment not on a shelf or in pre-use test, and there is no information on stock spares or other usage by the licensee. Why not?

- Was the dedication process CNS responsibility or not?
- Is loss of HPCI a substantial safety hazard or not? This is key. (Report cites "NRC Headquarters Staff" said it is? What was the basis for that conclusion?) Does the NRC have written guidance on when a substantial safety hazard exists? In this instance, level control was still feasible (no loss of safety function).
- Inspectors concluded that the issue was reportable but don't cite against that? Why is that? Review work to determine reportability was ongoing when the inspection was concluded so how could we conclude as we did?
- Even if reportable, the concern would be referred to the vendor, who would then have the opportunity to report. Therefore, it cannot be a licensee failure.

Evaluation of Issues

Issue 1:

"Failure to Assign Corrective Actions to Prevent Recurrence of High Pressure Coolant Injection Failure" (Green NCV) against 10 CFR Appendix B, Criterion XVI, DPO concerns:

- The report did not sufficiently describe what party was responsible for the Appendix B oversight.
- There is no regulatory requirement for corrective actions to be sustainable for a condition adverse to quality.
- Corrective actions implemented by the licensee were in effect at the time of the inspection.
- The 10 CFR 50 Appendix B, Criterion XVI non-cited violation (NCV) for failure to assign action to prevent recurrence should be retracted.
- The issue is, at best, a licensee administrative control requirement and not a regulatory requirement.

Evaluation Issue 1:

The Panel reviewed a Green, non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, which was identified for the licensee's failure to assign corrective actions to preclude repetition (CAPRs) of a significant condition adverse to quality associated with the loss of the high pressure coolant injection system. The Panel discussed aspects of this issue with the Cooper Problem Identification and Resolution Team Leader, responsible branch chief and numerous regional and headquarters corrective action and enforcement subject matter experts (SMEs). Additionally, the Panel reviewed 10 CFR 50 Appendix B, Criterion XVI, as well as station procedures, condition reports and root cause analysis, listed below, to better understand the issue.

- 0-CNS-LI-102, Corrective Action Process, Revision 3
- 0-CNS-LI-118, Cause Evaluation Process, Revision 0
- EN-LI-118, Cause Evaluation Process, Revision 22
- QS-2016-CNS-012, Surveillance Report Follow-up for CR-CNS-2016-02281
- CR-CNS-2016-02281, HPCI AUX. LUBE OIL PUMP Found De-energized
- CR-CNS-2016-02281, HPCI AUX. LUBE OIL PUMP Found De-energized, Revision A
- CR-CNS-2017-03544, CAPR Not Specified

The inspection report states that contrary to the requirements of 10 CFR 50 Appendix B, Criterion XVI:

> …in the case of a significant condition adverse to quality associated with HPCI, the measures did not assure that the cause of the condition was determined and corrective action taken to preclude repetition.

However the inspection report also indicates that the licensee did identify the cause of the condition, specifically:

> The licensee initiated a root cause evaluation (RCE) under Condition Report CR-16-02281 to determine the cause of the condition. Investigation revealed that an Allen-Bradley 700DC relay for the ALOP that had been installed during a maintenance window 6 days earlier had failed due to infant mortality. Specifically, the relay coil internal to the relay had failed after approximately 133 hours of service. The failure was attributed to the overheating of the coil windings, caused by a manufacturing defect. The licensee's root cause evaluation found that the commercial grade dedication process used by the Nutherm vendor did not have sufficient checks to identify the infant mortality failure of the relay.

Additionally, according to the inspection report, the licensee did undertake corrective actions to preclude repetition. These included changes to the dedication plan to identify infant mortality issues by cycling the relays 30 times, measuring resistance across the relay coils, and testing for dielectric strength of the relays.

The licensee's procedures require that for significant conditions adverse to quality (SCAQ), the station needs to implement corrective actions to preclude repetition (CAPR). The Panel determined that because historical performance of the relay identified no issues, additional actions implemented during the qualification process represented reasonable measures to prevent repetition. Further, the Panel concluded that the performance deficiency was more appropriately a licensee procedural compliance issue, not a failure to preclude repetition of a SCAQ as required by 10 CFR 50 Appendix B, Criterion XVI.

As to the specifics of the DPO:

- *The report did not sufficiently describe what party was responsible for the Appendix B oversight.*

  Response – The procurement and dedication was described in section 4OA2.5.e of the report. The parts in question were originally manufactured as commercial grade. Cooper Nuclear Station (CNS) purchased them from Nutherm who performed the commercial grade dedication under their 10 CFR 50 Appendix B program utilizing a dedication plan specified by CNS in the purchase order. The licensee's root cause evaluation found that the commercial grade dedication process used did not have sufficient checks to identify the infant mortality failure of the relay.

- *There is no regulatory requirement for corrective actions to be sustainable for a condition adverse to quality.*

  Response – 10 CFR 50 Appendix B requires that for significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective actions taken to preclude repetition.

  The licensee addresses sustainability in QAPD related procedure Cause Evaluation Process, EN-LI-118. Specifically, with respect to sustainable corrective actions it states:

  - In section 4, for the responsible manager it states, in part, "For RCE, ensure corrective actions to preclude repetition (CAPR) are sustainable."
  - In section 9, for Corrective Action Development Plan it states, in part, that CAPRs should "Clearly result in long-term corrections and be sustainable." Additionally "once the corrective actions are developed, review to ensure that the plan addresses the cause(s) and the plan is sustainable."

  The Panel determined that sustainability is a self-imposed requirement by the licensee used in the execution of their corrective action program.

