

~~SECURITY RELATED INFORMATION~~

~~SECTIONS 2.4.4.1, 2.4.4.2, AND 2.4.4.3 OF ENCLOSURE 1 TO BE  
WITHHELD FROM PUBLIC DISCLOSURE IN ACCORDANCE WITH 10 CFR 2.390~~



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Richard L. Anderson  
ANO Site Vice President

10 CFR 50.71(e)

2CAN051901

May 7, 2019

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

SUBJECT: Amendment 28 to the ANO Unit 2 Safety Analysis Report  
Arkansas Nuclear One, Unit 2  
NRC Docket No. 50-368  
Renewed Facility Operating License No. NPF-6

Dear Sir or Madam:

In accordance with 10 CFR 50.71(e) and 10 CFR 50.4(b)(6), enclosed is Amendment 28 of the Arkansas Nuclear One, Unit 2 (ANO-2) Safety Analysis Report (SAR). Included with this update are the current ANO-2 Technical Requirements Manual (TRM) and the current ANO-2 Technical Specification (TS) Bases. The TS Bases file also includes the Table of Contents which outlines the contents of both the TSs and the TS Bases, since the Table of Contents is revised by the licensee under 10 CFR 50.59. Pursuant to 10 CFR 50.71(e)(4), these documents are being submitted within six months following the previous ANO-2 refueling outage (2R26) which ended November 21, 2018. Summaries of changes to the ANO-2 TRM and TS Bases are included in Attachments 1 and 2 of this letter for the period beginning December 12, 2017, and ending May 7, 2019.

In accordance with NEI 98-03, "Guidelines for Updating Final Safety Analysis Reports," Appendix A, Section A6, a list and short description of information removed from the SAR should be included with each SAR update submittal. For this reporting period, information was not removed from the SAR meeting the criteria of either Appendix A, Sections A4 or A5, of NEI 98-03, that would require reporting in accordance with NEI 98-03, Appendix A, Section A6.

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Associated in part with post September 11, 2001, response related to security sensitive information, Entergy has reviewed the ANO-2 SAR and determined that the following items contain information required to be withheld from public disclosure with respect to NRC Regulatory Issue Summary (RIS) 2015-17, "Review and Submission of Updates to Final Safety Analysis Reports, Emergency Preparedness Documents, and Fire Protection Documents." The following information is located on SAR Pages 2.8-1 through 2.8-10.

SAR Section 2.8.1, "Flood Related Information"

SAR Section 2.8.1.1, "Probable Maximum Flood Combined with Wind Wave Action"

SAR Section 2.8.1.2, "Probable Maximum Flood Combined with Ozark Dam Failure"

SAR Section 2.8.1.3, "Probable Maximum Flood on Streams and Rivers"

SAR Section 2.8.1.3.1, "Probable Maximum Precipitation"

SAR Section 2.8.1.3.2, "Precipitation Losses"

SAR Section 2.8.1.3.3, "Runoff Model"

SAR Section 2.8.1.3.4, "Probable Maximum Flood Flow"

SAR Section 2.8.1.3.5, "Water Level Determinations"

SAR Section 2.8.1.3.6, "Coincident Wind Wave Activity"

SAR Section 2.8.1.3.7, "Site Drainage System"

SAR Section 2.8.1.4, "Potential Dam Failures (Seismically Induced)"

SAR Section 2.8.1.3, "Design Basis for Subsurface Hydrostatic Loadings"

SAR Section 2.8.2, "Additional Natural Gas Pipeline Information"

SAR Section 2.8.3, "Additional New Fuel Storage Information"

The above is consistent with currently redacted information from the ANO-1 SAR (reference ML18323A145). Entergy requests the aforementioned information be withheld from public disclosure in accordance with 10 CFR 2.390. Accordingly, a complete version and a redacted version of the ANO-2 SAR are included on the enclosed compact disc (CD).

In accordance with 10 CFR 50.37(b), after a renewed license is issued, the SAR update required by 10 CFR 50.71(e) must include any systems, structures, and components (SSCs) newly identified that would have been subject to an aging management review or evaluation of time-limited aging analyses in accordance with 10 CFR 54.21. The SAR update must describe how the effects of aging will be managed such that the intended function(s) in 10 CFR 54.4(b) will be effectively maintained during the period of extended operation. For this reporting period, no new SSCs that would have been subject to an aging management review or evaluation of time-limited aging analyses in accordance with 10 CFR 54.21 were identified.

