



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

April 22, 2019

Mr. Christopher Church
Site Vice President
Monticello Nuclear Generating Plant
Northern States Power Company - Minnesota (NSPM)
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - ISSUANCE OF AMENDMENT
RE: REVISION TO TECHNICAL SPECIFICATIONS 2.1.2 SAFETY LIMIT
MINIMUM CRITICAL POWER RATIO (EPID NO. L-2018-LLA-0306)

Dear Mr. Church:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 201 to Renewed Facility Operating License No. DPR-22 for the Monticello Nuclear Generating Plant. The amendment consists of changes to the technical specifications in response to your application dated November 12, 2018.

The amendment revises the safety limit minimum critical power ratio for two recirculation loop and single recirculation loop operation. The amendment also revises technical specifications 2.1.1 and 5.6.3 to remove outdated and duplicate information.

The NRC staff has determined that its safety evaluation (SE) for the subject amendment contains proprietary information pursuant to Title 10 of the *Code of Federal Regulations*, Section 2.390. Accordingly, the NRC staff has prepared a redacted, publicly available, non-proprietary version of the safety evaluation. Both versions of the SE are enclosed.

NOTICE: Enclosure 2 transmitted herewith contains sensitive unclassified information. When separated from Enclosure 2, this document is DECONTROLLED.

C. Church

-2-

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Robert F. Kuntz, Senior Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-263

Enclosures:

1. Amendment No. 201 to DPR-22
2. Proprietary Safety Evaluation
3. Non-Proprietary Safety Evaluation

cc w/o enclosure 2: via ListServ



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

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 201
License No. DPR-22

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Northern States Power Company, doing business as Xcel Energy (NSPM, the licensee), dated November 12, 2018 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2 of Renewed Facility Operating License No. DPR-22 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 201, are hereby incorporated in the license. NSPM shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented prior to the startup from the spring 2019 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

David J. Wrona, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Operating
License No. DPR-22 and Technical Specifications

Date of Issuance: April 22, 2019

ATTACHMENT TO LICENSE AMENDMENT NO. 201
MONTICELLO NUCLEAR GENERATING PLANT
RENEWED FACILITY OPERATING LICENSE NO. DPR-22
DOCKET NO. 50-263

Replace the following page of Renewed Facility Operating License DPR-22 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE

3

INSERT

3

Replace the following pages of Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

2.0-1
5.6-4

INSERT

2.0-1
5.6-4

2. Pursuant to the Act and 10 CFR Part 70, NSPM to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operations, as described in the Final Safety Analysis Report, as supplemented and amended, and the licensee's filings dated August 16, 1974 (those portions dealing with handling of reactor fuel);
 3. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NSPM to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 4. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NSPM to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 5. Pursuant to the Act and 10 CFR Parts 30 and 70, NSPM to possess, but not separate, such byproduct and special nuclear material as may be produced by operation of the facility.
- C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission, now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
1. Maximum Power Level
NSPM is authorized to operate the facility at steady state reactor core power levels not in excess of 2004 megawatts (thermal).
 2. Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. 201, are hereby incorporated in the license. NSPM shall operate the facility in accordance with the Technical Specifications.
 3. Physical Protection
NSPM shall implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 586 psig or core flow < 10% rated core flow:

THERMAL POWER shall be \leq 25% RTP.

2.1.1.2 (Deleted)

2.1.1.3 With the reactor steam dome pressure \geq 586 psig and core flow \geq 10% rated core flow:

a. For operation not in the EFW domain, MCPR shall be \geq 1.08 for two recirculation loop operation, or \geq 1.13 for single recirculation loop operation,

or

b. For operation in the EFW domain and the ratio of power to core flow < 42 MWt/Mlb/hr, MCPR shall be \geq 1.08,

or

c. For operation in the EFW domain and the ratio of power to core flow \geq 42 MWt/Mlb/hr, MCPR shall be \geq 1.14.