- *Corrective actions implemented by the licensee were in effect at the time of the inspection.*

  Response – Based upon review, the Panel agrees that actions to correct the specific relay failure were in place at the time of the inspection.

- *The 10 CFR 50 Appendix B, Criterion XVI non-cited violation (NCV) for failure to assign action to prevent recurrence should be retracted.*

  Response – The Panel agrees that this issue does not represent a violation of 10 CFR 50 Appendix B, Criterion XVI, inasmuch as the licensee identified the cause and implemented corrective actions to preclude repetition. Further, no repetitive failure was identified by the station or the inspectors. However, the licensee acknowledged that they failed to identify corrective actions to preclude repetition as a CAPR, and in doing so, also failed to identify an effectiveness review. The Panel concluded that this issue would be more appropriately identified as a failure of the licensee to follow station procedures, rather than a failure to preclude repetition of a significant condition adverse to quality.

Conclusion(s) Issue 1:

The Panel determined that this issue does not represent a violation of 10 CFR 50 Appendix B, Criterion XVI, inasmuch as the licensee identified the cause and implemented corrective actions to preclude repetition. Further, no repetitive failure was identified by the station or the inspectors. However, the licensee acknowledged that they failed to identify corrective actions to prevent recurrence as a CAPR, and in doing so, also failed to identify an effectiveness review. The Panel concluded that this issue would be more appropriately identified as a failure of the licensee to follow their station procedures rather than a failure to preclude repetition of a significant condition adverse to quality.

Recommendation(s) Issue 1:

None

Issue 2:

"Failure to Provide Timely Operability Evaluations" (Green NCV) against Technical Specification 5.4.1.a, DPO concerns:

- The examples cited do not address the acceptability of the evaluations.
- The example evaluations appear to be completed within the TS allowable outage time.
- At most, the issue is a minor finding of self-imposed administrative requirement and has no impact on the implementation of the TS.
- The violation associated with this issue should be retracted. The NRC does not have requirements for "timely" completion of an operability determination. As such, a violation cannot exist.

Evaluation Issue 2:

The Panel reviewed a Green, non-cited violation of CNS Technical Specifications 5.4.1.a, which requires that written procedures shall be established, implemented and maintained covering the applicable portions of Regulatory Guide 1.33, Revision 2, Appendix A, February 1978; specifically, in this case, procedures governing the authority and responsibilities for safe operation and shutdown. The Panel discussed aspects of this issue with the Cooper Problem Identification and Resolution Team Leader, responsible branch chief and numerous regional and headquarters operations and enforcement SMEs. Additionally, the Panel reviewed relevant documents including Administrative Procedure 0.5.OPS, "Operability Review of Condition Reports/Operability Determinations," Revisions 56 and 57, along with condition report CR-CNS-2017-03937, to better understand the issue.

The inspection team did not include an evaluation of the technical adequacy of the operability evaluations as they determined it was irrelevant and could have distracted from the timeliness concern they were pursuing. Additionally, the inspection team determined that there was no clear corollary between the technical specification allowed outage time and the timeliness of an operability evaluation.

The Panel considered the relevant information and does agree that the licensee did not execute their administrative procedure as it was prescribed. The Panel determined that this would likely represent a finding of minor significance because no instances were identified where the failure to execute the procedure resulted in incorrect evaluations which impacted the operability of systems, structures or components required by technical specifications. The Panel concluded that the report, as written, does not support the issuance of a violation against Technical Specification 5.4.1.a.

It is worth noting that the Panel's conclusion was not one that was easily reached or based on clear and convincing agency guidance. The Panel reviewed a number of documented findings across all Regions and discussed inspection of Operability Evaluations with inspectors from two Regions, Branch Chiefs and program office staff, and determined that there were varied opinions on what constituted regulatory requirements in this area. Further, it was determined that individual opinions have changed over time. For example, the use of both violations and findings were used inconsistently over time to document licensee failures to implement their

appropriate procedures. Additionally, the significance of similar findings varied noticeably. An example is that some inspectors would not consider an Operability Evaluation finding to be more than minor if the evaluation ultimately concluded that the evaluation was correct or that the LCO timeframe was not exceeded. Guidance associated with Operability Evaluations, in large part, is tied to Inspection Procedure (IP) 71111.15, Operability Evaluations, and Manual Chapter 0326, Operability Determinations and Functionality Assessments for Conditions Adverse to Quality or Safety. While the IP provides excellent information regarding what a high quality evaluation should consider, it does not represent regulatory requirements. It is the Panel's understanding that work is currently underway to provide some clarity to issues associated with Operability Evaluations and would recommend that such a review be given high priority.

As to the specifics of the DPO:

- *The examples cited do not address the acceptability of the evaluations.*

  Response – The Panel determined the inspection team decided to omit an evaluation of the technical adequacy of the operability evaluations, as they determined they were irrelevant and could have distracted from the timeliness concern they were pursuing.

- *The example evaluations appear to be completed within the TS allowable outage time.*

  Response – The Panel did not determine whether this was factual or not; however, the inspection team considered this irrelevant. The Panel notes that this is a current point of confusion amongst the inspectors in all Regions and is an area that warrants further evaluation and clarification.

- *At most, the issue is a minor finding of self-imposed administrative requirement and has no impact on the implementation of the TS.*

  Response – The Panel agrees.

- *The violation associated with this issue should be retracted.*

  Response – The Panel agrees that this issue is not a violation as written, but could be assessed as a Finding. However, because the finding did not result in exceeding a Technical Specification Limiting Condition of Operability (LCO) or result in missing some other requirement, such as compensatory actions, it would be appropriately considered to be of minor significance.

