

DPO Case File for DPO-2020-003

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 the Safety Evaluation Report for the Surry Subsequent License Renewal.

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

The DPO Program is a formal process that allows NRC employees and 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 impartial, multi-person review of the issue (one person chosen by the employee). After a decision is issued to an employee, they 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 or in the DPO Appeal Decision (for appealed cases).

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 5: DPO Appeal
- Document 6: Statement of Views
- Document 7: DPO Appeal Decision

Document 1: DPO Submittal



DIFFERING PROFESSIONAL OPINION

DPO Case Number

DPO-2020-003

Date Received

08/05/2020

Name and Title of Submitter

James A. Gavula, Mechanical Engineer

Organization

NRR/DNRL/NCSG

Telephone Number (10 numeric digits)

(630) 829-9755

Name and Title of Supervisor

Steven D. Bloom

Organization

NRR/DNRL/NCSG

Telephone Number (10 numeric digits)

(301) 415-2431

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

Date 03/09/2020

Where (i.e., ADAMS ML#, if applicable):

ML20052F523

Subject of DPO

Safety Evaluation Report for Surry Subsequent License Renewal

Summary of prevailing staff view, existing decision, or stated position.

- 1) The safety evaluation report credits undefined and undetermined corrective actions as meeting the requirements of 10 CFR 54.29 for identifying actions that "have been or will be taken" with respect to managing the effects of aging for the buried gray cast iron fire water system piping. The approach sets a precedent that will undermine the effectiveness of the staff's future operating experience reviews for license renewal and is inconsistent with previously published industry and NRC guidance.
- 2) The safety evaluation report accepted a generic UFSAR supplement for the Selective Leaching program that did not include the extensive program changes made by Surry to address the (post-application-submittal) fire water system rupture caused by selective leaching. The inadequate program description does not ensure that changes to the currently augmented program will be sufficiently controlled through the 10 CFR 50.59 process.
- 3) The safety evaluation report inappropriately credited Generic Letter 89-13 program monitoring activities for components that Surry claimed (without sufficient bases) did not require an aging management review. This approach is inconsistent with SECY 1999_148 regarding credit for existing programs, and by inappropriately crediting the program, the staff became a proponent of the license renewal application instead of performing an objective review.

Reason for DPO, potential impact on mission, and proposed alternatives.

Background

Surry submitted an application for subsequent license renewal in October 2018 (Ref 4). While the NRC staff was completing its review of the application, portions of Surry's buried fire water system piping ruptured in July 2019 resulting in a loss of intended function. Although the license renewal staff became aware of the rupture in August 2019, during the NRC's 71003 Phase IV inspection at Surry, the applicant had not yet completed its failure analysis and had informally discussed that it may have been due to an initial installation issue and not specifically related to aging. Surry completed its failure analysis on September 29, 2019 and determined that the failure was caused by soil-side selective leaching, which was age-related degradation.

Surry provided Supplement No. 4 (Ref 5) to its license renewal application on October 14, 2019, in order to address previous NRC-identified issues with the Selective Leaching aging management program and several other programs. Although not associated with any NRC-identified issue, the supplement also included a new operating experience discussion in the Fire Water System program, regarding the recent system rupture. The inclusion of the new operating experience in the Fire Water System program is noteworthy because the program only manages aging effects due to the system's internal water environment and does not address aging effects for the system's external soil environment. Also noteworthy is that the supplement addressed NRC-identified issues in the Selective Leaching program but did not include any changes or provide any discussion about the fire water system rupture caused by soil-side selective leaching.

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In response to additional staff questions associated with Supplement No. 4 and the recent operating experience, Surry provided Supplement No. 5 (Ref 6) on October 31, 2019, with further changes to several aging management programs, including the Selective Leaching program. Surry augmented its Selective Leaching program to include digging exploratory holes to identify groundwater near fire water system piping both prior to and during the subsequent period of extended operation. Program augmentations also included additional corrective actions and sample expansion for the presence of groundwater. Although the changes to the Selective Leaching program were significantly beyond the guidance provided for the corresponding program in the GALL Report, Surry did not modify its summary description of the program in the UFSAR supplement from the version initially provided prior to the rupture of the fire water system piping.

In response to additional staff questions concerning their subsequent supplement, Surry provided Supplement No. 6 (Ref 7) on November 19, 2019. The letter noted that Surry only addressed three of the six issues identified in an NRC email dated November 7, 2019, based on an agreement during a subsequent telephone conversation with the NRC. It is noteworthy that the technical staff was not invited to participate in the telephone conversation where this agreement was reached.

During the subsequent preparation of the staff's safety evaluation report, management directed the technical staff to credit ongoing Part 50 corrective actions as being sufficient to address any unresolved questions or issues with its Part 54 license renewal review. Senior technical staff members modified the associated safety evaluation sections by eliminating the portions of the write-up that indicated unresolved issues or by inserting broad statements to minimize the appearance of the unresolved issues. In response, the technical staff issued NCP-2020-001 (Ref 1) and NCP-2020-002 (Ref 2) to document their disagreement with portions of the safety evaluation report. As discussed during the NRC presentation to the Advisory Committee on Reactor Safeguards on April 8, 2020, regarding the staff's nonconcurrence issues, NRC management determined that no changes were needed to the safety evaluation report.

Reason for DPO, potential impact on mission, and proposed alternative.

1) Crediting Undefined and Undetermined Corrective Actions

In order to address unresolved technical issues documented in NCP-2020-001 and NCP-2020-002 (see endnote), the Surry safety evaluation report credits undefined and undetermined corrective actions as meeting the requirements of 10 CFR 54.29. Although inclusion of the fire water system rupture issue in the correction action program could be considered as an action that has been taken (with regard to managing the effects of aging for the buried gray cast iron fire water system piping), any subsequent actions that will be taken are still undefined and undetermined. The approach sets a precedent that will undermine the effectiveness of the staff's operating experience reviews for license renewal, and it is inconsistent with previously published industry guidance (NEI 17-01) and NRC guidance (RIS 2014-06).

As provided in 10 CFR 54.30(b), although the adequacy of the licensee's current Part 50 corrective actions are excluded from the license renewal review, 10 CFR 54.21(a)(3) still requires that the integrated plant assessment in the license renewal application "demonstrate that the effects of aging will be adequately managed." Even though the extent of Part 50 corrective actions may not be established, an adequate aging management program could be developed if the issue is sufficiently bounded. Conversely, if the issue is not sufficiently understood, then the development of the aging management program may need to wait until the Part 50 corrective actions develop a sufficient understanding of the issue to demonstrate that the effects of aging will be adequately managed.

The deferral to the corrective action program does not meet the requirements of 10 CFR 54.29(a) that "actions have been identified and have been or will be taken" with respect to managing the effects of aging. If applicants are allowed to claim that the entry of an issue into the corrective action program meets the above requirement, then any

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site-specific or industry operating experience can be deferred from consideration during the license renewal review. This will completely undermine the effectiveness of the staff's operating experience reviews for license renewal.

In addition, industry guidance in NEI 17-01 (Ref 8) states that 10 CFR 54.30 is intended to make clear that aging issues affecting the ability of a component to perform its intended function that are discovered during a license renewal review must be addressed under the Part 50 corrective action program. It continues by stating: "However, an applicant for renewal is not relieved from addressing the issue relevant to the [subsequent period of extended operation] as part of its [subsequent license renewal application]." Furthermore, NRC RIS 2014-06 (Ref 9) states that if an applicant identifies an aging mechanism for which the program elements may not be prescriptive, it is incumbent on the applicant to augment the program to demonstrate that the effects of aging will be adequately managed. Although Surry augmented portions of its Selective Leaching program, sufficient information was not provided for some aspects of the program to demonstrate that the effects of aging would be adequately managed.

It should be noted that the applicant did not provide any docketed correspondence to address the apparent inconsistency with both the industry and NRC guidance, for crediting future actions from the corrective action program. It was at the direction of NRC management that the staff took this approach. If the NRC intends to accept the deferral of operating experience to the corrective action program, then changes to both the industry and NRC guidance are warranted and additional guidance needs to be provided to license renewal reviewers in order to define when this deferral will be acceptable.

2) UFSAR Supplement

As discussed in NCP-2020-002, the Surry safety evaluation report failed to consider the extensive changes made to the Selective Leaching program when it determined that the UFSAR supplement for the program was an adequate summary description of the Selective Leaching program. Surry provided Section A1.21 with the summary program description as part of its initial subsequent license renewal application (Ref 4). In its review of this aspect, the safety evaluation report states that the UFSAR supplement is consistent with the recommended description in GALL-SLR Report Table XI.01 (Ref 13), which would be for a typical program without any modifications.

As noted in Supplement 5 (Ref 6), Surry made significant changes to its Selective Leaching program as a result of the fire water system rupture caused by selective leaching. The changes included digging exploratory holes prior to and periodically after the period of extended operation to confirm the presence of groundwater, specific corrective actions for exploratory holes that identified groundwater with associated sample expansion. Although Surry made significant changes to the program, the UFSAR supplement was never changed to reflect any aspect of these changes.

The non-concurrence process evaluation states that "it is not necessary to require the applicant to modify its UFSAR supplement at this time with additional detail that may or may not change after completion of the corrective actions." The need to modify the UFSAR supplement is not about future changes to the program, but about Surry's current program that was already changed to address the fire water system rupture due to selective leaching. Because the UFSAR supplement does not include any of the augmented aspects of the program, changes to delete these from the existing program will not be controlled through the 10 CFR 50.59 process. This is a significant shortcoming in the safety evaluation report.

3) Credit for Existing Programs

10 CFR 54.21(a)(1) requires an application for license renewal to contain an integrated plant assessment that identifies and lists components subject to an aging management review. Surry did not identify or list several passive, long lived components associated with the emergency service water diesel engines and pumps in its license renewal application. When questioned (Ref 12), Surry claimed that an aging management review was not required for these components because they were part of an "active skid mounted assembly." The staff rejected Surry's position,

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because it was inconsistent with the guidance in SRP-SLR (Ref 14) Table 2.1_2, associated with "complex assemblies" and Table 2.3-2 for diesel engine jacket water heat exchangers that require an aging management review. The staff was told that the schedule did not provide sufficient time to ask another request for additional information.

Although the SER clearly notes that the integrated plant assessment did not include aging management activities required by 10CFR 54.21(a), the staff independently credited monitoring activities from Surry's Generic Letter 89-13 program as meeting the requirements of Part 54. This approach in the SER is contrary to direction provided by the Office of General Counsel (regarding the burden on the applicant to demonstrate the adequacy of a license application [REDACTED]) and the guidance in SECY 1999-148 (regarding information an applicant must provide in order to take credit for an existing program (Ref 11)). The SER's approach sets an adverse precedent about the NRC's role in review of future license renewal applications

In addition to the regulatory aspect discussed above, the evaluation of this issue within NCP_2020_002 notes that the implementation of the GL 89-13 program provides assurance that the associated components will continue to perform their intended functions. However, as demonstrated by its response to RAI B2.1.11-1 (Ref 12), Surry did not appropriately consider a prior change to its GL 89-13 program as a change to an NRC commitment, in accordance with NEI 99_04. Because corrective actions associated with this issue were not provided, and because the agency no longer audits licensees' commitment change process, reasonable assurance is lacking that Surry will appropriately evaluate changes to its GL 89-13 commitments in relationship to the missing aging management review for the associated components.

Endnote:

Unresolved issues in the SER (as documented in NCP-2020-001 (Ref 1) and NCP-2020-002 (Ref 2)):

- a) program requirements for soil testing. Existing program only specified soil corrosivity testing if an exploratory hole identified standing water. Sufficient soil testing had not been done to establish whether degradation only occurred as a result of standing water.
- b) program requirements for excavations when standing water is not caused by groundwater. System leakage is not considered as being comparable to groundwater, but longstanding system leakage can cause the same degradation as the longstanding presence of groundwater.
- c) corrosion of bell and spigot tie rods. Significant tie rod corrosion was found during the recent FWS rupture, but there was no record that degradation of these components had been captured in the applicant's corrective action program. The function of tie rods differs from other bolting in bell and spigot piping, and it is not clear that this OpEx is bounded by that for which the BUPT program was evaluated.
- d) credit taken for external coatings on buried fire water piping, as provided in the buried piping AMP, that were subsequently shown, as part of the FWS OpEx review, to be inadequate preventive actions.
- e) inspection reduction based on sufficiently similar conditions between units, which did not include potential differences in soil corrosivity across the site.

References

- 1. NCP-2020-001, ML20066J465
- 2. NCP-2020-002, ML20066J740
- 3. Safety Analysis Report Related to Subsequent License Renewal of Surry Power Station, Units 1 and 2, ML20052F523
- 4. Surry Subsequent License Renewal Application, ML18291A828
- 5. Surry Supplement 4, ML19294A044

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6. Surry Supplement 5, ML19310E716

7. Surry Supplement 6, ML19329A287

8. NEI 17-01, ML17345A858

9. RIS 2014-06, ML13177A325

11. SECY 1999-148, ML12265A579 (non-public, but available through public website)

12. Surry Responses to RAIs B2.1.11-2 & B2.1.11-1, ML19204A357

13. NUREG-2191, Volume 2, GALL-SLR Report, ML17187A204

14. NUREG-2192, SRP-SLR, ML17188A158

Describe the (a) importance of prompt action on the issue, (b) safety significance of the issue, and (c) the complexity of the issue.