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A summary of the 10 CFR 50.59 evaluations associated with ANO-2 Licensing Basis Document (LBD) changes is normally included with the required SAR submittal or within 30 days thereafter. Attachment 3 contains a summary of the 10 CFR 50.59 evaluation performed for ANO-2 over the aforementioned reporting period. Attachment 4 includes a copy of the evaluation.

Attachment 5 includes a list of SAR pages that were updated during the period beginning December 12, 2017, and ending May 7, 2019.

If you have any questions or require additional information, please contact Tim Arnold at 479-858-7826.

I hereby certify that to the best of my knowledge and belief, the information contained in the above Licensing Basis Documents accurately reflects changes made since the previous submittal. The changes to these documents reflect information and analyses submitted to the Commission, prepared pursuant to Commission requirements, or made under the provisions of 10 CFR 50.59. Executed on May 7, 2019.

Sincerely,



RLA/dbb

Attachments:

1. Summary of ANO-2 TRM Changes
2. Summary of ANO-2 TS Bases Changes
3. Summary of ANO-2 10 CFR 50.59 Evaluations
4. 10 CFR 50.59 Evaluations – December 12, 2017, and ending May 7, 2019
5. List of Affected SAR Pages

Enclosures:

1. ANO-2 SAR Amendment 28 – Un-redacted Version (CD Rom)
2. ANO-2 SAR Amendment 28 – Redacted Version (CD Rom)
3. ANO-2 TRM (CD Rom)
4. ANO-2 TS Table of Contents and TS Bases (CD Rom)

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cc: Mr. Scott A. Morris  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
1600 East Lamar Boulevard  
Arlington, TX 76011-4511

NRC Senior Resident Inspector  
Arkansas Nuclear One  
P. O. Box 310  
London, AR 72847

U. S. Nuclear Regulatory Commission  
Attn: Mr. Thomas Wengert  
MS O-8B1A  
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Mr. Bernard R. Bevill  
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4815 West Markham Street  
Slot #30  
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**Attachment 1**

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**Summary of ANO-2 TRM Changes**

### Summary of ANO-2 TRM Changes

The following changes to the Arkansas Nuclear One, Unit 2 (ANO-2) Technical Requirements Manual (TRM) were implemented in accordance with the provisions of 10 CFR 50.59. Because these changes were implemented without prior NRC approval, a description is provided below:

<u>Revision</u>	<u>Section</u>	<u>Summary</u>
73	TRM 3.7.6, B 3.7.6	Licensing Basis Document Change LBDC 18-016, "Transition to NFPA 805"
74	TRM 3.7.6	Condition Report CR-ANO-C-2018-3894, "Revise CFW TRM Applicability to Envelope Both ANO Units"
75	Table 3.7.7-2	License Document Change Request LBDC 18-061, "Remove Non-Safety Snubber from TRM"
76	TRO B 3.0.2, TRO B 3.0.3	TSTF-569, "Revise the LCO 3.0.2 and LCO 3.0.3 Bases"
77	TRM 3.7.1, B 3.7.1	Condition Report CR-ANO-C-2018-1042, "Revise Fire Suppression TRM to be Consistent with COPD-024"

### Acronyms

B	(TRM) Bases
CFW	Common Feedwater
COPD	Common Operations Directive
LBDC	License Basis Document Change
LCO	Limiting Condition for Operation
TRO	Technical Requirement for Operation
TSTF	Technical Specification Task Force

**Attachment 2**

**2CAN051901**

**Summary of ANO-2 TS Bases Changes**

### Summary of ANO-2 TS Bases Changes

The following changes to the Arkansas Nuclear One, Unit 2 (ANO-2) Technical Specification (TS) Bases were implemented in accordance with the provisions of 10 CFR 50.59 and the Bases Control Program of ANO-2 TS 6.5.14. Because these changes were implemented without prior NRC approval, a description is provided below:

<u>Revision</u>	<u>Section</u>	<u>Summary</u>
67	B 3.0.1, B 3.0.9	TS Amendment 309, "TSTF-427 Barrier Degradation"
68	B 3.7.1.2	TS Amendment 310, "TSTF-412 One Inoperable EFW Steam Supply"
69	B 3.4.9.1	TS Amendment 311, "Revised RCS Pressure - Temperature Curves"
70	LCO B 3.0.2, LCO B 3.0.3, B 3.3.3.6	TS Amendment 313, "PAM Instrumentation," and TSTF-569, "Revise the LCO 3.0.2 and LCO 3.0.3 Bases"
71	B 3.4.12	Engineering Change EC-69421, "Revise LTOP Bases in Support of PT Curve TS Amendment 311"

### Acronyms

B	(TS) Bases
EFW	Emergency Feedwater
LCO	Limiting Condition for Operation
LTOP	Low Temperature Overpressure
PAM	Post Accident Monitoring
PT	Pressure-Temperature
RCS	Reactor Coolant System
TSTF	Technical Specification Task Force

**Attachment 3**

**2CAN051901**

**Summary of ANO-2 10 CFR 50.59 Evaluations**

### Summary of 10 CFR 50.59 Evaluations

<u>50.59 #</u>	<u>50.59 Summary</u>
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2018-002	Engineering Change EC-75926, "Cycle 27 Reload Analysis Report and Core Operating Limits Report"
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**Attachment 4**

**2CAN051901**

**10 CFR 50.59 Evaluations – December 12, 2017, and ending May 7, 2019  
(7 Pages)**

**ANO 50.59 Evaluation 2018-002**

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10 CFR 50.59 Evaluations				

ATTACHMENT 9.1

50.59 EVALUATION FORM

**I. OVERVIEW / SIGNATURES<sup>1</sup>**

**Facility:** Arkansas Nuclear One Unit 2 (ANO-2)

**Evaluation # / Rev. #:** FFN-2018-002 / 0

**Proposed Change / Document:** ANO-2 Cycle 27 Reload Evaluation, RAR, and COLR (EC 75926)

**Description of Change:**

This evaluation addresses the ANO-2 Cycle 27 reload that resulted from the Cycle 27 core design performed by Westinghouse [Reference 1]. The PAD performed for the Cycle 27 reload evaluation identified the following change needing further evaluation under 10 CFR 50.59.

- Change to the wording of the Core Operating Limits Report (COLR) Moderator Temperature Coefficient (MTC) Limit

Specifically the burnup breakpoints were changed from 140.0 to 120.0 Effective Full Power Days (EFPD) and from 380.0 to 370.0 EFPD. The maximum upper design limits associated with TS 3.1.1.4 and reflected in COLR Figure 1 are not impacted. All Cycle 27 reload specific results met the applicable acceptance criteria and remain bounded by the results of the Analyses of Record (AOR).

**Summary of Evaluation:**

The MTC limits are used in a number of AORs described in Chapter 15 of the Safety Analysis Report (SAR). Since the change in the COLR wording only impacts AORs where the maximum (most positive) MTC is assumed the evaluation of the impact was limited to these AORs. This is due to the MTC negative limit remaining constant throughout the burnup ranges. A review of Chapter 15 of the SAR found that possibly impacted AORs were Control Element Assembly (CEA) ejection, CEA withdrawal, Feedwater Line Break, Loss of Coolant Flow Resulting from an Electrical Failure or a Seized Rotor, Loss of External Load and/or Turbine Trip. The change in the burnup breakpoints did not impact the MTC's assumed in these AORs.

**References:**


1. Letter, A. Worthington (Westinghouse) to R. E. Griffith (Entergy), "Arkansas Nuclear One Unit 2 Cycle 27 Final Reload Analysis Report," NF-ANO-18-24, July 24, 2018.
2. Letter, A. Worthington (Westinghouse) to R. E. Griffith (Entergy), "Startup Test and Setpoints Transmittal (STST) for ANO-2 Cycle 27", NF-ANO-18-33, October 9, 2018.

**Is the validity of this Evaluation dependent on any other change?**

☐ Yes ☒ No

**If "Yes," list the required changes/submittals. The changes covered by this 50.59 Evaluation cannot be implemented without approval of the other identified changes (e.g., license amendment request). Establish an appropriate notification mechanism to ensure this action is completed.**

<sup>1</sup> The printed name, company, department, and date must be included on the form. Signatures may be obtained via electronic processes (e.g., PCRS, ER processes), manual methods (e.g., ink signature), e-mail, or telecommunication. If using an e-mail or telecommunication, attach it to this form.