- *The NRC does not have requirements for "timely" completion of an operability determination. As such, a violation cannot exist.*

  Response – The Panel agrees that there is no clear regulatory requirement for timely completion of an operability determination.

Conclusion(s) Issue 2:

The Panel concluded that this issue does not represent a violation of regulatory requirements. It is clear that the licensee did not execute their administrative procedure as prescribed, and therefore this issue would be more accurately captured as a finding. However, because the

finding did not result in exceeding a Technical Specification Limiting Condition of Operability (LCO) or result in missing some other requirement, such as compensatory actions, it would be considered of minor significance. Because regulatory treatment of issues associated with Operability Evaluations has evolved over time, it is possible the violation, as written, aligned with the practice at that time. However, the Panel concluded the more current thought is as stated above.

Recommendation(s) Issue 2:

- The Panel recommends further consideration be given to this violation, balanced by the recognition that application of enforcement and guidance in this area has, to date, been inconsistent.
- The Panel recommends that guidance be developed to provide clarification on the regulatory requirements associated with Operability Evaluations and that appropriate agency documents, such as inspection procedures and Manual Chapters, be revised to reflect the new guidance.

Issue 3:

"Programmatic Failure to Identify Adverse Trends" (Green NCV) against 10 CFR 50 Appendix B, Criterion XVI, DPO concerns:

- Programmatic language is inflammatory and should be used when numerous examples can be cited. The report identifies only three examples over an indeterminate time period (see below):
  - Numerous digital rod position indication failures, traversing in core probe ball valve (PCIVs) failures, and momentary losses of annunciator panels occurred which did not result in loss of functionality.
- No adverse consequences were identified from the adverse trends identified in this report, so limited justification exists to identify a programmatic failure that is more than minor.
- Examples presented are licensee-identified CAQs which, therefore, only require the discrete CAQ to be addressed.
- Report states that an "adverse trend in organizational behaviors" exists, but there is no report narrative to support this conclusion in the analysis section.
- The enforcement paragraph cites an indefinite time period, contrary to NRC norms.
- Failure to trend is not required by Appendix B, and nothing failed as a result. At most, this is a failure to implement an administrative control described in CNS procedures.
- "Trends" are not conditions adverse to quality as defined in Part 50.

Evaluation Issue 3:

The Panel reviewed a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI for the licensee's programmatic failure to promptly identify adverse trends and enter them into the corrective action program. As examples, the inspectors identified several specific adverse trends they felt were not promptly identified by the licensee, as described below:

1. During the first several months of operation following the past five or more outages, the station has experienced failures of the rod-full-out lights in the digital rod position indication system. Each time, the licensee had documented the failure, but had failed to take action to review the failures in the aggregate or to fix the underlying cause.
2. The licensee documented this issue in Condition Report CR-CNS-2017-04571. The licensee periodically conducts an Aggregate Performance Review Meeting, where managers review station performance and ongoing improvement efforts. This meeting includes a review of adverse trend CRs with actions currently in progress to correct the trend. At the June 2017 meeting, of the 13 adverse trends being tracked, 5 (38 percent) were identified at least in part by the NRC.
3. On May 22, 2017, the licensee declared the traversing in-core probe (TIP) C ball valve inoperable as a primary containment isolation valve (PCIV) due to the failure of the in-shield limit switch. Although the TIP ball valves have experienced multiple failures for the same or similar causes dating back to 2006, including seven TIP ball valve limit switch-related failures since February 2016, no trend CR was generated by the licensee until approximately one month later when the NRC inspection team was onsite.
4. In January 2017 the resident inspectors identified that over the course of 2016, there had been over 30 instances where the control room experienced the momentary loss of annunciator chassis that supply power to the control room panel annunciators. Although in each case the control room only lost one chassis at a time and annunciator functionality was maintained, the licensee was required to enter Abnormal Procedure 2.4ANN, "Annunciator Abnormal," during each occurrence and to perform the required actions. In most cases, the licensee did not know what caused the temporary failure. The inspectors challenged the licensee on whether these events represented an adverse trend, and after several discussions with station personnel, the licensee initiated Condition Report CR-17-00373 to evaluate the trend.

The Panel determined that the root question associated with this issue was whether or not identification of trends by licensees was a regulatory requirement. To assess this issue, the Panel reviewed 10 CFR 50 Appendix B, Criterion XVI and discussed this finding with staff from the Office of Enforcement and Office of the General Counsel. Additionally, the Panel reviewed the licensee's governing Corrective Action Program procedure, 0-CNS-LI-102, "Corrective Action Process" and the most recent Cooper Nuclear Station Quality Assurance Program for Operation-Policy Document (QAPD), Revision 23, dated December 1, 2014. The Panel noted that the QAPD, section A.6.e states:

> Reports of conditions that are adverse to quality are analyzed to identify trends in quality performance. Significant conditions adverse to quality and significant trends are reported to the appropriate level of management.

Additionally, Section 2.4 of Definitions in 0-CNS-LI-102, "Corrective Action Process," defines an Adverse Trend as:

> Adverse Trend – Undesirable change in frequency of occurrence of a parameter or undesirable level of occurrence of a parameter that warrants Management attention or corrective action to improve the performance. This negative change in performance is undesirable because of the adverse impact on safety or reliability, or because of the large (relative) number of similar performance problems in a bin that point to more significant future problems if not addressed. The identified condition may or may not be an Adverse Condition as defined above.