The issues discussed are significant because they set a new precedent that will affect all future license renewal reviews. If the precedents established in the Surry Safety Evaluation Report for Subsequent License Renewal are left unaltered, then significant changes with appropriate guidance to the staff will be needed due to an absence of current guidance. Changes would be warranted to RegGuide 1.188 regarding the endorsement of NEI 17-01, as well as modifying RIS 2014-06 to reflect the change in guidance.

Do you believe the issue represents an immediate public health and safety concern?



No

☐ Yes, (Explain in box above with importance of prompt action and safety significance.)

Is the issue directly relevant to a decision pending before the Commission?



No

☐ Yes, Reference Document (i.e., ADAMS ML#)

☒ Informal discussions took place (Identify with whom and time frame of discussions)

☐ Extenuating circumstances prevented informal discussions

Issues were extensively discussed as part of NCP-2020-002 (ML20066J740). Management determined that no changes needed to the Safety Evaluation Report in order to address the issues in the NCP. Informal discussions regarding my intent to submit a DPO took place with Steve Bloom (my supervisor) in May 2020.

Proposed panel members are (in priority order):

1.

3.

2.



No names of potential panel members will be provided.

List of area(s) of technical expertise needed to properly assess the issue (e.g., electrical engineering, operator licensing).
License renewal

DIFFERING PROFESSIONAL OPINION (Continued)


Date Received
08/05/2020

When the process is complete, I would like management to determine whether public release of the DPO case file (with or without redactions) is appropriate (Select "No" if you would like the DPO case file to be non-public):

☒ Yes ☐ No

Please note that your DPO submittal may be shared on a need-to-know basis in an effort to resolve the concern, determine the most appropriate regulatory actions in response to the concern, and identify key agency resources to evaluate the concern.

Signature of Submitter: **James A. Gavula**


 Digitally signed by James A. Gavula
Date: 2020.08.05 16:43:14 -05'00'

Signature of
Co-Submitter (If any):

Submit by E-mail:

Signature of DPO
Program Manager:

Gladys J. Figueroa Toledo

 Digitally signed by Gladys J. Figueroa Toledo
Date: 2020.08.13 11:56:08 -04'00'

☐ DPO returned ☒ DPO accepted

Document 2: Memo Establishing DPO Panel



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

September 2, 2020

MEMORANDUM TO: Kimberly A. Webber, Panel Chairperson
Office of Nuclear Regulatory Research

Brian K. Harris, Panel Member
Office of Nuclear Regulatory Research

Robert L. Tregoning, Panel Member
Office of Nuclear Regulatory Research

THRU: George A. Wilson, Director George A. Wilson
Office of Enforcement Digitally signed by George A. Wilson
Date: 2020.09.02 09:40:17 -0400

FROM: Gladys J. Figueroa-Toledo /RA/

Differing Views Program Manager
Office of Enforcement

SUBJECT: AD HOC REVIEW PANEL - DIFFERING PROFESSIONAL
OPINION ASSOCIATED WITH THE SAFETY EVALUATION
REPORT FOR SURRY SUBSEQUENT LICENSE RENEWAL
(DPO-2020-003)

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 George Wilson, Director, Office of Enforcement, Ho Nieh, Director, Office of Nuclear Regulatory Research, 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 a U.S. Nuclear Regulatory Commission (NRC) employee.

The DPO (Enclosure 1) involves the Safety Evaluation Report for Surry Subsequent License Renewal. The DPO has been forwarded to Mr. Nieh for consideration and issuance of a DPO Decision.

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

Ian Gifford, OE
(301) 287-9216

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, such as a [Differing Views Best Practices Guide](#), tables with [status information and timeliness goals for open DPO cases](#), and [closed DPO case files](#) (which include DPO panel reports). We will also be sending you additional information that should help you implement the DPO process.

Timeliness is an important DPO Program objective. Thus, the disposition of this DPO should be considered an important and time sensitive activity. Although the DPO MD identifies a timeliness goal of 75 calendar days for the DPO panel review and report and 21 additional calendar days for the issuance of a DPO Decision, the DPO Program also sets out to ensure that issues receive a thorough and independent review. Therefore, the overall timeliness goal will be based on the significance and complexity of the issues, schedule challenges, and the priority of other agency work. Process Milestones and Timeliness Goals specific to this DPO will be discussed and established at a kick-off meeting.

Communication of expected timelines and status updates are important in the effectiveness and their overall satisfaction with the Differing Views Program. If you determine that your activity will result in the need for an extension beyond your timeliness goal, please send an e-mail to Mr. Nieh, the DPO submitter, and DPOPM.Resource@nrc.gov and include the reason for the extension request and a proposed completion date for your work. Mr. Nieh is responsible for subsequently forwarding the request for a new DPO Decision issuance 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 employee as the DPO submitter. 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 submitter 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 Ian Gifford.

On an administrative note, please ensure that all DPO-related activities are charged to Activity Code ZG0007. Managers should report time to their Management/Supervisor Activity Code. Administrative Assistants should report time to their Secretary/Clerical Activity Code.

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

Enclosures:

1. DPO-2020-003 Submittal
2. Process Milestones and Timeliness Goals

cc: H. Nieh, NRR
A. Veil, NRR
M. Gavrilas, NRR
R. Taylor, NRR
L. Betancourt, NRR
C. De Messieres, NRR
J. Gavula, NRR
M. Case, RES
I. Frankl, RES
J. Bowen, RES
G. Wilson, OE
F. Peduzzi, OE
D. Solorio, OE
G. Figueroa-Toledo, OE
I. Gifford, OE

SUBJECT: AD HOC REVIEW PANEL - DIFFERING PROFESSIONAL OPINION
ASSOCIATED WITH THE SAFETY EVALUATION REPORT FOR SURRY
SUBSEQUENT LICENSE RENEWAL (DPO-2020-003) DATE: 09/02/2020

ADAMS Package: ML20245E546

MEMO: ML20245E554

Enclosure 1 – ML20226A432

Enclosure 2 – ML20245E557 OE-011

OFFICE	OE: DPO/PM	OE: D
NAME	GFiguerroaToledo	GWilson
DATE	09/01/2020	09/02/2020

OFFICIAL RECORD COPY

Document 3: DPO Panel Report



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 21, 2020

MEMORANDUM TO:

Ho Nieh, Director
Office of Nuclear Reactor Regulation

FROM:

Kimberly A. Webber, DPO Panel Chair
Office of Nuclear Regulatory Research

A handwritten signature in blue ink, appearing to read "Kimberly A. Webber", is written over the typed name.

Signed by Webber, Kim
on 12/21/20

Robert L. Tregoning, DPO Panel Member
Office of Nuclear Regulatory Research

Brian K. Harris, DPO Panel Member
Office of Nuclear Regulatory Research

SUBJECT:

DIFFERING PROFESSIONAL OPINION PANEL REPORT ON
SAFETY EVALUATION REPORT FOR SURRY SUBSEQUENT
LICENSE RENEWAL (DPO-2020-003)

In a memorandum dated September 2, 2020, we were appointed as members of a Differing Professional Opinion (DPO) Ad Hoc Review Panel (the Panel) to review a DPO regarding the Safety Evaluation Report for Surry License Renewal. The Panel has reviewed the DPO in accordance with the guidance in Management Directive 10.159, "The NRC Differing Professional Opinion Program." The scope was limited to a review of the issues identified in the DPO as clarified through a Summary of Issues developed by the Panel and confirmed by the DPO submitter. The Panel evaluated the issues through interviews of knowledgeable NRC staff and a review of various documents, including official agency records.

The results of the Panel's evaluation of the concerns raised in the DPO are detailed in the enclosed DPO Panel Report. The following conclusions are provided based on our review of concerns raised in the DPO, information obtained through interviews and our review of additional information provided by those we interviewed.

The Panel finds that the Surry safety evaluation report (SER) credits undefined and undetermined corrective actions as meeting the requirements of 10 CFR 54.29. This approach appears to be inconsistent with published industry and NRC guidance. However, the Panel believes that the approach as set forth in the SER does not set a precedence that will undermine the effectiveness of future operating experience reviews for subsequent license renewal.

The Panel finds that the description of the Selective Leaching Aging Management Program (AMP) in Surry's Updated Final Safety Analysis Report (UFSAR) is generic and does not reflect program enhancements implemented by the licensee to address operating experience. Based on a sample of UFSARs for other licensees, this approach appears inconsistent with past precedence, as licensees typically include AMP enhancements within the UFSAR description. However, the lack of plant-specific program details in the UFSAR does not affect the change

H. Nieh

control process as implemented thru 10 CFR 50.59. More detailed AMP descriptions may be preferable because the UFSAR then contains all AMP provisions in a single, consistent location, but such detail is not required.

The Panel also finds that, in the Surry SER, the staff inappropriately credits enhancements to the Generic Letter 89-13 program monitoring activities for components that Surry claimed (without sufficient bases) did not require an aging management review.

It should also be noted that during its review, the panel did not identify, nor was made aware of, any significant safety issues that would require immediate regulatory action.

The Panel also offers the following recommendations for your consideration:

- Provide additional clarity in Regulatory Information Summary (RIS) 2014-06 on how to address operating experience that occurs late in the license renewal process. Such clarity could help ensure consistent staff treatment of such operating experience in future license renewal reviews. It should be noted that any such clarifications in RIS 2014-06 could lead to inconsistencies in associated industry guidance contained in industry's treatment of operating experience if NEI 17-01.
- Provide staff an option to request an independent review of their non-concurring opinion (NCO) as part of the Non-Concurrence Process (NCP). The review could be performed by a single individual who did not review or concur on the subject document and who is also outside the decision-making chain. This review could be reserved for situations where the NCO has sufficient safety or regulatory significance. The conclusions of the independent review could be considered as part of the disposition of the NCO.
- Investigate development and implementation of risk-informed approaches within the license renewal process. Such approaches offer the possibility for a more efficient and effective process consistent with NRC's strategy to transform the agency into a more modern, risk-informed regulator. Additional staff training and guidance development would likely be needed to support such approaches.

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

Enclosure:
DPO Panel Report

cc: Submitter
A. Veil, NRR,
M. Gavrilas NRR
R. Taylor, NRR
G. Wilson, OE
G. Figueroa-Toledo, OE
I. Gifford, OE

**Differing Professional Opinion (DPO)
on Safety Evaluation Report for Surry
Subsequent License Renewal
(DPO-2020-03)**

DPO Panel Report

/RA/

Kimberly A. Webber, Panel Chair

/RA/

Robert L. Tregoning, Panel Member

/RA/

Brian K. Harris, Panel Member

December 21, 2020

Date

Introduction

On August 5, 2020, a U.S. Nuclear Regulatory Commission (NRC) staff member filed a Differing Professional Opinion (DPO) in accordance with NRC Management Directive 10.159, "The NRC Differing Professional Opinions Program." The DPO involves an NRC Safety Evaluation Report (SER) for the Surry subsequent license renewal (SLR). The submitter's issues claim that the SER provides an insufficient regulatory basis to ensure that operating experience has been appropriately addressed and inappropriately credits Generic Letter 89-13 program monitoring activities.

The NRC's Office of Enforcement accepted the DPO on August 13, 2020 and assigned the DPO case number DPO-2020-003. By memorandum dated September 2, 2020, the Office of Enforcement established an Ad Hoc Review Panel (the Panel) to perform a review of the DPO. The Panel developed a draft Summary of Issues (SOI) and shared it with the submitter on November 10, 2020. Based on subsequent discussions and feedback from the submitter, a final SOI was agreed to by the DPO Panel and the submitter. The final SOI is documented in the next section.

The Panel was tasked with reviewing the individual DPO issues and providing conclusions along with recommendations, if necessary. Following initial discussions with the submitter and development of the SOI, the Panel performed its review by collecting and reviewing documents and conducting interviews with knowledgeable NRC staff. A list of documents reviewed, and NRC staff interviewed are listed in Appendices A and B, respectively. During its review, the panel did not identify, nor was made aware of, any significant safety issues that would require immediate regulatory action.

Summary of Issues (SOI)

Based on a review of the DPO submittal and associated references as well as an interview with the submitter, the Panel identified that the individual concerns could be grouped into two distinct areas, namely, improper dispositioning of operating experience and inappropriately crediting Generic Letter 89-13 program monitoring activities. The issues raised by the submitter are summarized as follows by the Panel.

1. The approach taken in the staff's acceptance of the Selective Leaching Program (as documented in the March 2020 SER) in light of the Fire Water System (FWS) operating experience that unfolded during the review, provides an insufficient regulatory basis to ensure the operating experience has been appropriately addressed in applicable aging management programs.
 - a. The SER credits undefined and undetermined corrective actions as meeting the requirements of 10 CFR 54.29 for identifying actions that have been or will be taken with respect to managing the effects of aging. The approach as set forth in the SER sets a precedence that will undermine the effectiveness of future operating experience reviews for license renewal (LR) and is inconsistent with published industry and NRC guidance.
 - b. The SER accepts a generic updated final safety analysis report (UFSAR) supplement for the Selective Leaching Program that does not include the extensive aging management program changes taken by the licensee to remedy the leaking FWS piping. The inadequate UFSAR program description does not

ensure that changes to the currently augmented program will be sufficiently controlled through the 10 CFR 50.59 process.

2. The safety evaluation report inappropriately credits Generic Letter 89-13 program monitoring activities for components that Surry claimed (without sufficient bases) did not require an aging management review. This approach is inconsistent with Commission direction in SECY-99-148 regarding credit for existing programs. By inappropriately crediting the program, the staff became a proponent of the license renewal application instead of performing an objective review.