2.1.1.4 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be \leq 1332 psig.

5.6 Reporting Requirements

5.6.3 CORE OPERATING LIMITS REPORT (COLR) (continued)

21. ANP-10307P-A Revision 0, "AREVA MCPR Safety Limit Methodology for Boiling Water Reactors," June 2011
22. BAW-10255(P)(A) Revision 2, "Cycle-Specific DIVOM Methodology Using the RAMONA5-FA Code," AREVA NP Inc., May 2008
23. ANP-10262PA, Enhanced Option III Long Term Stability Solution, Revision 0, May 2008
24. (Deleted)

The COLR will contain the complete identification for each of the Technical Specification referenced topical reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements).

- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

ENCLOSURE 3

NON PROPRIETARY SAFETY EVALUATION BY THE
OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 201 TO
RENEWED FACILITY OPERATING LICENSE NO. DPR-22
NORTHERN STATES POWER COMPANY
MONTICELLO NUCLEAR GENERATING PLANT
DOCKET NO. 50-263

Proprietary information pursuant to Section 2.390 of Title 10
of the *Code of Federal Regulations* has been redacted from this document.
Redacted information is identified by blank space enclosed within [[double brackets]].



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 201 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-22

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

1.0 INTRODUCTION

By application dated November 12, 2018 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML18317A180), Northern States Power Company, doing business as Xcel Energy (NSPM, the licensee), requested changes to the technical specifications (TSs) for Monticello Nuclear Generating Plant (MNGP), for fuel cycle 30 operation. Specifically, NSPM has proposed to revise the safety limit minimum critical power ratio (SLMCPR) for two recirculation loop (TLO) and single recirculation loop (SLO) operation. The proposed changes would lower the TLO SLMCPR TS value when not in the Extended Flow Window (EFW) domain, or in the EFW domain with a ratio of power to core flow < 42 MWt/Mib/hr from 1.15 to 1.08. The proposed change would also lower the TLO SLMCPR TS value from 1.19 to 1.14 while operating in the EFW domain with a ratio of power to core flow ≥ 42 MWt/Mib/hr. The proposed change would also reduce the SLO SLMCPR TS limit from 1.20 to 1.13.

The licensee also proposed non-technical changes to TSs 2.1.1 and 5.6.3 which would remove outdated and duplicate information. The reactor core for cycle 30 will consist of a mixed core of ATRIUM¹10XM and [General Electric] GE14 fuel types.

2.0 REGULATORY EVALUATION

2.1 Proposed TS Changes

The licensee proposed to revise the cycle 30 SLMCPR, changing the safety limits (SLs) specified by TS Section 2.1.1 for TLO and SLO. These SLMCPR values apply when the reactor

¹ ATRIUM is a trademark of Framatome Inc.

steam dome pressure is greater than or equal to 586 per square inch gauge (psig) and core flow is greater than or equal to 10 percent rated core flow.

Given the proposed new SLMCPR values, the licensee has proposed to remove references to previous SLMCPR values determined under a GEH [General Electric – Hitachi] safety analysis because they are no longer applicable. Specifically, the licensee proposed the following changes to TS 2.1.1:

- remove references to GEH methods from TS 2.1.1.1,
- remove references to "AREVA" methods in TS 2.1.1.1 and TS 2.1.1.3, as differentiation between GEH and AREVA methodologies is no longer necessary, and
- replace the GEH SLMCPR statement in Specification 2.1.1.2 with "(Deleted)".

The licensee also proposed to remove item 24 from TS 5.6.3 as it duplicates item 22.

2.2 Regulations and Guidance

MNGP was licensed prior to the NRC's adoption of the general design criteria (GDC) of Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, which were published in 1971. The applicable MNGP principal design criteria are listed in the MNGP updated safety analysis report (USAR), Section 1.2, "Principal Design Criteria." In 1967, the Atomic Energy Commission (AEC) issued for public comment a revised set of proposed GDC (32 FR 10213, dated July 11, 1967). An evaluation comparing the MNGP design basis to the AEC proposed GDCs of 1967 is presented in the MNGP USAR, Revision 35, Appendix E, "Plant Comparative Evaluation with the Proposed AEC 70 Design Criteria."