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ATTACHMENT 9.1

50.59 EVALUATION FORM

Based on the results of this 50.59 Evaluation, does the proposed change require prior NRC approval?

☐ Yes ☒ No

Preparer<sup>2</sup>: Ralph E. Griffith / See EC 75926 / Entergy Services / Nuclear Fuels / 10-11-2018  
Name (print) / Signature / Company / Department / Date


Reviewer<sup>2</sup>: Ben Harvey / See EC 75926 / Entergy Services / Nuclear Fuels / 10-15-2018  
Name (print) / Signature / Company / Department / Date

Independent Review<sup>3</sup>: N/A  
Name (print) / Signature / Company / Department / Date

OSRC: Stephenie Pyle / ORIGINAL SIGNED BY STEPHENIE PYLE / 10-24-2018  
Chairman's Name (print) / Signature / Date [GGNS P-33633, P-34230, & P-34420; W3 P-151]  
  
OSRC-2018-021  
OSRC Meeting #

<sup>2</sup> Either the Preparer or Reviewer will be a current Entergy employee.

<sup>3</sup> If required by Section 5.1[3].

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ATTACHMENT 9.1

50.59 EVALUATION FORM

II. 50.59 EVALUATION [10 CFR 50.59(c)(2)]

Does the proposed Change being evaluated represent a change to a method of evaluation ONLY? If "Yes," Questions 1 – 7 are not applicable; answer only Question 8. If "No," answer all questions below.

☐ Yes  
☒ No

Does the proposed Change:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the SAR?

☐ Yes  
☒ No

BASIS:

The cycle specific limits presented in the Cycle 27 COLR will ensure that ANO-2 is operated during Cycle 27 in a manner that is consistent with the assumptions used in the safety analyses for the cycle. A review of events listed in Chapter 15 of the SAR shows that the positive MTC limit is used in accidents relating to CEA ejection and Feedwater Line Break. For these events the most positive MTC is assumed in the AORs and the burnup ranges do not affect this value. Westinghouse showed that all the impacted analyses were bounded by the AORs for Cycle 27.

No changes to plant equipment or operating procedures are required for Cycle 27 due to the COLR change. There are no impacts to any of the accident initiators due to the COLR change. Therefore, the change will not result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the SAR.


2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component important to safety previously evaluated in the SAR?

☐ Yes  
☒ No

BASIS:

The cycle specific limits presented in the Cycle 27 COLR will ensure that ANO-2 is operated during Cycle 27 in a manner that is consistent with the assumptions used in the safety analyses for the cycle. The appropriate actions required if these limits are violated are in the ANO-2 TS and are not being changed. Changes to the burnup ranges for the maximum MTC do not affect the performance of any of the structures, systems, or components (SSCs) important to safety.

Therefore, the change will not result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component important to safety previously evaluated in the SAR.

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**ATTACHMENT 9.1**

**50.59 EVALUATION FORM**

3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the SAR? ☐ Yes ☒ No

**BASIS:**

The operational limits in the COLR ensure that the unit is operated in Cycle 27 in a manner that is consistent with the assumptions used in the safety analyses for Cycle 27. The required actions, if these limits are violated, are in the ANO-2 TS and are not being changed. The change to the COLR does not affect the initial conditions of the accident analyses and ensures the evaluated consequences of accidents remain bounding. The analyses for the reload have been performed with NRC approved methodologies to ensure the Specified Acceptable Fuel Design Limits (SAFDLs) will not be violated and the dose consequences are bounded by the results of the licensing basis analyses.

The maximum percent of fuel failure found for Cycle 27 for the seized rotor event was 12.51%. This amount is bounded by the AOR (which has a limiting value of 14%) for this event.


Therefore, the consequences of an accident previously evaluated in the SAR will not be increased.