Evaluation

Issue 1a:

The Panel agrees, that as stipulated in the first sentence of issue 1a, that the Surry SER credits undefined and undetermined corrective actions as meeting the requirements of 10 CFR 54.29 for identifying actions that have been or will be taken with respect to managing the effects of aging in the FWS. This approach was used to address operating experience (OpE) that occurred relatively late in the review of Surry's subsequent license renewal application (SLRA). In July 2019, portions of Surry's buried FWS ruptured due to selective leaching. Staff was made aware of this event in October 2019 when Dominion submitted SLRA Supplement 4, which updated the OpE discussion to incorporate this event. Staff had drafted most of the SER sections by the time the OpE was identified. This OpE is significant because it is the first reported occurrence of a pipe rupture (not a leak) due to selective leaching.

This issue is specifically addressed in Section 3.0.3.1.6 (Selective Leaching) of the SER. The SER discusses initial enhancements to Surry's Selective Leaching Aging Management Program (AMP) resulting from staff's requests for additional information (RAIs) pertaining to the OpE. The SER further notes that the OpE has been entered into Dominion's corrective action program (CAP) and that further enhancements of the Selective Leaching AMP would be identified, if needed, once Dominion completes its assessment of corrective actions.

NRR\DNRL [REDACTED] provided an integrated inspection report dated May 8, 2020 to the Panel that addressed the status of Dominion's CAP on this issue. Six corrective actions have been identified. Three actions were completed by the time of the inspection report and all activities are planned for completion by the end of 2021. No adverse findings were identified in the CAP at the time of the inspection report. The region plans to review the final corrective actions either through a resident focus sample inspection or through a problem identification and resolution (PI&R) inspection. It is the Panel's understanding that NRR\DNRL has no plans to request more information on this issue until the corrective actions are complete and the region has completed its review.

The DPO further stipulates, as summarized in the second sentence of issue 1a above, that the approach of deferring AMP changes due to OpE to the applicant's CAP and not dispositioning them as part of the SLR review and approval process sets a precedence that is inconsistent with published NRC and industry guidance. The Panel also agrees with this statement.

The associated regulatory requirements are contained in 10 CFR Part 54. Part 54.21 requires an integrated plant assessment that, for structures and components within scope, "...demonstrates that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the [current licensing basis] (CLB) for the period of

extended operation.” Additionally, Part 54.29 states that a renewed license may be issued “...if there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB, and that any changes to the plant’s CLB in order to comply with this paragraph are in accord with the Act and the Commission’s regulations. These matters are: (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under § 54.21(a)(1) ...”.

Further, there is both regulatory clarification and industry guidance on addressing OpE within an SLRA. Industry guidance in NEI 17-01 states that, per 10 CFR 54.30, licensees shall take measures under its current license to ensure that the CLB will be maintained throughout the term of its current license and, therefore, such measures are not within the scope of the license renewal review. However, NE 17-01 further states that “...an applicant for renewal is not relieved from addressing the issue relevant to the subsequent period of extended operations as part of its SLRA.” Clarification is provided by Regulatory Information Summary (RIS) 2014-06, “Consideration of Current Operating Issues and Licensing Actions in License Renewal.” The RIS addresses the timing of CLB changes with respect to major milestones pertaining to the SLRA (or LR application) including the receipt of the SLRA, the last required SLRA update, and the issuance of the renewed license.

The FWS operating event occurred prior to Surry’s last required SLRA update, which corresponds to Scenario B in RIS 2014-06. In this scenario, the RIS indicates that CLB changes are reported pursuant to 10 CFR 54.21(b). The RIS also, requires that applicants must amend the SLRA to identify any CLB changes that materially affect the contents of the SLRA and states that the “...NRC will issue its SER when all open items have been closed, including any open items created by the reported CLB changes.” The RIS further addresses issues affecting the content of an AMP and clearly states “... for plant-specific technical issues, the applicant needs to provide a sufficient technical basis to justify the adequacy of the proposed AMPs and [time-limited aging analyses] (TLAAs) in order to meet 10 CFR 54.21. When an applicant does not provide an adequate technical basis, the NRC staff cannot complete its review of the LRA.”

Therefore, as stipulated by the submitter, the existing regulatory position in RIS 2014-06 and associated industry guidance certainly imply that all changes necessitated by OpE to relevant FWS AMPs (i.e., selective leaching and buried and underground pipes and tanks) should have been included in Surry’s SLRA and not deferred to the CAP for resolution after approval of their SLRA. Most of the staff interviewed by the Panel had little knowledge of this RIS and, in particular, its relevance to the issue raised by the submitter. More importantly, staff had honest differing interpretations of what information and certainty would be needed to satisfy the 10 CFR 54.21 and 54.29 requirements and provide a “...sufficient technical basis from which to evaluate the adequacy of the applicant’s aging management activities.”

The submitter believes that the issues surrounding the Surry OpE should have been addressed by enhancing the Selective Leaching AMP, as part of the supplemented SLRA. Such an approach appears consistent with past practice as interviewees cited several examples (e.g., resolution of alkali-silica reaction issues in structural concrete at the Seabrook plant) where the approval of the SLRA was suspended until the licensee satisfactorily identified associated AMP changes. Interviews also confirmed that the approach used in Surry’s SER, which credits the eventual disposition of the OpE through Dominion’s CAP, appears to be unique.

However, one staff member interviewed by the DPO panel believes that a sufficient technical basis supporting the staff's evaluation is provided in Surry's SLRA, and is appropriately documented in the SER. In this instance, the applicant identified several changes to the Selective Leaching AMP based on the OpE that staff determined to be acceptable and further demonstrated that the FWS rupture had been successfully mitigated. The staff member believes that this demonstration provides an effective basis for determining that their Selective Leaching AMP is effective. This staff member also believes deferring any additional needed changes to the AMP until successful completion of the CAP is warranted given that final CAP resolution routinely takes two years. In this staff's opinion, requiring resolution of the impacts of all OpE on AMPs prior to approving an SLRA creates the possibility of multiple lengthy delays in the review process that have no significant safety benefit. Additionally, this practice also provides unique preference to OpE that occurs before the SLR license is granted compared with OpE that occurs after the license is granted. The Panel believes that there is merit to this argument.

The last part of the submitter's issue 1a (above) is that the approach as set forth in the SER sets a precedence that will undermine the effectiveness of future operating experience reviews. The submitter's concern is that such precedence would allow an SLR applicant to defer any AMP changes based on OpE until the CAP is completed. The Panel does not agree that the practice used in the Surry SER fundamentally alters how OpE will be addressed and evaluated in SLRA. Only OpE that is still being resolved through an applicant's CAP program would be affected by this precedent. However, consistent with 10 CFR 54 and the approach taken in the Surry SER, the expectation is that an SLRA should provide an acceptable basis demonstrating the effectiveness of the AMPs while recognizing that AMPs are living programs that continually evolve, in part, due to OpE.

The Panel concludes that, as stipulated by the submitter, the SER credits undefined and undetermined corrective actions as meeting the requirements of 10 CFR 54.29 for identifying actions that have been or will be taken with respect to managing the effects of aging and further that such an approach appears inconsistent with NRC's regulatory position and associated industry guidance. However, the Panel disagrees with the contention that the approach as set forth in the SER sets a precedence that will undermine the effectiveness of future operating experience reviews for SLR. The DPO panel recognizes that the relevant Surry OpE was somewhat unique in both its timing and potential implications, which contributed to its unique handling within the SER. To eliminate future inconsistencies related to this type of scenario, the Panel recommends that staff consider providing additional clarity in RIS 2014-06 on how to address operating experience that occurs late in the license renewal process. Such clarity could help ensure consistent staff treatment of such operating experience in future license renewal reviews. It should be noted that any such clarifications in RIS 2014-06 could lead to inconsistencies in associated industry guidance contained in industry's treatment of operating experience if NEI 17-01.

Issue 1b:

The Panel agrees that, as stipulated by the submitter for issue 1b, the SER documents the acceptance of a generic UFSAR supplement for the Selective Leaching AMP that does not include the extensive AMP changes made by the licensee to remedy the leaking FWS piping. 10 CFR 54.21(d) requires that applicants submit an FSAR supplement containing a summary description of the programs and activities for managing the effects of aging and the evaluation of time-limited aging analyses for the period of extended operation. However, the requirements in 10 CFR 54.21 are not prescriptive about the level of detail that should be provided in the

UFSAR summary descriptions. The Panel is also not aware of any guidance associated with the level of detail needed to satisfy the 10 CFR 54.21 requirement. This leaves the level of needed description within the UFSAR open to staff interpretation.

As indicated in the DPO, Section A1.21 of the Surry SLRA provides the UFSAR supplement that describes the Selective Leaching AMP. Section 3.0.3.1.6 (Selective Leaching) of the Surry SER concluded that the UFSAR supplement description is consistent with the recommended description in Table XI-01 of the Generic Aging Lessons Learned (GALL)-SLR report. As noted in the DPO, the description of Surry's selective leaching program in the UFSAR supplement was not modified. However, as Surry noted in Supplement 5 of their SLRA, significant changes were made to its selective leaching program as a result of the FWS rupture that occurred in July of 2019.

The staff interviewed by the Panel indicated that, historically, applicants that do not have relevant OpE have provided generic summary descriptions in their UFSARs that are identical (or virtually identical) to the generic descriptions provided in the GALL reports. However, staff also indicated that applicants with OpE have typically modified the associated UFSAR to describe the program enhancements implemented in response to the OpE. The Panel reviewed several UFSAR summary descriptions of selective leaching programs contained in other LR and SLR applications and the content in these UFSARs summary descriptions generally corroborated the staffs' statements to the Panel. The UFSAR summary descriptions for those plants without specific selective leaching OpE contain a general description which is consistent with GALL XI.M33 on selective leaching. However, plants with selective leaching OpE provide more detail, and incorporate changes made to the AMP based on the OpE, within their UFSAR descriptions.

While the Panel therefore agrees with the first sentence of the DPO submitter's claim that Surry's UFSAR summary description did not contain program enhancements, the second sentence of the submitter's claim (i.e., that the inadequate UFSAR program description does not ensure that changes to the currently augmented program will be sufficiently controlled through the 10 CFR 50.59 process) is not as straightforward to evaluate. The Panel has communicated with NRR/DRO/IRSB [REDACTED] on the nexus between 10 CFR 50.59 and the AMP program information contained within an UFSAR, including how the level of program detail affects control of the 10 CFR 50.59 process, as raised in the submitter's DPO.

According to NRR/DRO/IRSB, the 10 CFR 50.59 evaluation process is not based on the UFSAR description of the AMP, or even if the associated system, structure, or component (SSC) is altered. In fact, the modified SSC need not even be mentioned in the UFSAR. Instead, the 10 CFR 50.59 process evaluates whether the change affects an UFSAR-described design function.

The Panel asked NRR/DRO/IRSB if a licensee is required to assess changes to the AMP based on the effect of such changes on the SSC functionality described in the UFSAR, regardless of the level of detail in the AMP as described in the UFSAR (or if it is described at all). NRR/DRO/IRSB responded that the licensee's screening under the 10 CFR 50.59 process would assess whether changes to an AMP have an adverse effect on a UFSAR-described design function even if the AMP or the associated SSC is not explicitly described in the UFSAR.

Further, NRR/DRPO/IRSB expects that licensees are likely to screen-out changes to most SSCs associated with AMPs using an equivalency evaluation per the requirements of 10 CFR Part 50, Appendix B. An equivalent replacement is a type of change to the facility that does not alter the design functions of the SSCs. Licensee equivalence assessments (e.g., consideration

of performance/operating characteristics and other factors) may thus form the basis for screening determinations that no 10 CFR 50.59 evaluation is required.

Based on this clarification from NRR/DRO/IRSB, the Panel does not agree with the portion of the submitter's contention that a high-level, generic AMP description within the UFSAR provides less control to facility changes implemented using 10 CFR 50.59 than would a plant-specific, detailed AMP description. More detailed AMP descriptions within the UFSAR may be preferable to both NRC staff and the licensee because provisions are contained at a single, consistent location within the UFSAR, but such detail does not appear to be required.

The Panel concludes that, consistent with the DPO submitter's issue, the description of the selective leaching AMP in Surry's UFSAR is generic and does not reflect program enhancements implemented to address OpE. The Panel further concludes that the level of detail contained in other plants' UFSAR descriptions of their selective leaching AMP are highly variable with additional detail typically provided for plants that had enhanced their AMP as a result of OpE.

Despite the precedent set relative to the Surry OpE and historical evolution toward more detailed UFSAR AMP descriptions, the Panel disagrees with the submitter's concern that a generic or high-level UFSAR program description does not ensure that changes to the currently augmented program will be sufficiently controlled through the 10 CFR 50.59 process. The application of the 10 CFR 50.59 process should not be materially affected by the associated level of AMP details. Further, the Panel did not uncover any other safety concerns associated with the level of detail provided in Surry's UFSAR.

The Panel also recognizes that because there is no guidance associated with the expected level of detail to satisfy the 10 CFR 54.21(d) requirement to provide AMP summary descriptions within the UFSAR, the development of such guidance could clarify NRC's expectations.

Issue 2:

The Panel agrees, as stipulated in DPO-2020-003, that Dominion did not clearly address aging management of the emergency service water (ESW) pump engine heat exchangers and ESW pump right angle oil coolers within the Surry SLRA.