Also, the licensee utilizes a type of trend document called a "Category D-Trend" CR (described in the Corrective Action Process.) This CR is for "Non-Adverse Conditions" and the "*Responsible Manager has discretion as to the rigor utilized to address the condition.*" This guidance would seem to allow for informal processes (i.e., non-CAP-related) to be appropriately used by the licensee for this type of CR.

The Panel determined that for each example identified in the inspection report, it appears from the documentation that the licensee took appropriate action, except that a trend-CR was not written as could have been done. Each issue was identified and corrected as a CAQ as required by 10 CFR 50 Appendix B Criterion XVI. The Panel also concluded that the more-than-minor decision documented in the Analysis section of the inspection report did not align and is not supported by other sections in the four-part write-up and thus does not support the issue becoming a "more significant safety concern."

The inspection team concluded in the report that "measures established by station corrective action program procedures were not effective in promptly identifying and correcting adverse trends in equipment and organizational performance." Further, the team determined that the corrective action program procedures represent the "measures" that 10 CFR 50, Appendix B, Criterion XVI, requires by stating, "…measures shall be established to assure that conditions adverse to quality…". Therefore, by not following the corrective action procedures relative to trends, the team concluded a violation of regulatory requirements occurred. The Panel discussed whether corrective action program procedures are appropriately considered as the "measures" required by 10 CFR 50, Appendix B, Criterion XVI and whether that was a valid regulatory assumption. Panel members discussed this with other staff members, Branch Chiefs, and SMEs, and while a definitive answer was not obtained, the general thought was that this was not an accurate consideration. Corrective action program procedures are required inasmuch as they implement regulatory requirements, but the procedures by themselves, do not constitute a regulatory requirement.

The Panel concluded that monitoring for trends is not a requirement of Criterion XVI. However, trending is an accepted and expected industry practice that is also clearly described in licensee procedures. For this reason, the Panel further concluded that this issue would more accurately be characterized as a Finding.

As to the specifics of the DPO:

- *Programmatic language is inflammatory and should be used when numerous examples can be cited. The report identifies only 3 examples over an indeterminate time period (see below):*

  Response – The Panel did not feel that a programmatic issue was identified, given that trending of adverse conditions is not a regulatory requirement. However, the panel felt that identification of trends and questioning of the licensee during CR review processes is an appropriate action for regulators.

- *Numerous digital rod position indication failures, traversing in core probe ball valve (PCIVs) failures, and momentary losses of annunciator panels occurred which did not result in loss of functionality.*

Response – This statement appears to be true based on the inspection report as written.

- *No adverse consequences were identified from the adverse trends identified in this report so limited justification exists to identify a programmatic failure that is more than minor.*

  Response – The Panel agrees.

- *Examples presented are licensee identified CAQs which therefore only require the discrete CAQ to be addressed.*

  Response – The inspection team agrees that the regulations would only require the CAQ be identified and corrected. However, the NRC identifying issues, including trends that are not regulatory issues, have proven to be beneficial to licensees. The licensee, however, may choose what action to take for these issues.

- *Report states that an "adverse trend in organizational behaviors" exists but there is no report narrative to support this conclusion in the analysis section.*

  Response – The Panel agrees.

- *The enforcement paragraph cites an indefinite time period contrary to NRC norms.*

  Response – The Panel agrees.

- *Failure to trend is not required by Appendix B and nothing failed as a result. At most this is a failure to implement an administrative control described in CNS procedures.*

  Response – Based on the Panel's review of licensee commitments to QA processes, it was determined that this statement is correct, at least in the sense of requiring a "trend CR" to be written for issues that do not have adverse consequences.

- *"Trends" are not conditions adverse to quality as defined in Part 50.*

  Response – The Panel agrees.

Conclusions Issue 3:

The Panel concluded that monitoring for trends is not a requirement of Criterion XVI. However, trending is an accepted and expected industry practice that is also clearly described in licensee procedures. For this reason, the Panel further concluded that this issue would more accurately be characterized as a Finding.

Recommendations Issue 3:

- The Panel recommends that guidance be added to the appropriate inspection procedure (IP) 71152, clarifying the regulatory requirements associated with licensee trends.

- The Panel recommends further discussion and consultation with the Office of General Counsel take place to define requirements of 10 CFR 50, Appendix B, Criterion XVI, specifically as it relates to whether or not a licensee's corrective action program, and all its contents, represent regulatory requirements.

Issue 4:

"Failure to Monitor No. 2 Diesel Generator under 50.65(a)(1) due to Inadequate Maintenance Rule Evaluation" (Green NCV) against 10 CFR 50.65(a)(1)/(a)(2), DPO concerns:

- The EDG did not need the jacket water heater to operate and could have auto started and performed its safety function at the time the heater failed.
- Report describes a concern involving a lack of specified maintenance for the jacket water heaters, but there was no report narrative developing the issue.
- Although the licensee could have started the EDG to maintain appropriate temperature, they elected to remove the EDG from service to perform repairs on the jacket water heater.
- The violation associated with this issue should be retracted.

Evaluation Issue 4:

A Green, non-cited violation of 10 CFR 50.65(a)(1)/(a)(2), was identified for the licensee's failure to perform an a(1) evaluation and establish a(1) goals when the No. 2 diesel generator (DG) a(2) preventive maintenance demonstration became invalid. During a review of the licensee's Maintenance Rule Program functional failure evaluations and corrective action reports, the inspectors noted that one component failure did not appear to be correctly evaluated in the licensee's Maintenance Rule Program as an MRFF. Specifically, the inspectors identified that a failure of the No. 2 DG jacket water heater resulted in the need to take the DG out of service because jacket water temperatures were decreasing and quickly approaching the minimum required operability limit of 100 degrees F. Although the condition resulted in the need to declare the DG inoperable, the licensee had determined that this issue was not a MRFF.