4. Result in more than a minimal increase in the consequences of a malfunction of a structure, system, or component important to safety previously evaluated in the SAR? ☐ Yes ☒ No

**BASIS:**

The cycle specific limits presented in the Cycle 27 COLR will ensure that ANO-2 is operated during Cycle 27 in a manner that is consistent with the assumptions used in the safety analyses for the cycle. A review of anticipated operational occurrences (AOOs) listed in Chapter 15 of the SAR shows that the positive MTC limit is used in accidents relating to CEA withdrawal, Loss of Coolant Flow Resulting from an Electrical Failure or a Seized Rotor, Loss of External Load, and/or Turbine Trip. For these events the most positive MTC for the cycle is assumed in the AORs and the burnup ranges do not affect this value used in the analyses. Westinghouse showed that all the impacted analyses were bounded by the AORs for Cycle 27. Since the events for Cycle 27 are bounded by the AORs the SSCs will not have an increase in the consequences of a malfunction since the SAFDLs were found to be acceptable in the Cycle 27 analyses performed by Westinghouse. These analyses have been performed with NRC approved methodologies to ensure the SAFDLs will not be violated and the dose consequences are bounded by the results of the licensing basis analyses.

Therefore, the proposed changes will not result in more than a minimal increase in the consequences of a malfunction of a structure, system, or component important to safety previously evaluated in the SAR.

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**50.59 EVALUATION FORM**

5. Create a possibility for an accident of a different type than any previously evaluated in the SAR? ☐ Yes ☒ No

BASIS:

The operational limits provided in the COLR will ensure that ANO-2 is operated during Cycle 27 in a manner that is consistent with the assumptions used in the Cycle 27 safety analyses. No initiators to any of the accidents are impacted by this change to the MTC burnup ranges. No new operating conditions or plant configurations are created that could lead to an accident of a different type than any previously evaluated in the SAR.

Based on the above, the possibility of an accident of a different type than any previously evaluated in the SAR will not be created.

6. Create a possibility for a malfunction of a structure, system, or component important to safety with a different result than any previously evaluated in the SAR? ☐ Yes ☒ No

BASIS:

No changes in the failure modes of the structures, systems or components important to safety are created by the Cycle 27 COLR change. No new operating conditions or plant configurations are created that could lead to a malfunction of structures, systems, or components of a different type than any previously evaluated in the SAR.


Therefore, the possibility of a malfunction of a structure, system or component important to safety with a different result than previously evaluated in the SAR will not be created.

7. Result in a design basis limit for a fission product barrier as described in the SAR being exceeded or altered? ☐ Yes ☒ No

BASIS:

The Cycle 27 reload safety analyses were performed to demonstrate compliance with the design basis limits for the three fission product barriers. The revised COLR does not alter these design basis limits. The operating limits presented in the Cycle 27 COLR will ensure that the Cycle 27 core is operated in a manner that is consistent with the Cycle 27 safety analyses assumptions and in a manner that ensures the design basis limits for the fission product barriers are not exceeded.

Based on this, the COLR change for Cycle 27 does not result in a SAR described design basis limit for a fission product barrier being altered or exceeded.

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8. Result in a departure from a method of evaluation described in the SAR used in establishing the design bases or in the safety analyses? ☐ Yes ☒ No

BASIS:

ANO-2 Technical Specification 6.6.5 lists the NRC approved methodologies that are to be used to determine the core operating limits that are presented in the COLR. Section IV of the COLR provides details on which revisions and supplements of the TS listed methodologies are used to demonstrate compliance with the safety analyses and TS limits. The Cycle 27 limits (including the change to the MTC burnup ranges) were developed using NRC approved methodologies. The methodologies used in development of the Technical Specifications are:

- Qualification of the PHOENIX-P/ANC Nuclear Design System for Pressurized Water Reactor Cores, (WCAP-11596-P-A)
- ANC: A Westinghouse Advanced Nodal Computer Code, (WCAP-10965-P-A)
- ANC: A Westinghouse Advanced Nodal Computer Code: Enhancements to ANC Rod Power Recovery, (WCAP-10965-P-A Addendum 1)
- CE Method for Control Element Assembly Ejection Analysis, CENPD-0190-A
- Modified Statistical Combination of Uncertainties, CEN-356(V)-P-A, Revision 01-P-A
- Calculative Methods for the CE Large Break LOCA Evaluation Model, CENPD-132-P
- Calculative Methods for the CE Small Break LOCA Evaluation Model, CENPD-137-P
- Technical Manual for the CENTS Code, WCAP-15996-P-A, Rev. 1
- Implementation of ZIRLO Material Cladding in CE Nuclear Power Fuel Assembly Designs, CENPD-404-P-A (modifies CENPD-132-P and CENPD-137-P)
- Qualification of the Two-Dimensional Transport Code PARAGON, WCAP-16045-P-A
- Insertion Limits, and 3.2.4.b for DNBR Margin).
- Implementation of Zirconium Diboride Burnable Absorber Coatings in CE Nuclear Power Fuel Assembly Designs, WCAP-16072-P-A
- CE 16 x 16 Next Generation Fuel Core Reference Report, WCAP-16500-P-A
- Optimized ZIRLO™, WCAP-12610-P-A and CENPD-404-P-A Addendum 1-A
- Westinghouse Correlations WSSV and WSSV-T for Predicting Critical Heat Flux in Rod Bundles with Side-Supported Mixing Vanes, WCAP-16523-P-A
- ABB Critical Heat Flux Correlations for PWR Fuel, CENPD-387-P-A

A review of relevant references in the reload analysis report showed that these methods were used for Cycle 27. Therefore, the Cycle 27 COLR change does not result in a departure from a method of evaluation described in the SAR used in the safety analyses or in establishing the design bases for ANO-2 Cycle 27.

**If any of the above questions is checked "Yes," obtain NRC approval prior to implementing the change by initiating a change to the Operating License in accordance with NMM Procedure EN-LI-103.**

**Attachment 5 to**

**2CAN051901**

**List of Affected SAR Pages**

### List of Affected SAR Pages

The following is a list of SAR pages revised in Amendment 28 to support corrections, modifications, implementation of licensing basis changes, etc., as described in the Table of Contents of each SAR chapter (reference Enclosure 1 of this letter). Information relocated from one page to another in support of the aforementioned revisions is not considered a change; therefore, these pages are not included in the following list. In addition, pages associated with the individual Table of Contents are not listed below as related revisions are administrative only changes.

Cover Page	Figure 3.2-6	5.2-33	9.3-4
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2.2-2	4.3-22	5.2-39	9.4-40
2.2-7	4.6-12	5.2-40	9.7-30
2.4-2	4.7-6	5.2-41	Figure 9.2-6
2.4-4	4.7-14	5.3-1	Figure 9.3-1
2.4-13	4.7-22	5.7-2	Figure 9.3-2
2.5-37	Figure 4.3-1	5.8-32	Figure 10.2-3
2.5-49	Figure 4.3-1A	5.8-46	11.4-9
2.8-1	Figure 4.3-1C	Figure 5.5-2	11.5-3
2.8-2	Figure 4.3-1D	6.7-104	Figure 11.2-2
2.8-3	Figure 4.3-1E	7.6-4	18.1-3
2.8-4	Figure 4.3-2	7.8-156	18.1-4
2.8-5	Figure 4.3-3	7.8-162	18.1-5
2.8-6	Figure 4.3-4	8.2-6	18.1-7
2.8-7	Figure 4.3-5	8.2.8	18.2-1
2.8-8	Figure 4.3-6	Figure 8.2-1	18.2-2
2.8-9	Figure 4.3-7	Figure 8.2-2	18.3-2
2.8-10	Figure 4.3-8	9.1-2	
3.1-7	Figure 4.3-9	9.1-32	
3.4-1	Figure 4.3-10	9.2-9	
3.4-2	5.2-23	9.2-10	
3.10-11	5.2-24	9.3-1	
3.10-12	5.2-27	9.3-2	
3.13-38	5.2-29	9.3-3	

**Enclosure 1 to**

**2CAN051901**

**ANO-2 SAR Amendment 28 – Un-redacted Version (CD Rom)**  
**(4269 Pages)**

**Enclosure 2 to**

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**ANO-2 SAR Amendment 28 – Redacted Version (CD Rom)**  
**(4269 Pages)**

**Enclosure 3 to**

**2CAN051901**

**ANO-2 TRM (CD Rom)**  
**(156 Pages)**

**Enclosure 4 to**

**2CAN051901**

**ANO-2 TS Table of Contents and TS Bases (CD Rom)**  
**(140 Pages)**