As stated in the SER, "Although Dominion included the emergency service water (ESW) pump engine heat exchangers and ESW pump right angle gear oil coolers within the scope of license renewal, there were no corresponding aging management review items for these components to demonstrate how any applicable aging effects would be managed." This ambiguity prompted staff issuance of RAI B2.1.11-2, where staff requested the following:

"For the emergency service water pump engine heat exchangers and the emergency service water pump angle drives, provide information showing that assessment of the heat transfer capabilities of safety-related heat exchangers (with a heat transfer intended function) will be performed by the SLRA Section 82.1.11, "Open-Cycle Cooling Water System" program, in accordance with site commitments to GL 89-13. Include information showing either 1) that existing aging management review items with corresponding aging effects are included in the SLRA for these components or 2) that aging management review items are not needed for these components, to demonstrate that the effects of aging will be adequately managed."

In response to this request, Dominion claimed that the Surry ESW pump diesel engine is an active skid mounted assembly and that the pump engine heat exchangers and the pump right angle gear oil coolers are integral components that are either internal or mounted directly to the active assemblies. Dominion further claimed that evaluating small diesel engine skid mounted components as active assemblies is consistent with practices used by other applicants and that, therefore, aging management review in accordance with 10 CFR 54.21(a)(1)(i) is not required.

In the Surry SER, staff concludes that "Dominion's use of the term 'active assembly' to describe the engines and the heat exchangers or coolers associated with the ESW pumps is inconsistent with the guidance in (GALL) Standard Review Plan (SRP)-SLR Table 2.3-2, 'Examples of Mechanical Components Screening and Basis for Disposition.'" The SER also states that "...Dominion's description of the 'evaluation boundary' for the ESW pump engine heat exchangers in its RAI response is consistent with the designation of 'complex assemblies' described in GALL SRP-SLR Table 2.1-2, 'Specific Staff Guidance on Scoping,' which concludes that the associated heat exchangers would be subject to an aging management review." Therefore, the SER makes it clear that the Surry SLRA should have included these components in the integrated plant assessment required by 10 CFR 54.21(a), as stipulated in DPO-2020-003.

The DPO also stipulates that, in the SER, the staff independently credits monitoring activities from Surry's GL 89-13 program as meeting the requirements of Part 54. As documented in the SER, the staff reviewed Surry's GL 89-13 response against the corresponding program elements in the associated GALL-SLR report AMP X1.M20 (Open-Cycle Cooling Water System) and determined "...there is reasonable assurance that they will perform their intended function during the subsequent period of extended operation...". The staff further concluded that exceptions to the "scope of program" and "detection of aging effects" program elements that were not addressed by the applicant for the ESW pump engine heat exchangers and pump right angle oil coolers were acceptable. As a result, the SER makes it apparent that it was the staff evaluation, and not information contained within Surry's SLRA, that was used to demonstrate compliance with the Part 54 requirements.

The DPO associated with this issue next contends that this approach is contrary to direction provided by [REDACTED] the Commission in SECY-99-148. SECY-99-148 does not appear to be applicable to this issue as it provides options for addressing existing programs in license renewal. The option accepted by the Commission confirms that staff should review existing programs and focus review guidance in the standard review plan on areas where existing programs should be augmented. However, the SECY does not explicitly comment on the staff's role and approach for conducting such a review.

[REDACTED]

[REDACTED]

[REDACTED]

Past practice has been for staff to resolve such discrepancies through the RAI process and subsequent modifications by the licensee to their license renewal application. If the discrepancy cannot be resolved through this process, staff has traditionally conditioned the approval of the license renewal application. In this case, the staff made an initial attempt at resolving this discrepancy through the RAI process but found the applicant's response to be unsatisfactory. Instead of either following-up with additional RAIs or conditioning approval of the application, staff relied on their own evaluation from docketed information pertaining to their Generic Letter 89-13 activities in conjunction with information provided in RAI responses.

There were no safety concerns identified during the staff's review of the aging management of the ESW pump engine heat exchangers and ESW pump right angle oil coolers or summarized in the SER. It appears that the approach in the SER was adopted for expediency so that the review could be completed without requiring further amendments to Surry's SLRA. One staff member interviewed did not believe that further iterations of the SLRA application to address such issues would substantially impact safety given the lack of regulatory enforcement authority associated with adherence to the license renewal commitment process. This staff member further expressed that it is more important to understand how a licensee's aging management program is being implemented than it is to review a licensee's commitments to aging management programs for a future period of extended operations. Nevertheless, the existing 10 CFR Part 54 requirements and associated guidance do not appear to have been followed in this instance.

The Panel concludes that the substance of the DPO contention pertaining to this issue is accurate and that, in the Surry SER, the staff inappropriately credits enhancements to the Generic Letter 89-13 program monitoring activities for components that Surry claimed (without sufficient bases) did not require an aging management review. This approach is inconsistent with 10 CFR Part 54 which requires that this information be submitted by the applicant on the docket in their SLRA.

Ideally, the Surry SER would be modified, and the staff's evaluation changed to reflect only information contained in the docketed license application and associated RAI responses. Further iteration on this issue with Dominion would provide them the opportunity to docket information supporting the staff's SER evaluation. To prevent further deviations, LIC-111 could be revised [REDACTED] to resolve the ambiguity on the allowable use of staff action to docket information supporting staff's licensing or regulatory decisions. Staff's role in the review process could also be clarified within NUREG-2192, "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants." While such changes may be helpful in improving consistency in agency guidance, adherence to 10 CFR Part 54 requirements is ultimately contingent on the robustness of the concurrence process of each associated SER.

Additional Issues

Non-Concurrence Process

There were two non-concurrences on the Surry SER. Some of the issues raised in these non-concurrences triggered this DPO. The Panel interviewed both non-concurring staff members as part of this DPO to discuss the efficacy of the non-concurrence process (NCP). Both staff members expressed the following views pertaining to the NCP.

1. The NCP appeared to largely be an administrative exercise.
2. The NCP did not substantively consider their issues.
3. The NCP was ultimately unsatisfying.

They also identified that the crux of their disappointment in the NCP was that some of the same staff and management that dispositioned their concerns pertaining to the Surry SER were also charged with dispositioning their non-concurring opinions (NCOs) in the NCP. Hence, there was no independent evaluation of their concerns and, based on this, they believe the outcome of the NCP was preordained. This DPO resulted because one staff member was sufficiently dissatisfied with the resolution of his issues in the NCP. The other staff member did not submit a DPO because, as he discussed with the panel, there was no expectation that the DPO would be treated differently than the NCO; and therefore, in his opinion, did not justify his additional, associated resources.

The NCP is meant to be a less resource intensive, more informal option for staff to document and address differing opinions than a DPO. Most, if not all, of the NCP objectives outlined in MD 10.158 appeared to have been satisfied in both NCOs pertaining to the Surry SER. In particular, both staff members expressed that their management was very supportive of their decisions to file an NCO and that they were not fearful of reprisal. However, the Panel believes that a more satisfactory and timely resolution of the staff's concerns through the NCP could have possibly prevented this DPO filing. While the Panel does not believe significant changes to the NCP process are warranted, the Panel recommends that a change to the NCP be considered that would allow staff an option to request an independent review of their non-concurring opinion (NCO) as part of the Non-Concurrence Process (NCP). The review could be performed by a single individual who did not review or concur on the subject document and who is also outside the decision-making chain. This review could be reserved for situations where the NCO has sufficient safety or regulatory significance. The conclusions of the independent review could be considered as part of the disposition of the NCO.

Schedule Pressures and Culture

Most of the people interviewed for this DPO indicated that the schedule pressures associated with the Surry SLRA were an important factor that prevented resolution of the DPO concerns and those articulated in the associated NCOs. The late-breaking OpE at Surry within the SLRA review schedule was certainly a principal contributor to this schedule pressure. However, several staff members also expressed that Dominion was less compliant in addressing staff's issues than prior applicants and that there was less willingness for management to push back when staff believed that Dominion's RAI responses were unsatisfactory. Both NCO submitters also opined that the culture has degraded over the last few years and that they felt less empowered as a result.

The Panel recognizes that the agency has made a significant effort over the last few years to transform into a more modern and risk-informed regulator. Such change can be challenging, necessitating a change in culture and in the way that the agency has made regulatory decisions in the past. A challenge in this regard is for staff to understand and articulate the underlying safety significance of issues so that the agency's regulatory focus is appropriate. The 10 CFR Part 54 LRA/SLRA reviews are particularly difficult to assess in a risk-informed framework because age-related degradation is often characterized by low-likelihood, potential high-consequence, high uncertainty, and cross-cutting attributes. These attributes make it challenging to accurately quantify the risk-significance of these issues compared to potential failures in active SSCs.

Associated staff review guidance, such as the GALL report, has focused on identifying best practices for aging management. While such guidance is laudable, it may not be necessary to adopt best practices in all situations and a graded approach could be considered where aging management practices are adopted that are commensurate with the risk-significance associated with the impact of applicable degradation mechanism on each specific SSC within the scope of license renewal. Therefore, the DPO panel recommends that staff consider developing and implementing risk-informed approaches within the license renewal process. Such approaches offer the possibility for a more efficient and effective process consistent with NRC's strategy to transform the agency into a more modern, risk-informed regulator. Additional staff training and guidance development would likely be needed to support such approaches. Qualitative evaluation rubrics could be helpful in this regard. Such an effort would be resource intensive and should be undertaken in concert with other changes being considered for the license renewal review process.

Recommendations

Recommendation 1:

Provide additional clarity in Regulatory Information Summary (RIS) 2014-06 on how to address operating experience that occurs late in the license renewal process. Such clarity could help ensure consistent staff treatment of such operating experience in future license renewal reviews. It should be noted that any such clarifications in RIS 2014-06 could lead to inconsistencies in associated industry guidance contained in industry's treatment of operating experience if NEI 17-01.

Recommendation 2:

Provide staff an option to request an independent review of their non-concurring opinion (NCO) as part of the Non-Concurrence Process (NCP). The review could be performed by a single individual who did not review or concur on the subject document and who is also outside the decision-making chain. This review could be reserved for situations where the NCO has sufficient safety or regulatory significance. The conclusions of the independent review could be considered as part of the disposition of the NCO.

Recommendation 3:

Investigate development and implementation of risk-informed approaches within the license renewal process. Such approaches offer the possibility for a more efficient and effective process consistent with NRC's strategy to transform the agency into a more modern, risk-

informed regulator. Additional staff training and guidance development would likely be needed to support such approaches.

Appendix A

Documents Reviewed DPO-2020-003

The Panel reviewed information found in, but not limited to, the following documents:

NRC Documents

1. Differing Professional Opinion (DPO) No. 2020-003, "Safety Evaluation Report for Surry Subsequent License Renewal," August 5, 2020, Accession No. ML20052F523.
2. Non-Concurrence Process (NCP) No.2020-001, "Safety Evaluation Report to the Subsequent License Renewal of Surry Power Station, Units 1 and 2," January 10, 2020, Accession No. ML19360A020.
3. NCP No.2020-002, "Safety Evaluation Report to the Subsequent License Renewal of Surry Power Station, Units 1 and 2," January 15, 2020, Accession No. ML19360A020.
4. Regulatory Issue Summary (RIS) No. 2014-06, May 5, 2014, Accession No. ML13177A325.
5. Code of Federal Regulations (CFR) Title 10, Energy, Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants," September 30, 2015.
6. CFR Title 10, Energy, Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," August 28, 2007.
7. Management Directive 10.158, NRC Non-Concurrence Process," November 17, 2020, Accession No. ML20281A385.
8. [REDACTED]
9. SECY-99-148 "Credit for Existing Programs for License Renewal," June 3, 1999, Accession No. ML12265A579.
10. Office Instruction, LIC-111, "Regulatory Audits," Revision 1, April 25, 2019, Accession No. ML19115A384.
11. Summary of August 13, 2019, Category 2 Public Meeting Related to the Safety Review of the Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, September 2019, Accession No. ML19253D708.
12. NUREG-1801, Rev. 2, "Generic Aging Lessons Learned (GALL) Report," December 2010, Accession No. ML103490041.
13. NUREG-2191, Vol. 2, "Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report," July 2017, Accession No. ML17187A204.

14. NUREG-2192, "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants," Accession No. ML17188A158.
15. Advisory Committee on Reactor Safeguards Open Session Transcript, April 8, 2020, Accession No. ML20115E451.
16. Letter, "Surry Power Station, Units 1 and 2, Subsequent License Renewal Application Safety Review – Documentation of Questions on Dominion Energy's October 31, 2019 Letter," December 2019, Accession No. ML19333B960.
17. Letter, "Final Requests for Additional Information for the Safety Review of the Surry Power Station, Units 1 and 2 Subsequent License Renewal Application (L-2018-0023/000951) – Set 4," August 14, 2019, Accession No. ML19231A153.
18. Letter, "Final Requests for Additional Information for the Safety Review of the Surry Power Station, Units 1 and 2 Subsequent License Renewal Application (L-2018-0023/000951) – Set 3," August 2, 2019, Accession No. ML19217A358.
19. Safety Evaluation Report Related to the Subsequent License Renewal of Surry Power Station, Units 1 and 2, December 2019, Accession No. ML20052F523.
20. Generic Letter 89-13 (Supplement 1), "Service Water System Problems Affecting Safety-Related Equipment," April 4, 1990, Accession No. 9003300128.
21. Surry Power Station – Integrated Inspection Report 05000280/2020001 and 05000281/2020001; and 07200055/2020001, May 8, 2020, Accession No. ML20129J824.