In reviewing this issue, the Panel interviewed the Cooper Problem Identification and Resolution Inspection Team Leader and staff from NRR with expertise in the Maintenance Rule program, reviewed Cooper Nuclear Station procedures associated with its Maintenance Rule program and reviewed Maintenance Rule guidance document, NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

The panel felt that the validity of this finding hinges on whether or not the jacket water heater is included within the scope of the licensee's maintenance rule program. The Maintenance Rule Basis Document for the DG system function included specific provisions for jacket water temperatures. Specifically, the Function Description section stated:

> The Jacket Water (DGJW) sub-systems consist of a standpipe, connecting pipes, pumps, temperature control valves, coolers, standby heaters, valves, and instrumentation necessary to remove heat from the engine jackets during operations or provide heat during standby conditions to maintain the engine jackets greater than or equal to 100 degrees F for fast-starting capability.

Additionally, Station Operating Procedure 2.2.20, "Standby AC Power System (Diesel Generator)," Revision 95, Section 2.2 (Precautions and Limitations) stated, "If jacket water or lube oil temperature is less than or equal to 100 degrees F while DG is in standby, DG shall be declared inoperable." Therefore, because a lower temperature limit is established as performance criteria for the DGJW, any failure of that system to be able to maintain the minimum temperature, would be considered a functional failure. Because the licensee assesses failures at the DG level and the failure of the jacket water heater would result in the DG being inoperable, the jacket water heater failure should have been classified as a functional failure.

As to the specifics of the DPO:

- *The EDG did not need the jacket water heater to operate and could have auto started and performed its safety function at the time the heater failed*.

  Response – The Panel determined that it is more likely than not that the EDG could have successfully started and performed its safety function when the heater failed. However, the finding is associated with the Maintenance Rule aspects of the system, which included the ability of the DGJW to maintain the DG above 100 degrees. A failure of the DGJW system would prevent it from maintaining the DG temperature and therefore would render the DG inoperable. Therefore, the DGJW system failure is appropriately identified as a functional failure.

- *Report describes a concern involving a lack of specified maintenance for the jacket water heaters, but there was no report narrative developing the issue*.

  Response – The Panel concluded that the inspectors could have documented additional detail regarding their inspection to include the vendor requirements for preventive maintenance. However, this information was not germane to the Maintenance Rule finding documented, and therefore its absence didn't impact the justification for the Maintenance Rule finding.

- *Although the licensee could have started the EDG to maintain appropriate temperature, they elected to remove the EDG from service to perform repairs on the jacket water heater*.

  Response – A Maintenance Rule finding would have been appropriate, whether or not the licensee started the EDG to maintain temperature. The function of the jacket water heaters was included in the licensee's Maintenance Rule scoping document for the DGs. Design basis information provided that a minimum temperature was required for fast start of the engine, which is a safety function. The lack of maintenance on the DGJW directly led to the inoperability of the safety-related system, and was therefore appropriately identified as a functional failure.

- The violation associated with this issue should be retracted.

  Response – The Panel determined that the violation was correct as written and should not be retracted.

Conclusion(s) Issue 4:

The Panel concluded that the violation accurately captured the finding. The finding is associated with the Maintenance Rule aspects of the DG system, which included the ability of the DGJW to maintain the DG above 100 degrees. A failure of the DGJW system would prevent it from maintaining the DG temperature and therefore would render the DG inoperable. Therefore, the DGJW system failure is appropriately identified as a functional failure which the licensee failed to identify.

Recommendations Issue 4:

None

Issue 5:

"Failure to adopt appropriate procedures in accordance with 10 CFR 21" (SL-IV) against 10 CFR 21.21(a), DPO concerns:

- Failure to report is not the deficiency identified. Why?
- If it is just procedural, why is it more than minor?
- Report does not describe what entity is responsible for the equipment being deficient (i.e., infant failure prone). (The manufacturer made a Part 21 report after this report was issued?)
- The relay was installed equipment not on a shelf or in pre-use test, and there is no information on stock spares or other usage by the licensee. Why not?
- Was the dedication process CNS responsibility or not?
- Is loss of HPCI a substantial safety hazard or not? This is key. (Report cites "NRC Headquarters Staff" said it is? What was the basis for that conclusion?) Does the NRC have written guidance on when a substantial safety hazard exists? In this instance, level control was still feasible (no loss of safety function).
- Inspectors concluded that the issue was reportable but don't cite against that? Why is that? Review work to determine reportability was ongoing when the inspection was concluded so how could we conclude as we did?
- Even if reportable, the concern would be referred to the vendor, who would then have the opportunity to report. Therefore, it cannot be a licensee failure.

Evaluation Issue 5:

The Panel reviewed a Severity Level IV violation of 10 CFR 21.21(a) for the licensee's failure to adopt appropriate procedures to evaluate deviations and a failure to comply with the procedure and identify a reportable issue with substantial safety hazards. The violation was processed as traditional enforcement because the inspection team concluded that the violation impacted the regulatory process. The inspection report cites:

> Specifically, Procedure EN-LI-108, "10 CFR 21 Evaluations and Reporting," Revision 5C0, was inadequate to ensure that the correct reportability call was made for a manufacturing flaw discovered in a relay that had resulted in a loss of safety function for the high pressure coolant injection (HPCI) system on April 25, 2016.

The Panel discussed elements of this issue with the Cooper Problem Identification and Resolution Team Leader, responsible branch chief and other regional and headquarters SMEs. The Panel also reviewed 10 CFR Part 21 and associated industry and agency guidance. Further, the Panel reviewed licensee documents, including the Updated Final Safety Analysis Report (UFSAR) associated with the High Pressure Coolant Injection system, to better understand what constitutes a safety function and substantial safety hazard for the Cooper site. Last, the Panel reviewed the LER associated with this issue (Cooper LER 2016-001).

The Panel determined that if a potential defect is reported to the NRC in accordance with 10 CFR 50.72 or 50.73, the licensee is not required to also report the defect via a separate 10 CFR Part 21 report. This allowance is identified in 10 CFR Part 21(c) as:

> (c) For persons licensed to operate a nuclear power plant under part 50 or part 52 of this chapter, evaluation of potential defects and appropriate reporting of defects under §§ 50.72, 50.73, or § 73.71 of this chapter, satisfies each person's evaluation, notification, and reporting obligation to report defects under this part, and the responsibility of individual directors and responsible officers of these licensees to report defects under Section 206 of the Energy Reorganization Act of 1974.

The Panel's review of the associated LER concluded that the licensee reported the failure as being a "fault caused by a manufacturing flaw." The inspection team received guidance from an NRC SME during the inspection indicating that a violation was supported; however, discussion with the SME by the Panel determined that the licensee event report describing the failure of the relay was an acceptable method of reporting the relay failure, and no further reporting via Part 21 was required of the licensee. Further, since a Part 21 report was not required, significant portions of the performance deficiency described in the inspection report were inconsequential because the licensee was not required to utilize the procedure, "10 CFR 21 Evaluations and Reporting," identified as being deficient. Therefore, the Panel concluded that because there was no requirement to use the procedure, and the required report was made in the qualifying form of an LER, there was no impact to the ability of the agency to perform its regulatory oversight function. As such, there was no impact to the regulatory process as documented in the analysis section of the inspection team's write-up.

The Panel went to extensive lengths to determine what constituted a substantial safety hazard (SSH) in accordance with Part 21. As to whether the loss of HPCI was a substantial safety hazard (SSH) or not, the panel noted that the definition of "substantial safety hazard" in 10 CFR 21.3, states:

> *Substantial safety hazard* means a loss of safety function to the extent that there is a major reduction in the degree of protection provided to public health and safety for any facility or activity licensed or otherwise approved or regulated by the NRC, other than for export, under parts 30, 40, 50, 52, 60, 61, 63, 70, 71, or 72 of this chapter.

Section VI-4 or the CNS UFSAR identifies that when steam is isolated, i.e., HPCI is lost, "the ADS and the low pressure systems of the ECCS act as backup, and automatic shutoff of the steam supply does not negate the ability of the ECCS to satisfy the safety objective." Conversation with SMEs in HQ (specifically NRR/DORL)/TTC along with the fact that Cooper was licensed with the single train safety system, HPCI, the agency seems to have logically determined, based on licensing decisions, that there is not a loss of the safety objective when

HPCI is lost. Further, if HPCI's absence were to imply that it was a SSH condition, then anytime the system was out for maintenance or testing would constitute a SSH, which would also be illogical for Technical Specifications to allow. Therefore, the Panel concluded that a SSH would not exist because of failure of the relay associated with HPCI identified in this inspection and the LER. However, a failure of HPCI is clearly a loss of a single train safety system and reportable under NUREG 1022 as a 50.73 report for loss of a safety function.

As to the specifics of the DPO:

- *Failure to report is not the deficiency identified. Why?*

  Response – The issue was reported via 10 CFR 50.73, which meets reportability requirements. Further, the inspection report states that:

  > Using Inspection Manual Chapter 0612, Appendix B, 'Issue Screening,' dated September 7, 2012, the inspection team determined that the performance deficiency was of minor safety significance under the reactor oversight process because it involved a failure to make a report; however, the underlying equipment failure was previously evaluated as having very low safety significance. The very low safety significance determination supports a transition to traditional enforcement at the severity level IV (SLIV) level.

  This statement in the report was not evaluated by the panel but is just stated for explanation that failure to report was not in question.

- *If it is just procedural why is it more than minor?*

  Response – The inspection team determined that the procedural failure "impacted the ability of the agency to complete its regulatory responsibilities." Because the licensee submitted an LER, this explanation for entry in traditional enforcement no longer applies and additional factors that answer this concern are in the Substantial Safety Hazard discussion below. The Panel further concluded the violation would more appropriately be identified as having minor significance since the hurdle of impact to the regulatory process could be passed but recognizes the challenges in the minor/more-than-minor evaluation process.

- *Report does not describe what entity is responsible for the equipment being deficient (i.e., infant failure prone). (The manufacturer made a Part 21 report after this report was issued?)*

  Response – The LER made by the licensee identifies that the failure was a manufacturing flaw and this concern was not addressed by the inspectors because it was not part of the performance deficiency. The performance deficiency identified in the inspection finding was the licensee's Part 21 instruction's inability to effectively evaluate a substantial safety hazard.

- *The relay was installed equipment not on a shelf or in pre-use test, and there is no information on stock spares or other usage by the licensee. Why not?*

Response – This issue was identified by the inspection team and a CR was initiated by the licensee. Since the deficiency was determined to be a manufacturing flaw, this would be an area that the licensee should address but not an issue with this identified performance deficiency. The corrective action, in fact, was for the dedicating agent to improve their processes to ensure that in the future the licensee would not receive parts with manufacturing flaws. This response, including verification of the stock and installed similar components, while in the licensee's interest and possibly related to other safety related equipment, and extent of condition, would tie up any loose ends but was not the focus of this violation and hence not documented in this report.