Licensee Documents

1. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, October 15, 2018, Accession No. ML18291A828.
2. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Supplement 1, January 29, 2019, Accession No. ML19042A137.
3. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Supplement 2, April 2, 2019, Accession No. ML19095A666.
4. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Supplement 3, June 10, 2019, Accession No. ML19168A028.
5. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Supplement 4, October 14, 2019, Accession No. ML19294A044.
6. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Supplement 5, October 31, 2019, Accession No. ML19310E716.

7. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Supplement 6, November 19, 2019, Accession No. ML19329A287.
8. Surry Power Station Units 1 and 2, Subsequent License Renewal Application, Response to Requests for Additional Information – Set 1, June 27, 2019, Accession No. ML19183A388.
9. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Response to Requests for Additional Information - Set 2, July 17, 2019, Accession No. ML19204A357.
10. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Response to Requests for Additional Information Sets 3 and 4, September 3, 2019, Accession No. ML19253B330.
11. Surry Power Station, Units 1 and 2, Subsequent License Renewal Application, Response to Requests for Additional Information Sets 3 and 4, Revised SLRA Mark-Ups, September 19, 2019, Accession No. ML19269B734.
12. Surry Power Station, Units 1 and 2, Updated Final Safety Analysis Report, Revision 51, October 19, 2019, Accession No. ML19295D919.
13. Surry Power Station, Units 1 and 2, Updated Final Safety Analysis Report, Revision 52, September 30, 2020, Accession No. ML20308A452.

Other Documents

1. Nuclear Energy Institute (NEI) 17-01, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 for Subsequent License Renewal," December 31, 2017, Accession No. ML17339A599.
2. NEI 99-04 "Guidelines for Managing NRC Commitment Changes," July 1999, Accession No. ML12233A703.
3. NEI 98-03, "Guidelines for Updating Final Safety Analysis Reports," Revision 1, June 1999, Accession No. ML003779028.
4. NEI 96-07, "Guidelines for 10 CFR 50.59 Evaluations," Revision 1, November 2000, Accession No. ML003771157.

Appendix B**NRC Staff Interviewed
DPO-2020-003**

To conduct its review, the Panel developed a list of staff to interview and solicited input from the DPO submitter on additional staff to interview. Through the course of the interviews, additional staff were identified given their potential role and knowledge of the subject associated with the DPO.

The Panel interviewed the following staff:

1. Jim Gavula, Mechanical Engineer, Corrosion and Steam Generator Branch, Division of New and Renewed Licenses, Office of Nuclear Reactor Regulation
2. Steve Bloom, Branch Chief, Engineering Branch 1, Division of New and Renewed Licenses, Office of Nuclear Reactor Regulation
3. Allen Hiser, Senior Level Advisor, Division of New and Renewed Licenses, Office of Nuclear Reactor Regulation
4. Brian Allik, Materials Engineer, Division of New and Renewed Licenses, Office of Nuclear Reactor Regulation
5. Dave Beaulieu, Reactor Operations Engineer, Division of Reactor Oversight, Office of Nuclear Reactor Regulation

Differing Professional Opinion Panel Report on Safety Evaluation Report for Surry Subsequent License
Renewal (DPO-2020-003) DATE December 21, 2020

DISTRIBUTION:

AVeil, NRR

MGavrilas, NRR

RTaylor, NRR

GWilson, OE

GFiguerroaToledo, OE/CRB

IGifford, OE/CRB

KWebber, RES/DSA

RTregoning, RES/DE

BHarris, RES/DE/CMB

ADAMS Accession No.: ML20353A331; Memo ML20353A330

OFFICE	RES/DE	RES/DE/CMB	RES/DSA	
NAME	RTregoning <i>RT</i>	BHarris <i>BH</i>	KWebber <i>KW</i>	
DATE	Dec 18, 2020	Dec 21, 2020	Dec 21, 2020	

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Document 4: DPO Decision



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

January 28, 2021

MEMORANDUM TO: James A. Gavula, Mechanical Engineer
Division of New and Renewed Licenses
Office of Nuclear Reactor Regulation

FROM: Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

SUBJECT: DIFFERING PROFESSIONAL OPINION DECISION INVOLVING
SAFETY EVALUATION REPORT FOR SURRY SUBSEQUENT
LICENSE RENEWAL (DPO-2020-003)

Ho K. Nieh

Digitally signed by Ho K.
Nieh
Date: 2021.01.28
11:15:24 -05'00'

The purpose of the memorandum is to respond to your differing professional opinion (DPO) submitted on August 5, 2020, in accordance with Management Directive 10.159, "The Nuclear Regulatory Commission Differing Professional Opinions Program" (Agencywide Documents Access and Management System (ADAMS) ML15132A664). Your DPO, titled "Safety Evaluation Report for Surry Subsequent License Renewal" (ADAMS Accession No. ML19360A020), concerns the regulatory basis documented in the staff's safety evaluation report (SER) related to the subsequent license renewal of Surry Power Station, Units 1 and 2 (ADAMS Accession No. ML20052F523). Specifically, you raise issues related to the regulatory basis to ensure that operating experience has been appropriately addressed in applicable aging management programs and the credit for Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment" (ADAMS Accession No. 9003300128) program monitoring activities.

I found your DPO to be carefully researched and of high technical quality. It raised issues for consideration of guidance and process enhancements within the subsequent license renewal review process that could improve clarity and reliability, consistent with the U.S. Nuclear Regulatory Commission (NRC)'s Principles of Good Regulation. I commend you for your commitment and dedication to the NRC mission. Your willingness to raise concerns with your colleagues and managers and ensure that your concerns are heard and understood is admirable and vital to ensuring a healthy safety culture within the agency.

My response to your DPO including associated follow-up actions are described in the enclosure.

Enclosure:
DPO regarding SER for Surry
Subsequent License Renewal (DPO-2020-003)

CONTACT: Candace de Messieres, NRR
(301) 415-8395

SUBJECT: DIFFERING PROFESSIONAL OPINION DECISION INVOLVING SAFETY
EVALUATION REPORT FOR SURRY SUBSEQUENT LICENSE RENEWAL
(DPO-2020-003) DATED JANUARY 28, 2021

DISTRIBUTION:

L. Betancourt, NRR
A. Bradford, NRR
C. de Messieres, NRR
J. Gavula, NRR
H. Nieh, NRR
R. Taylor, NRR
A. Veil, NRR
G. Figueroa-Toledo, OE
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G. Wilson, OE
B. Harris, RES
R. Tregoning, RES
K. Webber, RES

ADAMS Accession No.: ML21025A309

OE-011

OFFICE	NRR	NRR
NAME	CdeMessieres	HNieh
DATE	01/27/21	01/28/21

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DIRECTOR'S DECISION FOR DIFFERING PROFESSIONAL OPINION (DPO)
SAFETY EVALUATION REPORT FOR SURRY SUBSEQUENT LICENSE RENEWAL

DPO-2020-003

Background

Your Differing Professional Opinion (DPO) concerns the regulatory basis documented in the staff's safety evaluation report (SER) related to the subsequent license renewal (SLR) of Surry Power Station, Units 1 and 2 (Surry) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20052F523). Specifically, you raise issues related to the regulatory basis to ensure that operating experience has been appropriately addressed in applicable aging management programs (AMPs) and to the credit for Generic Letter (GL) 89-13, "Service Water System Problems Affecting Safety-Related Equipment" (Legacy Library Accession No. 9003300128) program monitoring activities.

The DPO Ad Hoc Review Panel (the Panel) issued their report to me on December 21, 2020, after reviewing the applicable documents, completing internal interviews with relevant individuals, and completing their deliberations (ADAMS Accession No. ML20353A330). I discussed the Panel report with the DPO Panel members on January 6, 2021. On January 7, 2021, I discussed your insights and comments based on the Panel report findings.

To inform my decision regarding your DPO, I reviewed your DPO submittal, the Panel's report, and considered our discussion on January 7, 2021. I considered the licensee's SLR application, as supplemented, the U.S. Nuclear Regulatory Commission (NRC) staff SER, related non-concurrence process (NCP) packages (ADAMS Accession Nos. ML20066J465 and ML20066J740), pertinent guidance and staff positions (e.g., RIS 2014-06, "Consideration of Current Operating Issues and Licensing Actions in License Renewal" and SECY 1999-148, "Credit for Existing Programs for License Renewal" (ADAMS Accession Nos. ML13177A325 and ML12265A579, respectively), and information presented to the Advisory Committee on Reactor Safeguards (ACRS) (ADAMS Accession No. ML20115E451). I also consulted with subject matter experts and assigned an independent staff member to assist in my evaluation and the documentation of my decision.

Summary of Issues

The Panel identified that individual DPO concerns could be grouped into two distinct areas summarized below:

- 1) Improper dispositioning of operating experience related to a fire water system (FWS) pipe rupture due to selective leaching.

The approach taken in the staff's acceptance of the selective leaching program, as documented in the SER provides an insufficient regulatory basis to ensure the FWS pipe rupture operating experience has been appropriately addressed in applicable AMPs.

- a. Improper crediting of undefined and undetermined corrective actions as meeting the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 54.29, "Standards for issuance of a renewed license," for identifying

actions that have been or will be taken with respect to managing the effects of aging. The approach in the SER sets a precedence that will undermine the effectiveness of future operating experience reviews for license renewal and is inconsistent with published industry and NRC guidance.

- b. Improper acceptance of a generic updated final safety analysis report (UFSAR) supplement for the Selective Leaching Program that does not include the extensive aging management program changes taken by the licensee to remedy the leaking FWS piping. The inadequate UFSAR program description does not ensure that changes to the currently augmented program will be sufficiently controlled through the 10 CFR 50.59, "Changes, tests and experiments," process.
- 2) Inappropriately crediting GL 89-13 program monitoring activities for components that Surry claimed (without sufficient bases) did not require an aging management review. This approach is inconsistent with Commission direction in SECY 99-148 regarding credit for existing programs. By inappropriately crediting the program, the staff became a proponent of the license renewal application instead of performing an objective review.

My Assessment of the Panel Conclusions

Concern 1

The Panel concluded that the SER does credit, in part, the applicant's entry of the FWS operating experience in its corrective action program (CAP) for meeting select requirements of 10 CFR 54.29. The Panel found that this approach is not consistent with past precedence or NRC and industry guidance that indicates operating experience-related AMP changes should be explicitly included as part of the SLR review. However, the Panel did not find that the approach taken sets a precedence that will undermine the effectiveness of future operating experience reviews for SLR. In addition, despite deviations from guidance and precedence, the Panel found that there are no safety concerns since the operating experience is being managed through existing programs.

The Panel agreed that the SER documents the staff acceptance of a generic UFSAR supplement for the selective leaching AMP even though operating experience-related changes were made by the applicant. The Panel found this approach acceptable but noted that the inclusion of a Generic Aging Lessons Learned (GALL) Report AMP, with no changes, in the UFSAR when site-specific operating experience is available, is not consistent with the state-of-practice. The Panel also found that this approach does not imply reduced control of AMP changes through the 10 CFR 50.59 process.

I generally agree with the Panel's conclusions that the staff's review approaches deviated from precedence and did not reflect best-practice expectations delineated in staff and industry guidance. However, I find that the Surry SLR SER is adequate and am confident in its conclusions that the approaches taken meet applicable 10 CFR 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants" requirements. I note that the staff's SER was subject to a very thorough review and concurrence process, that included a no legal objection determination by the Office of General Counsel (OGC), comprehensive documentation and disposition of two related non-concurrences, and a rigorous ACRS technical review. As such, the staff's findings for the SLR provide reasonable assurance of safety.

I agree with the Panel that there is not a safety concern associated with the staff's review approaches and conclusions and I am confident that Surry will continue to operate safely in accordance with its licensing basis. However, I think this DPO concern raises both important process and technical issues. Fire is a large contributor to a plant's overall risk profile and the ability to mitigate fire hazards is important to plant safety. In fact, the Surry FWS operating experience is highlighted in the recently issued NRC Information Notice (IN) 2020-04, "Operating Experience Related to Failure of Buried Fire Protection Main Yard Piping," (ADAMS Accession No. ML20223A333). While NRC INs do not impose new requirements or require specific action, the NRC expects recipients to review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems.

Lastly, one strength of the NRC regulatory framework is that it provides for needed complementary oversight through inspection. While there is not a dedicated inspection procedure for SLR in the Reactor Oversight Process baseline inspection program, there are existing inspection procedures that enable NRC review of CAP implementation, fire protection program implementation and sampling of aging management program elements. For example, the Panel referenced a May 8, 2020, inspection report that provided a status of the relevant corrective actions at the time. The report identified six corrective actions with three completed at the time of the inspection report and all activities planned for completion by the end of 2021. The Panel report indicates that Region 2 plans to review the final corrective actions either through a resident focus sample inspection or through a problem identification and resolution inspection. I am confident that the ongoing implementation of the Reactor Oversight Process will continue helping ensure that reasonable assurance of safety and security exists at Surry.

Concern 2

The Panel concluded that the applicant did not clearly address aging management of the emergency service water (ESW) pump engine heat exchangers and ESW pump right angle oil coolers within the Surry SLR application. It also concluded that the SER credits GL 89-13 program monitoring activities against the corresponding program elements in the applicable GALL-SLR report AMP. The Panel did not find SECY 99-148 regarding credit for existing programs in license renewal to be applicable; however, it did find that the staff's use of permanent plant records, not independently docketed by the licensee, deviated from past practice in SLR reviews [REDACTED]. The Panel also noted [REDACTED] that staff guidance, namely the Office of Nuclear Reactor Regulation's (NRR) Office Instruction, LIC-111, "Regulatory Audits" (ADAMS Accession No. ML19226A274), be revised to address ambiguity regarding the use of such records to support safety evaluation findings.

Importantly, while the Panel states that ideally the Surry SLR SER would be modified, it does not recommend such modifications. The Panel states that there were no safety concerns identified during the staff's review of the aging management of the ESW pump engine heat exchangers and ESW pump right angle oil coolers or summarized in the SER. The Panel also did not find that the staff was a proponent of the license renewal application by crediting GL 89-19 program monitoring activities.

I generally agree with the Panel's conclusions regarding this concern. While I find the staff SER to be adequate, I also find that the DPO submittal and Panel report highlight that the NRC's Principles of Good Regulation, and in particular, clarity and reliability, could have been strengthened through consistent application and understanding of guidance. I also acknowledge [REDACTED] the benefit of potential revisions to LIC111,

“Regulatory Audits.”

I appreciate the Panel’s thoughtful assessment of the concerns raised in the DPO and for providing recommendations to address identified areas for improvement. My responses to specific Panel recommendations are provided below.

Response to Recommendation 1

(Panel Recommendation 1) Provide additional clarity in Regulatory Information Summary (RIS) 2014-06 on how to address operating experience that occurs late in the license renewal process. Such clarity could help ensure consistent staff treatment of such operating experience in future license renewal reviews. It should be noted that any such clarifications in RIS 2014-06 could lead to inconsistencies in associated industry guidance contained in industry’s treatment of operating experience in NEI 17-01.

I agree with the Panel that additional clarity in RIS 2014-06 on how to address operating experience that occurs late in the license renewal process could help ensure consistent staff treatment of operating experience in future SLR reviews. I also note the Panel’s observation that of the staff interviewed, most had little knowledge of the RIS or its relevance to this DPO. Although the Panel did not find SECY 99-148 applicable to the DPO concerns, I found this SECY paper to provide insightful, related staff positions. Based on a limited query, I found that it is likely that a large percentage of staff engaged in license renewal activities are also not aware of SECY-99-148. While I am confident in NRR’s qualification program (ADM-504, “Qualification Program” (ADAMS Accession No. ML14321A881)) and the training provided through NRR’s Division of New and Renewed Licensing (DNRL), NRR is a continual learning organization and is receptive to ideas for process improvements to enhance our ability to carry out our mission efficiently and effectively.

Therefore, I am tasking DNRL to update RIS 2014-06 to clarify the treatment of operating experience the occurs late in the review and evaluate if other pertinent guidance documents may also need updating. I am also tasking DNRL to consider if additional training or training program updates are needed to ensure a common understanding of acceptable approaches to disposition late breaking operating experience and credit existing programs in license renewal. A response from DNRL regarding these recommendations will be tasked for completion by June 22, 2021.

This DPO also highlighted a perceived ambiguity regarding the allowable use of staff action to docket information supporting the staff’s licensing or regulatory decisions. Therefore, I am tasking NRR’s Division of Operating Reactor Licensing (DORL) to evaluate if updates to NRR Office Instruction, LIC-111 are necessary to clarify such treatment during its next scheduled revision. In addition, I am tasking DORL to consider if there are opportunities to clarify the treatment through other processes such as the Request for Confirmation of Information process. A response from DORL regarding the schedule for performing this evaluation will be tasked for completion by March 29, 2021.

Response to Recommendation 2

(Panel Recommendation 2) Provide staff an option to request an independent review of their non-concurring opinion (NCO) as part of the Non-Concurrence Process (NCP). The review could be performed by a single individual who did not review or concur on the subject document and who is also outside the decision-making chain. This review could be reserved for situations

where the NCO has sufficient safety or regulatory significance. The conclusions of the independent review could be considered as part of the disposition of the NCO.

The NCP and DPO processes are vital to ensuring a healthy safety culture within the agency and illustrate the NRC's commitment to the free and open discussion of professional views. I carefully considered the Panel's observations regarding the NCP process as well as impacts of schedule pressures and culture on the staff's review. I found it particularly concerning that the Panel summarized your experience with the NCP as: 1) the NCP appeared to largely be an administrative exercise; 2) the NCP did not substantively consider their issues; and 3) the NCP was ultimately unsatisfying. In accordance with Management Directive 10.159, "The Nuclear Regulatory Commission Differing Professional Opinions Program," concerns or recommendations as part of the differing views program should be referred to the Office of Enforcement.

Response to Recommendation 3

(Panel Recommendation 3) Investigate development and implementation of risk-informed approaches within the license renewal process. Such approaches offer the possibility for a more efficient and effective process consistent with NRC's strategy to transform the agency into a more modern, risk-informed regulator. Additional staff training and guidance development would likely be needed to support such approaches.

NRC is a modern risk-informed regulator and I support any opportunities to improve the execution of our important safety and security mission by using risk-insights to make better decisions and focus resources on those items of greatest importance. Pursuing risk-informed approaches supports both our agency's transformational vision and its response to the Commission's direction in the Staff Requirements Memorandum to SECY-19-0036 (ADAMS Accession No. ML19183A434):

In any licensing or other regulatory decision, the staff should apply risk-informed principles when strict, prescriptive application of deterministic criteria such as the single failure criteria is unnecessary to provide for reasonable assurance of adequate protection of public health and safety.

Accordingly, there are ongoing risk-informed activities related to SLR. The joint NRR DNRL-EMBARC Venture Studios SLR effort includes an initiative to examine the feasibility of using risk insights to improve the safety focus of license renewal applications. The initiative findings are summarized in a white paper that provides background information on the license renewal process and on license amendments that permit risk categorization of structures, systems, and components (i.e., 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors"). The paper also explores the regulatory basis for using risk insights in the license renewal process, discusses potential ways applicants may incorporate risk information, and lists recommendations for consideration (ADAMS Accession No. ML20122A203).

Additionally, NRR Office Instruction LIC-206, Revision 1 "Integrated Risk-Informed Decision-Making for Licensing Reviews" (ADAMS Accession No. ML19263A645) was recently rolled out for implementation. This initiative provides guidance on how to conduct an integrated review team and provides technical staff the guidance and tools necessary for using risk insights in all types of licensing reviews.

I have confidence that NRR will continue to increase its use of risk-informed decisionmaking in SLR, as is evidenced by the ongoing efforts noted. Therefore, I do not see a need to initiate new additional SLR risk-informed initiatives at this time.

Concluding Remarks

I found that your DPO positions were of notable technical merit and well documented in your submittal. Insights gathered as part of my evaluation of this DPO will enhance NRR's SLR review process. Your submittal highlighted the importance of clear and consistent guidance, open communications, and well documented decisions to improve the quality of our decisionmaking consistent with the Principles of Good Regulation and the NRC values.

A summary of the DPO will be included in the Weekly Information Report (when the case is closed) to advise employees of the outcome.

Thank you for raising your DPO and for your active participation in this process. I commend you for your commitment and dedication to the NRC mission. An open and thorough exploration of how we carry out our regulatory processes is essential to keeping these programs effective. Your willingness to raise concerns with your colleagues and managers will ensure that your concerns are heard and understood is admirable and vital to ensuring a healthy safety culture within the Agency.

Document 5: DPO Appeal Submittal



DIFFERING PROFESSIONAL OPINION -- APPEAL

DPO Case Number

DPO-2020-003

Date Appeal Received

02/18/2021

Name and Title of Submitter

James A. Gavula Mechanical Engineer

Organization

NRR/DNRL/NCSG

Telephone Number (10 numeric digits)

(630) 829-9755

Name and Title of Supervisor

Steven Bloom Branch Chief

Organization

NRR/DNRL/NCSG

Telephone Number (10 numeric digits)

(301) 415-2431

Basis for filing appeal. Focus should be on perceived flaws in the DPO Decision and why the agency should come to a different conclusion. (Use continuation pages or attach Word document)

See Attached File

SIGNATURE OF SUBMITTER

James A. Gavula

Digitally signed by James A.
Gavula
Date: 2021.02.18 14:22:50 -06'00'

DATE

SIGNATURE OF CO-SUBMITTER (If any)

DATE

**SCAN THE SIGNED AND DATED FORM (INCLUDING CONTINUATION PAGES OR WORD DOCUMENTS) AND
EMAIL TO: DPOPM.Resource@nrc.gov**

SIGNATURE OF DPO PROGRAM MANAGER

Ian A. Gifford

Digitally signed by Ian A. Gifford
Date: 2021.02.22 12:34:03 -05'00'

DATE



DPO appeal accepted



DPO appeal returned

Delete Continuation Page

Add Continuation Page

Appeal for DPO-2020-003

Signature of Submitter

James A. Gavula

Digitally signed by James A.
Gavula
Date: 2021.02.18 14:22:50 -06'00'

For clarity purposes, the Office Director's decision memorandum (ML21025A309) should be corrected to address the following issue:

With regard to issue 2, the Office Director's memorandum states "The Panel also did not find that the staff was a proponent of the license renewal application by crediting GL 89-13 program monitoring activities." The DPO Panel Report does not include any finding regarding the staff being or not being a proponent of the license renewal application. While the absence of any finding technically makes the quoted sentence true, the absence of a finding cannot be portrayed as the DPO Panel making such a determination.

Setting a Precedent by Deferral to the Applicant's Corrective Action Program

The Office Director noted that for concern 1a, despite deviations from guidance and precedence, the DPO Panel Report (ML20353A330) did not find that the approach (crediting entry of operating experience in the corrective action program as meeting the requirement of 10 CFR 54.29(a)) sets a precedence that will undermine future operating experience review effectiveness. The Office Director generally agreed with the panels conclusion that the approach deviated from precedence and expectations in staff and industry guidance.

Because it is acknowledged that the approach credited in the safety evaluation report deviated from current guidance and past precedents, it is not clear how the DPO Panel can conclude that this newly established precedent will not undermine future operating experience review effectiveness. It does not seem possible to predict how or whether a newly established position will be cited as a precedent in future situations. In addition, although existing programs may manage operating experience, which ensures that issues are entered into the corrective action program, the completion timeliness of corrective action is judge by the concept of "commensurate with safety." (See Inspection Procedure 71152, Problem Identification and Resolution (ML14316A042)). Because most license renewal reviews are done more than 10 years before the subsequent period of extended operation, deferral of corrective action completion for aging management program changes until that time cannot be a regulatory issue unless a subsequent failure shows that corrective actions were not timely.

Lack of Current Licensing Basis Clarity by Deferral to the Corrective Action Program

From a licensing perspective, crediting undefined and undetermined corrective actions subverts the current licensing basis of a plant. As defined in 10 CFR 54.4, the current licensing basis of a plant includes various aspects "as well as licensee commitments documented in NRC safety evaluations." Although deferral to the corrective action program is appropriate for ongoing inspections through the reactor oversight program, deferring to undefined and undetermined corrective actions does not provide a clear record of the basis for the staff's conclusions and clouds the licensing basis for future regulatory actions.

Applicant's Failure to Follow Guidance Should Not Cause Us to Revise Our Guidance

I do not agree with the Office Director's endorsement of the DPO Panel's recommendation to revise Regulatory Issue Summary 2014-06, Consideration of Current Operating Issues and Licensing Actions in License Renewal" (ML13177A325). The current guidance is adequate and

should not be changed because an individual license renewal applicant chose to not provide further information in response to NRC technical reviewers requests for information. The Office Director noted the DPO Panel's observation that the staff had little knowledge of this generic communication. Based on my decade-long experience in license renewal, this is because applicants have, except for this occurrence, used the approach delineated in Regulatory Issue Summary 2016-06, and there has been no need to invoke this guidance.

As noted by the Office Director, my DPO concerns the regulatory basis documented in the staff's safety evaluation report. The Nuclear Reactor Regulation Office Instruction RNWL-100, "Application Review Process for License Renewal and Subsequent License Renewal," (ML19171A409) identifies process responsibilities for the License Renewal Technical Review Branches as including, among other things:

- Ensuring that the technical bases for conclusions are clearly articulated in the safety evaluation reports
- Performing safety reviews and preparing input for safety evaluation reports consistent with the license renewal guidance documents
- Following staff guidance documented in this OI, associated reference documents, and applicable inspection procedures and handbooks

Both the DPO Panel and the Office Director concede that the safety evaluation report did not follow staff guidance. The Office Director notes that the DPO panel did not recommend modifying the Surry safety evaluation report and stated that such action would be ideal. It is not clear why neither the DPO Panel nor the Office Director provided any recommendations to reinforce that the safety evaluation reports should be consistent with the existing guidance.

Newly Identified Operating Experience Shows that Aging Management Is Needed

The Office Director reiterates the DPO Panel's statement that there were no safety concerns identified during the staff's review of the aging management for an emergency service water pump engine heat exchanger and right-angle drive oil coolers. However, based on additional information documented in the industry operating experience database, a cooling water pipe to the right-angle drive oil cooler at Surry failed on August 12, 2018 (2 months before submittal of the subsequent license renewal application). The failure was caused by age related degradation (i.e., general corrosion) of the carbon steel pipe and resulted in a functional failure due to loss of oil cooling to the pump's angle drive. The applicant did not provide this operating experience information to the staff during discussions about their basis for not needing an aging management review for this component. Because the applicant considered this and other components associated with the diesel engine skid as part of an "active assembly," they apparently believed the information did not need to be provided to the staff. I only recently became aware of this operating experience. This additional information demonstrates that Surry's GL 89-13 activities did not adequately manage the effects of aging. Had they staff been aware of this operating experience, the staff would have been able to refute the applicant's claim that activities performed as part of the GL 89-13 program adequately managed aging. While this issue could be pursued through inspection activities associated with the GL 89-13 program (refer to inspection procedure 71111.07, Heat Sink Performance (ML16161A056)), because the NRC staff credited this program as part of its license renewal reviews and not the applicant, there can be no correlation back to any aging management concerns. The operating experience shows that an aging management review of the right-angle drive oil cooler should have been performed by Surry, and the staff should have reviewed the applicant's work as part of its license renewal activities.