- *Was the dedication process CNS responsibility or not?*

  Response – While every licensee is responsible for the quality of the parts installed in their plant, in this case the licensee had contracted with a vendor and provided the requirements for the relay. Thus, the licensee was ultimately responsible as they always are for reactor safety, but it was the vendor's failure to adequately test the relay which resulted in infant failure due to an inherent manufacturing flaw.

- *Is loss of HPCI a substantial safety hazard or not? This is key. (Report cites "NRC Headquarters Staff" said it is? What was the basis for that conclusion?) Does the NRC have written guidance on when a substantial safety hazard exists? In this instance, level control was still feasible (no loss of safety function).*

  Response – The Panel reached the conclusion that loss of HPCI is not a substantial safety hazard with respect to reporting per Part 21. However, a failure of HPCI is clearly a loss of a single train safety system and reportable under NUREG 1022 as a 10 CFR 50.73 report of a loss of a safety function.

- *Inspectors concluded that the issue was reportable but don't cite against that? Why is that? Review work to determine reportability was ongoing when the inspection was concluded so how could we conclude as we did?*

  Response – The Analysis section of the inspection report clearly states that the performance deficiency is a failure to adopt appropriate procedures rather than a failure to report the condition. Through further discussion, the Panel ascertained that the inspection team determined that the procedure inadequacy was such that using it would not have identified this issue as being required to be reported in accordance with Part 21. However, the Panel observed that because the issue was reported via 10 CFR 50.73, which is an acceptable reporting method in accordance with Part 21, no further report was required.

- *Even if reportable, the concern would be referred to the vendor, who would then have the opportunity to report. Therefore, it cannot be a licensee failure.*

  Response – The Panel concluded that the licensee is responsible for a valid report even if it is the vendor's option to make the report.

Conclusions Issue 5:

The Panel concluded that because the issue was reported, any inadequacies in the licensee's Part 21 evaluation procedure were inconsequential and would therefore be appropriately identified as minor.

Recommendations Issue 5:

- The Panel recommends consideration be given to retracting the violation based on it being identified as having minor significance and not meeting the requirement to enter into traditional enforcement because it had no impact on the ability of the NRC to provide regulatory oversight.
- The Panel recommends that guidance be developed to provide clarification to 10 CFR Part 21 and include clarifying the definition of substantial safety hazard as it applies to Part 21, given the reportability confusion of a safety function loss vs. a SSH.
- The Panel recommends that a method be developed to improve the process by which SMEs answer questions from the inspection staff and license reviewers, with a goal to improve the quality of the question and reliability of the answers. Further, to include consolidation of requests and answers such that they would be available should future similar questions arise during an inspection.

Overall Recommendations DPO-2017-010

Recommendation(s) Issue 2:

- The Panel recommends further consideration be given to this violation, balanced by the recognition that application of enforcement and guidance in this area has, to date, been inconsistent.
- The Panel recommends that guidance be developed to provide clarification on the regulatory requirements associated with Operability Evaluations and that appropriate agency documents, such as inspection procedures and Manual Chapters, be revised to reflect the new guidance.

Recommendations Issue 3:

- The Panel recommends that guidance be added to the appropriate inspection procedure (IP) 71152, clarifying the regulatory requirements associated with licensee trends.
- The Panel recommends further discussion and consultation with the Office of General Counsel take place to define requirements of 10 CFR 50, Appendix B, Criterion XVI, specifically as it relates to whether or not a licensee's corrective action program, and all its contents, represent regulatory requirements.

Recommendations Issue 5:

- The Panel recommends consideration be given to retracting the violation based on it being identified as having minor significance, and not meeting the requirement to enter into traditional enforcement because it had no impact on the ability of the NRC to provide regulatory oversight.
- The Panel recommends that guidance be developed to provide clarification to 10 CFR Part 21, and include clarifying the definition of substantial safety hazard as it applies to Part 21 given the reportability confusion of a safety function loss vs. a SSH.
- The Panel recommends that a method be developed to improve the process by which SMEs answer questions from the inspection staff and license reviewers, with a goal to improve the quality of the question and reliability of the answers. And further, to include consolidation of requests and answers so they would be available if future similar questions arise.

Appendices/Enclosures

None

Document 4: DPO Decision

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

February 28, 2019

MEMORANDUM TO: Troy W. Pruett, Director
Division of Nuclear Material Safety
Region IV

FROM: Scott A. Morris, Regional Administrator
Region IV

SUBJECT: DIFFERING PROFESSIONAL OPINION DECISION INVOLVING A COOPER NUCLEAR STATION PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION (DPO-2017-010)

On October 31, 2017, in accordance with Management Directive 10.159, "The NRC Differing Professional Opinions Program," you submitted a differing professional opinion (DPO) involving the results of a Problem Identification and Resolution (PI&R) inspection conducted at the Cooper Nuclear Station (CNS). Specifically, your DPO listed five U.S. Nuclear Regulatory Commission (NRC) staff findings and/or violations captured in CNS inspection report 05000298/2017010 that you indicated were either not violations of NRC requirements, were inconsequential, or were otherwise not adequately supported by the information provided in the report. The purpose of this memorandum is to respond to your DPO.

On November 27, 2017, a DPO Review Panel (the Panel) was established and tasked to meet with you, review your DPO submittal, and issue a report that included conclusions and recommendations to Mr. Kriss M. Kennedy, the former Regional Administrator for NRC Region IV, regarding the disposition of the issues presented in your DPO. On April 13, 2018, after reviewing the applicable documents, conducting internal interviews of relevant individuals (including yourself), and completing their deliberations, the Panel issued their report to Mr. Kennedy. Mr. Kennedy retired from the NRC on December 31, 2018, and had not rendered a final decision on your DPO prior to his departure. As such, that action was transferred to me.