Document 6: Statement of Views



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

March 26, 2021

MEMORANDUM TO: Margaret M. Doane
Executive Director for Operations

FROM: Andrea D. Veil, Director {{signature:ADW1}}
Office of Nuclear Reactor Regulation

SUBJECT: STATEMENT OF VIEWS REGARDING APPEAL OF DIFFERING
PROFESSIONAL OPINION DECISION INVOLVING SAFETY
EVALUATION REPORT FOR SURRY SUBSEQUENT LICENSE
RENEWAL (DPO-2020-003)

Introduction

The purpose of the memorandum is to provide you with my statement of views regarding the appeal of the differing professional opinion decision (DPO)-2020-003.¹ The appeal asserts that corrective actions proposed in the Office of Nuclear Reactor Regulation (NRR) Director's Decision memorandum are not sufficient to adequately address the DPO concerns.² Specifically, the appellant highlights a maintained concern regarding the regulatory basis for addressing fire water system (FWS) operating experience (OpE) and for crediting Generic Letter (GL) 89-13, "Service Water System Problems Affecting Safety-Related Equipment" (Legacy Library Accession No. 9003300128) activities in the U.S. Nuclear Regulatory Commission (NRC) staff's safety evaluation report (SER) for the subsequent license renewal (SLR) of Surry Power Station, Units 1 and 2 (Surry) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20052F523).

CONTACT: Candace de Messieres, NRR
(301) 415-8395

¹ On August 5, 2020, DPO-2020-003, titled "Safety Evaluation Report for Surry Subsequent License Renewal" (ADAMS Accession No. ML15132A664), was submitted. The DPO concerns the regulatory basis documented in the staff's safety evaluation report related to the subsequent license renewal of Surry Power Station, Units 1 and 2 (ADAMS Accession No. ML20052F523). Specifically, issues related to the regulatory basis to ensure that operating experience has been appropriately addressed in applicable aging management programs and the credit for Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment" (ADAMS Accession No. 9003300128) program monitoring activities are raised.

² On January 28, 2021, the NRR Director, Ho K. Nieh, issued a Director's Decision regarding DPO-2020-003 (ADAMS Accession No. ML21025A309). The decision largely aligned with the recommendations and observations of the Ad Hoc DPO panel (the DPO Panel or Panel) (ADAMS Accession No. ML20353A330). Accordingly, NRR staff were tasked to update or evaluate pertinent guidance.

Since I was not involved with the initial review of this DPO, and, given the importance of the issues raised by the appellant, I took the time to assess related documents and information and to discuss the concerns with the appellant and staff involved with evaluating the original DPO. These steps enabled my views on this appeal and informed my decisions regarding if any additional actions are warranted.

My Views of the Differing Professional Opinion

Director's Decision Clarifying Statement

The DPO Panel report summary of issues, item 2, states the following: "By inappropriately crediting the program, the staff became a proponent of the license renewal application instead of performing an objective review." The appellant notes that the DPO Panel report does not include a finding regarding the staff being or not being a proponent of the license renewal application. The appellant further notes that the Director's Decision includes the following statement: "The Panel also did not find that the staff was a proponent of the license renewal application by crediting GL 89-13 program monitoring activities," and requests a correction since while the absence of any finding technically makes the quoted sentence true, the absence of a finding cannot be portrayed as the DPO Panel making such a determination.

I agree with the appellant from a literal interpretation standpoint; however, since the DPO appeal and this statement of views are included in the DPO case file and reflect an active dialog between individuals, I disagree the Director's Decision needs correction. Moreover, based on my independent assessment of the DPO Panel's findings, conclusions, and recommendations, I do not find evidence to conclude that the staff was a proponent of the license renewal application.

Setting a Precedent by Deferral to the Applicant's Corrective Action Program

The DPO Panel report summary of issues, item 1a, states the following:

The SER credits undefined and undetermined corrective actions as meeting the requirements of 10 CFR 54.29 for identifying actions that have been or will be taken with respect to managing the effects of aging. The approach as set forth in the SER sets a precedence that will undermine the effectiveness of future operating experience reviews for license renewal (LR) and is inconsistent with published industry and NRC guidance.

While the DPO Panel acknowledges the approach does set a precedence, it did not agree that the approach fundamentally alters how OpE will be addressed and evaluated in subsequent SLR applications.

The appellant contends that it does not seem possible to predict how or whether a newly established position will be cited as a precedent in future situations. I partly agree with the appellant; however, the Panel report states that the relevant Surry OpE was somewhat unique in both its timing and potential implications, which contributed to its unique handling within the SER and that only OpE that is still being resolved through an applicant's corrective action program (CAP) would be affected by this precedent. In addition, the Director's Decision is aligned with the DPO Panel recommendation that the staff evaluate the germane guidance, Regulatory Issue Summary (RIS) 2014-06, "Consideration of Current Operating Issues and Licensing Actions in License Renewal," (ADAMS Accession Nos. ML13177A325), to provide

additional clarity on appropriate approaches to addressing OpE that occurs late in the license renewal process. The Director's Decision tasking also includes a review to evaluate if other pertinent guidance documents or training program updates are needed. Therefore, I concluded that no additional actions are necessary to ensure the effectiveness of future OpE reviews for license renewal.

Lastly, I acknowledge the appellant's summary of the treatment of OpE through existing programs as it relates to SLR and the NRC's oversight role in execution of licensee corrective actions. However, the Reactor Oversight Process is an effective, mature program that continues to evolve and improve in order to ensure it continues to meet its original program goals providing appropriate oversight throughout the operating lifecycle of the plant.

Lack of Current Licensing Basis Clarity by Deferral to the Corrective Action Program

I acknowledge the appellant's perspective regarding deferral of corrective actions to the licensee's CAP. However, I disagree that the approach used by the staff to evaluate the Surry FWS OpE in the context of SLR subverts the current licensing basis and that the treatment does not provide for a clear record of the basis for the staff's conclusions. I also do not believe that the approach clouds the licensing basis for future regulatory actions.

The Surry SLR SER, Section 3.0.3.1.6, "Selective Leaching," includes citations to the licensee's SLR application supplements that report the FWS pipe rupture OpE and respond to pertinent NRC requests for information. The SER documents the NRC staff's evaluation of the licensee provided information, including its findings regarding the licensee's initial actions and enhancements to Surry's Selective Leaching Aging Management Program (AMP) given the OpE. The SER states that additional changes to the AMP to address other possible issues, if necessary, will be identified as the licensee completes its development of corrective actions. However, it also states that the NRC staff finds that the conditions and operating experience at the plant are bounded by those for which the selective leaching program was evaluated.

I agree with the position taken in the Director's Decision that the Surry SLR SER is adequate and that the NRC staff SER documents the basis for how applicable Title 10 of the *Code of Federal Regulations* (10 CFR) Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants" requirements are met. I note that the staff's SER was subject to a thorough review and concurrence process, that included a no legal objection determination by the Office of the General Counsel (OGC), comprehensive documentation and disposition of two related non-concurrences, and a rigorous Advisory Committee on Reactor Safeguards (ACRS) technical review. One strength of the NRC regulatory framework is that it provides for needed oversight through inspection, which includes review of a licensee's corrective action program and its resolution of issues through that program. I support Region 2's efforts to review the final corrective actions either through a resident focus sample inspection or through a problem identification and resolution inspection.

Applicant's Failure to Follow Guidance Should Not Cause Us to Revise Our Guidance

The appellant contends that no updates to RIS 2014-06 are needed and that the staff's limited awareness of the RIS is because applicants have, except for this occurrence, used the approach delineated in RIS. The appellant also provides an excerpt on the role of the license renewal technical review branches from NRR Office Instruction, RNWL-100, "Application Review Process for License Renewal and Subsequent License Renewal" (ADAMS Accession No. ML19171A409) highlighting the importance of ensuring clarity in SERs and expectations for

following guidance. Lastly, the appellant questions why the DPO Panel and the Office Director did not reinforce that safety evaluation reports should be consistent with the existing guidance.

I appreciate the appellant's perspectives and commitment to ensuring clarity and reliability by raising this concern. While I support adherence to guidance, as appropriate and as practicable, I also realize that in some cases it is necessary to balance its strict adherence with alternatives as dictated by our NRC Principles of Good Regulation: "where several effective alternatives are available, the option which minimizes the use of resources should be adopted. Regulatory decisions should be made without undue delay." As noted previously, the SER was subject to a thorough review and concurrence process, that included OGC and ACRS reviews, as well as comprehensive documentation and disposition of two related non-concurrences. Therefore, I support the Panel recommendation and Office Director's Decision to update RIS 2014-06 to provide additional clarity on approaches for addressing late breaking OpE in license renewal reviews.

Newly Identified Operating Experience Shows that Aging Management Is Needed

The DPO Panel report summary of issues, item 2, states the following: "The safety evaluation report inappropriately credits GL 89-13 program monitoring activities for components that Surry claimed (without sufficient bases) did not require an aging management review." The DPO Panel report states that there were no safety concerns identified during the staff's review of the aging management of the equipment monitored through GL 89-13 or summarized in the staff's SER. However, the appellant cites newly identified OpE that, if known at the time, may have impacted the staff's finding that the GL 89-13 program adequately managed aging.

Since this new information was not available for consideration by the DPO Panel, I requested information on the license renewal process and the potential safety impact of the newly identified information as it relates to the SER conclusions. As the appellant notes since the applicant considered the subject equipment to be part of an "active assembly" the OpE was not provided to the NRC staff. While it is plausible that the OpE could have impacted the staff's review of the aging management, GL 89-13 commitments remain in place and the licensing basis, which includes applicable technical specifications, is sound ensuring the plant continues to operate safely. I also note, that while not provided to the NRC to support its SLR application, the OpE was documented and is still subject to appropriate assessment and corrective actions per established processes and procedures. Therefore, while I appreciate the appellant's notation of this new OpE and potential implications to the NRC inspection program, I concluded that no additional actions are needed regarding the Surry SER. Additional clarity through guidance or training updates may be warranted to ensure consistency in NRC's approach to reviewing "active assemblies" in future SLR reviews. Moreover, I support further investigation of ways this type of OpE is assessed through the Reactor Oversight Process.

Additional Actions by the Office of Nuclear Reactor Regulation

The information presented in the appeal justifies the following additional actions to be tasked within 14 days following issuance of this statement of views memorandum.

1. I am tasking NRR's Division of New and Renewed Licensing to evaluate if additional guidance or training is needed to ensure consistency in NRC's approach to reviewing "active assemblies" in future license renewal reviews.

2. I am tasking NRR's Division of Reactor Oversight to: 1) examine the OpE referenced by the appellant and look for similar or related OpE to determine if there is enough information available for the industry to appropriately perform preventative maintenance and prevent future failures; and 2) based on the information gathered, evaluate the adequacy of current NRC inspection program activities.

SUBJECT: STATEMENT OF VIEWS REGARDING APPEAL OF DIFFERING PROFESSIONAL
OPINION DECISION INVOLVING SAFETY EVALUATION REPORT FOR SURRY
SUBSEQUENT LICENSE RENEWAL (DPO-2020-003) DATED MARCH 26, 2021

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Document 7: DPO Appeal Decision



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001**

June 8, 2021

MEMORANDUM TO: James A. Gavula, Mechanical Engineer
Division of New and Renewed Licenses
Office of Nuclear Reactor Regulation

FROM: Margaret M. Doane  Roberts, Darrell signing on behalf
Executive Director for Operations of Doane, Margaret
on 06/08/21

SUBJECT: DIFFERING PROFESSIONAL OPINION APPEAL CONCERNING
SAFETY EVALUATION REPORT FOR SURRY SUBSEQUENT
LICENSE RENEWAL (DPO-2020-003)

The purpose of this memorandum is to inform you of my considerations and conclusions regarding the Differing Professional Opinion (DPO) appeal you submitted on February 18, 2021. The appeal raised concerns with the regulatory basis documented in the staff's safety evaluation report (SER) related to the subsequent license renewal of Surry Power Station, Units 1 and 2 (ADAMS Accession No. ML20052F523). Specifically, you raised issues related to the regulatory basis to ensure that operating experience has been appropriately addressed in applicable aging management programs and with respect to the SER crediting Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment" program monitoring activities.

After careful consideration of your appeal, I conclude that although there were deficiencies in the review of the Surry subsequent license renewal application, no additional actions are needed with regard to the Surry SER. However, given these inadequacies, I am tasking the Office of Nuclear Reactor Regulation to revise its guidance to increase clarity regarding the treatment of operating experience during license renewal reviews and to provide training to staff to ensure a common understanding on how to document deviations from guidance and how to appropriately review an aging management program for complex assemblies.

CONTACT: Suzanne Dennis, OEDO
301-415-0760

Your DPO appeal raised four specific issues. A paraphrased summary of issues and my conclusions for each are as follows.

Issue 1: The staff's approach in the Surry SER sets a precedent that will undermine the effectiveness of future operating experience reviews.