In order to reach a decision with regard to your DPO, I reviewed the CNS PI&R inspection report, your DPO submittal, and the Panel's report (enclosed), and conducted additional discussions with pertinent individuals to gain additional insights as I deemed necessary.

After considering all of the information, I agree with nearly all of the judgements and recommendations made by the DPO Panel. I believe that the Panel members thoroughly assessed the merits of each identified concern and provided high quality information for my deliberation. As such, and consistent with the Panel's report, I have concluded that the scope, level of detail and/or bases documented in the CNS PI&R inspection report is not sufficient to justify four of the five Non-Cited Violations (NCVs) described within and for which you took issue in your DPO. Given this determination, I have directed, by a separate

memorandum to the NRC Region IV Director of the Division of Reactor Safety (DRS), to prepare and issue a revised PI&R inspection report for CNS that:

- Either eliminates the discussion and associated GREEN NCV for the "Failure to Assign Corrective Actions to Prevent Recurrence of the High Pressure Coolant Injection System Failure," or re-characterizes the issue as a failure of the licensee to adhere to their own station procedures by not identifying specific corrective actions as a "corrective action to prevent recurrence."

- Eliminates the discussion of the GREEN NCV of CNS Technical Specification 5.4.1 and Administrative Procedure 0.5.OPS, "Operability Review of Condition Reports/Operability Determinations," as it pertains to the timeliness with which the licensee performed the various operability evaluations listed in the report.

- Revises the discussion related to the licensee's "Programmatic Failure to Identify Adverse Trends" such that the report notes that, while monitoring for trends in conditions adverse to quality is an accepted and expected industry practice, doing so is not in-an-of-itself a regulatory requirement. As such, the reference to the GREEN NCV should be eliminated. Given these foregoing actions, the staff should also review the "more-than-minor" inspection report screening criteria provided in Inspection Manual Chapter 0612 to assess whether this finding should be described in the report at all. In making this determination, due consideration should be given to the Panel's conclusion that this issue would be more appropriately assessed as "minor" and therefore not documented. [I would note here that historically there has not been universal and consistent application of these screening criteria internal to the NRC. Nonetheless, given that this finding could only (at most) be assessed as being of GREEN significance (i.e., very low safety significance), only minimal staff effort should be expended to make the "minor/more than minor" determination.]

- Revises the discussion related to the licensee's "Failure to Adopt Appropriate Procedures in accordance with 10 CFR Part 21" such that the report notes that, though the licensee did not report the specific safety-related relay manufacturing flaw under the auspices of Part 21, it was nonetheless reported to the NRC under Part 50 requirements and therefore there was no impact on the ability of the NRC to perform its regulatory oversight function. As such, the violation of regulatory requirements issued utilizing traditional enforcement should be withdrawn. Further, the staff should review the "more-than-minor" inspection report screening criteria provided in Inspection Manual Chapter 0612 to assess whether this issue should be described in the report at all. In making this determination, due consideration should be given to the Panel's conclusion that this issue would be more appropriately assessed as "minor" and therefore not documented. [The note I included in the action item above also applies here.]

In making the above-noted revisions, the staff should perform a holistic review of the inspection report (and associated forwarding letter) to ensure that the new report reflects the changes directed above.

In addition, I have directed the DRS staff to develop and lead an internal "knowledge management/transfer" session, utilizing a format of their choosing (e.g., lecture, workshop, seminar) with pertinent inspection staff and management (including individuals who work in other Region IV technical divisions, as appropriate) that examines the contested issues in this case, including a review of the Panel's conclusions and recommendations. Lastly, DRS management should discuss this matter with their counterparts in the Division of Reactor Projects, and specifically Projects Branch C (which includes CNS), to coordinate and conduct outreach with pertinent CNS management regarding Region IV's reassessment of the contested issues and reissuance of the affected PI&R inspection report.

Finally, I generally support the programmatic recommendations provided in the Panel's report. As such, I intend to offer to the NRC's Reactor Oversight Process program office (i.e., the Office of Nuclear Reactor Regulation) via separate memorandum the following items for consideration:

- Clarify the regulatory requirements associated with licensee "operability determinations" and revise pertinent agency documents consistent with this clarifying information (i.e., inspection procedures, inspection manual chapters, et.al.).

- Add guidance to Inspection Procedure 71152 that clarifies the regulatory requirements associated with trending "conditions adverse to quality" documented by licensees.

- Consult with the Office of General Counsel to clarify the intent and scope of 10 CFR Part 50, Appendix B, Criterion XVI, specifically as it relates to whether or not a licensee's corrective action program, and all of its specific provisions, constitute regulatory requirements.

- Develop clarifying guidance for 10 CFR Part 21, specifically with respect to what constitutes a "substantial safety hazard" to support future reportability assessments.

- Improve the process by which NRC subject matter experts respond to inquiries from inspectors and license reviewers. For example, for each such inquiry, the process could entail a systematic mechanism that accurately documents the question being asked and the response provided, and enables simple search and retrieval to enhance knowledge management.

Thank you for raising your concerns and for your active participation in the NRC's DPO process.

Enclosure:
DPO Panel report, dated April 13, 2018

cc: H. Nieh, NRR
M. Evans, NRR
G. Wilson, OE
G. Figeroa-Toledo, OE
M. Shaffer, RIV
A. Vegel, RIV
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