Answer 1: The staff's approach in the Surry SER does not set a binding legal precedent that the staff must follow in its subsequent license renewal reviews. However, to ensure that late-breaking operating experience is handled consistently and in a manner that does not undermine the effectiveness of operating experience reviews, I support NRR's recommendations to update RIS 2014-06 to provide additional clarity.

Issue 2: The staff's approach in the Surry SER does not provide a clear record of the basis for the staff's conclusions and clouds the current licensing basis (CLB) for future regulatory actions.

Answer 2: Based on my review, the Surry SER provides a rational basis for the staff's conclusions. Further, the staff's approach, in this instance, does not cloud Surry's CLB for future regulatory actions or otherwise subvert Surry's CLB.

Issue 3: The NRC should not revise Regulatory Issue Summary 2014-06, as recommended in the DPO Panel report.

Answer 3: I support NRR's decision to evaluate an update to the guidance, specifically RIS 2014-06.

Issue 4: Newly identified operating experience shows that Surry's Generic Letter 89-13 activities did not adequately manage the effects of aging with respect to the right-angle drive cooler.

Answer 4: I agree that although there are no immediate safety concerns, Surry did not adequately demonstrate how the effects of aging would be managed for the complex assembly components, and the NRC staff did not appropriately review the complex assembly guidance during the license renewal review period.

Additionally, in response to all four issues, I am tasking NRR to provide training on their existing, or updated as appropriate, guidance to ensure that all staff is aware of the expectations when implementing guidance. This training should reinforce appropriate documentation of cases where the staff deviates from guidance.

Thank you for taking the time to raise your concerns to me and for the detailed information you provided to support your position and my review. Your willingness to raise concerns through the DPO process is consistent with our organizational values of Openness and Commitment. More in-depth analysis of each of the issues you raised is provided below.

In accordance with Management Directive (MD) 10.159, a summary of this appeal decision will be included in the Weekly Information Report posted on the NRC's public website to advise interested employees and members of the public of the outcome.

DEDM-LED APPEAL PANEL ANALYSIS

To better understand your concerns, I assigned the Deputy Executive Director for Materials, Waste, Research, State, Tribal, Compliance, Administration, and Human Capital Programs (DEDM), an Executive Technical Assistant from my office, a subject matter expert from the Office of Nuclear Regulatory Research, and an attorney from the Office of the General Counsel, to review the issues raised in your appeal. This DEDM-led appeal panel gathered information through discussions with you, the NRR Director, the DPO Panel, and other knowledgeable staff who reviewed documents pertinent to your appeal. The information collected provided independent insights and perspectives for my considerations.

On August 5, 2020, you submitted a DPO on “Safety Evaluation Report for Surry Subsequent License Renewal.” On September 2, 2020, an ad-hoc review panel was formed and tasked by the NRC Differing Views Program to review your DPO. The DPO Panel subsequently issued their findings report to the Director of NRR on December 21, 2020. With respect to the concerns discussed in your appeal, the DPO Panel concluded that although the Surry SER credited undefined and undetermined corrective actions, the approach in the SER did not set forth a precedent that will undermine future subsequent license renewal review. Additionally, the DPO Panel found that the staff inappropriately credited enhancements to the Generic Letter 89-13 program.

On January 28, 2021, the Director of NRR issued his decision regarding the DPO's concerns as informed by the DPO Panel report and his own review. The Director agreed with the DPO Panel's findings and directed staff to update Regulatory Information Summary (RIS) 2014-06 to clarify the treatment of operating experience that occurs late in the review process.

On February 18, 2021 you submitted an appeal. This appeal stated four continuing concerns: 1) the agency has set a precedent by deferring to the licensee's corrective action program; 2) there is a lack of current licensing basis clarity due to the deferral to the corrective action program in the Surry SER, 3) RIS 2014-06 does not need to be revised, and 4) newly identified operating experience shows that aging management is needed at Surry. Additionally, for clarity purposes, your appeal requested that the Office Director's memorandum be corrected with respect to its characterization of an issue discussed in the DPO Panel report.¹ The Director of NRR issued her statement of views on March 26, 2021.

Given the unique circumstances surrounding the timing of the Surry subsequent license renewal review, I directed the appeal panel to do an initial review of the DPO appeal to ensure that the staff's decision on the application appropriately considered the issues raised. On April 22, 2021, the appeal panel recommended that the agency not delay its decision on the Surry subsequent license renewal application.

Response to Issue 1

In your appeal, you take issue with the DPO Panel's finding that crediting entry of operating experience (OpE) in the corrective action program as meeting the requirement of 10 CFR

¹ The Office Director's memorandum serves as a record of the prior decisions that have been made with respect to this DPO. To ensure that DPO records are accurately preserved and maintained in accordance with the procedures outlined in MD 10.159, I conclude that no revisions to the Office Director's memorandum are warranted.

54.29(a) sets a precedent and their view that it will not undermine the effectiveness of future operating experience reviews. You state that it does not seem possible to predict how or whether a newly established position will be cited as a precedent in future situations.

First off, I note that while Commission rulings on certain adjudicatory decisions can serve as binding legal precedent that the staff must follow in site-specific licensing reviews, staff positions established during a particular licensing review do not set binding legal precedent that the staff is required to follow in other licensing reviews. Thus, staff's approach in the Surry SER does not set a binding legal precedent that the staff must follow in its subsequent license renewal reviews.

Nevertheless, I recognize that the staff and the industry typically use the term "precedent" to describe a previously established staff position that is used as "justification" for taking a similar position in another licensing review. In this context, I agree that it is not possible to predict how or whether a newly established position will be cited in a future situation. However, as the DPO Panel noted, the Surry OpE at issue here was unique in its timing and only OpE that is still being resolved through an applicant's corrective action program (CAP) program would be affected by the staff position established in the Surry SER. To ensure that such late-breaking OpE is handled consistently and in a manner that does not undermine the effectiveness of operating experience reviews, I support the recommendations of the DPO Panel, as well as both Office Directors, to evaluate and update RIS 2014-06 to provide additional clarity on approaches for addressing late-breaking OpE in license renewal reviews.

Response to Issue 2

With respect to Issue 2, you state that "[f]rom a licensing perspective, crediting undefined and undetermined corrective actions subverts the current licensing basis of a plant." While you acknowledge that deferral to the CAP is appropriate for ongoing inspections through the reactor oversight program, you assert that deferring to undefined and undetermined corrective actions does not provide a clear record of the basis for the staff's conclusions and clouds the licensing basis for future regulatory actions.

Section 3.0.3.1.6 evaluates the applicant's (Dominion's) Selective Leaching program and states that it is consistent with GALL-SLR Report Aging Management Program (AMP) XI.M33, "Selective Leaching." The SER notes that based on operating experience related to buried cast iron piping ruptures, Dominion augmented the Selective Leaching program in three areas: exploratory holes for groundwater, corrective actions for presence of groundwater, and sample expansion (selective leaching due to elevated groundwater). The SER further notes that the buried cast iron piping ruptures have been entered into Dominion's CAP and Dominion is identifying necessary corrective actions as part of the program. The SER states that "[c]hanges to the aging management program(s) to address other possible issues (e.g., long-standing exposure to moist corrosive soil, soil parameter consistency across the site), if necessary, will be identified as Dominion completes its development of corrective actions." SER 3-22 – 3-24.

As discussed above, the SER acknowledges the possibility of future modifications to the AMP(s), if needed, after Dominion completes its development of corrective actions. However, the possibility of a future change to an AMP does not alter Surry's CLB. Surry's CLB is based on the Selective Leaching AMP at the time the subsequent renewed license was issued; it does not include any future modifications that may or may not result from deferral to the CAP. Likewise, entry of an issue into the CAP, alone, does not alter the AMP or Surry's licensing basis. As stated in the SER, Dominion must determine appropriate modifications and will make further

necessary changes to the AMP(s), if necessary. Those modifications may result in a future licensing basis change. For these reasons, I conclude that the SER provides a rational basis for the staff's conclusions, and that the staff's approach, in this instance, does not cloud Surry's CLB for future regulatory actions or otherwise subvert Surry's CLB.

Response to Issue 3

In your appeal, you challenged the NRR Office Director's direction to revise Regulatory Issue Summary 2014-06, Consideration of Current Operating Issues and Licensing Actions (ADAMS Accession No. ML13177A325). You noted that both the DPO Panel and NRR Office Director "concede that the safety evaluation report did not follow staff guidance," and noted that they did not reinforce that safety evaluation reports should be consistent with existing guidance.

While I agree that the SER deviated from staff guidance, I support NRR's decision to evaluate RIS-2014-06 to provide additional clarity. I agree with the current NRR Office Director who stated in her statement of views that sometimes strict adherence to guidance must be balanced with other factors. I agree with the Office Director and DPO Panel that there could be additional detail added to clarify how operating experience that occurs late in the license renewal review process should be treated.

I also direct that NRR develop an on-the-job training aid on its existing, or as appropriate, updated guidance. This training guide should reinforce that in cases where the staff deviates from guidance, it should be documented appropriately. Additionally, this training guide should include the Be riskSMART principles, such as being clear about the problem, identifying what can go wrong, what the consequences would be (e.g., if there are deviations from guidance), and managing the insights from clarification of the issues.

In addition to the above, I recommend that NRR consider using an agency-wide Knowledge Management resource, such as a Nuclepedia page, to capture expectations and best practices on the use of (and deviations from) such guidance.

Response to Issue 4

In your appeal, you claim that newly identified operating experience shows that an aging management review of the right-angle drive oil cooler should have been performed by the applicant and reviewed by the staff. You assert that if the staff had been aware of this OpE at the time of its initial review, it may have impacted the staff's finding that the GL 89-13 program adequately managed aging.

Based on my review, I conclude that although there were no safety concerns identified with the newly identified OpE for an emergency service water pump engine heat exchanger and the right-angle drive cooler (component) at Surry, an aging management review of the right-angle drive cooler was needed and should have been performed by the license renewal applicant. The applicant did not adequately demonstrate how the effects of aging would be managed for the complex assembly components, and the NRC staff did not appropriately review the "complex assemblies" guidance during the license renewal review period. As a result, the applicant and NRC staff were deficient during the license renewal review period.

The applicant did not adequately demonstrate the aging management for the "complex assembly" components in accordance with NEI 95-10 Rev. 6 guidance and, therefore, did not perform the proper aging management review for each structure and component that make up

the complex assembly. This approach is inconsistent with 10 CFR 54.21(a)(1), which requires that a license renewal application identify and list those structures and components subject to an aging management review. Further, as you note in your appeal, OpE related to the right-angle drive oil cooler was not provided to the NRC staff for its review of the Surry subsequent license renewal application, even though it was available two months prior to the submittal of the Surry subsequent license renewal application. As a result, the SER inappropriately credited enhancements to the GL 89-13 program monitoring activities for components and credited it to the CAP. While this issue was managed through existing programs, it could provide an example that may undermine the effectiveness of the staff's complex assembly OpE reviews needed during the license renewal review period. This review could encourage both the staff and applicants to use a comparable approach for future license renewal reviews.

In addition, the staff should have more meticulously reviewed NUREG-2192, "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants – Final Report," Table 2.1-2 "Specific Staff Guidance on Scoping," which clearly illustrates how to determine the scoping and treatments of complex assembly components and what portions require an aging management review. This approach was a deficiency in the agency's approach to reviewing what Dominion defined as "active assemblies." As a result, there was also an OpE treatment inconsistency as it relates to subsequent license renewal and the NRC's oversight role in execution of licensee corrective actions.

Despite the deficiencies identified on both the applicant and the NRC staff, this OpE is still subject to appropriate assessment and corrective actions per established processes and procedures. I agree with the NRR Office Director that no additional actions are needed with regard to the Surry SER. Nevertheless, I support the Office Director's decision for staff to further investigate this OpE.

I recommend that NRR revise RIS 2014-06 and other pertinent guidance documents to provide additional clarity on how to address complex assembly operating experience that occurs in all stages (beginning, middle and late) in the license renewal process. Such clarity could help ensure consistent staff treatment of such operating experience in future license renewal reviews and ensure there are no additional inconsistencies in associated industry and NRC guidance.

I also recommend additional training to ensure a common understanding of acceptable approaches to disposition operating experience related to "complex assemblies" and to credit existing programs in license renewal. This guidance and/or training is needed to ensure a correct approach when reviewing "complex assemblies" in future license renewal reviews.

Conclusion

I want to thank you for bringing your concerns to my attention. I appreciate you taking the time to document and share your concerns. Our agency relies on dedicated professionals, such as yourself, who are willing to raise concerns that could impact the NRC mission.

As discussed above, after careful consideration of your appeal, I conclude that although there were deficiencies in the review of the Surry subsequent license renewal application, no additional actions are needed with regard to the Surry SER. However, given these inadequacies, I direct NRR to do the following:

1. Evaluate and update guidance to provide additional clarity on how to address late-

- breaking operating experience.
2. Provide training to staff to ensure common understanding on how to review complex assemblies, the disposition of operating experience related to complex assemblies, and how to document deviations from guidance. This training should include Be riskSMART principles.
 3. Update guidance to provide additional clarity on how to address “complex assembly” operating experience that occurs in all stages (beginning, middle and late) in the license renewal process.

cc: D. Roberts, OEDO
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SUBJECT: DIFFERING PROFESSIONAL OPINION APPEAL CONCERNING SAFETY
EVALUATION REPORT FOR SURRY SUBSEQUENT LICENSE RENEWAL (DPO-
2020-003) DATE June 9, 2021

ADAMS Accession No.: ML21152A284

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DATE	6/3/21	6/ 09 /21

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