The regulatory requirements and guidance documents that the U.S. Nuclear Regulatory Commission (NRC or Commission) staff considered in its review of the proposed amendment included the following:

- Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the license. The TSs ensure the operational capability of structures, systems, and components that are required to protect the health and safety of the public. The NRC's regulatory requirements related to the content of the TSs are contained in Section 50.36, "Technical specifications," of 10 CFR, which requires that the TSs include items in the following specific categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls.
- The regulation in 10 CFR 50.36(c)(1)(i)(A) states, in part, "Safety limits for nuclear reactors are limits upon important process variables that are found to be necessary to reasonably protect the integrity of certain of the physical barriers that guard against the uncontrolled release of radioactivity."
- The regulation in 10 CFR 50.36(c)(1) requires that power reactor facility TSs include SLs for process variables that protect the integrity of certain physical barriers that guard against the uncontrolled release of radioactivity:

- The fuel cladding is one of the physical barriers that separate the radioactive materials from the environment. The SLMCPR is an SL that is required to be in TSs to ensure that fuel design limits are not exceeded. The SLMCPR limit is contained in MNGP TS Section 2.1.1.3, and it can vary from cycle to cycle.
- GDC 10, "Reactor design," of Appendix A to 10 CFR, Part 50, provides that the reactor core and associated coolant, control, and protection systems shall be designed with appropriate margin to assure that specified acceptable fuel design limits (SAFDLs) are not exceeded during any condition of normal operation, including the effects of anticipated operational occurrences. The purpose of the SLMCPR is to ensure that SAFDLs are not exceeded during steady state operation and analyzed transients.

The corresponding AEC proposed GDC Criterion 6, "Reactor Core Design (Category A)," states:

The reactor core shall be designed to function throughout its design lifetime, without exceeding acceptable fuel damage limits which have been stipulated and justified. The core design, together with reliable process and decay heat removal systems, shall provide for this capability under all expected conditions of normal operation with appropriate margins for uncertainties and for transient situations which can be anticipated, including the effects of the loss of power to recirculation pumps, tripping out of a turbine generator set, isolation of the reactor from its primary heat sink, and loss of off-site power.

Guidance on the acceptability of the reactivity control systems, the reactor core, and fuel system design is provided in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [light-water reactor] Edition" (SRP). Specifically, SRP Section 4.2, Revision 2, "Fuel System Design" (ADAMS Accession No. ML070740002), specifies all fuel damage criteria for evaluation of whether fuel designs meet the SAFDLs. SRP Section 4.4, "Thermal and Hydraulic Design" (ADAMS Accession No. ML070550060) provides guidance on the review of thermal-hydraulic design in meeting the requirements of GDC 10 and the fuel design criteria established in SRP Section 4.2. It states that the critical power ratio is to be established such that at least 99.9 percent of fuel rods in the core would not be expected to experience departure from nucleate boiling or boiling transition during normal operation or anticipated operational occurrences (AOOs).

3.0 TECHNICAL EVALUATION

3.1 SLMCPR Methodology

The SLMCPR ensures that at least 99.9 percent of the fuel rods in the core avoid boiling transition if the core maximum critical power ratio (MCPR) is greater than or equal to the SLMCPR. Because the licensee's SLMCPR methodology in ANP-10307PA, Revision 0, "AREVA MCPR Safety Limit Methodology for Boiling Water Reactors," (ANP-10307PA) provides the ability to evaluate the number of fuel rods in boiling transition for a specific MCPR, the method can be used to assess the number of rods that fail due to cladding overheating during infrequent events or accidents.

The MCPR SL is sensitive to power distribution within the reactor core. The methodology in ANP-10298P-A, Revision 1, "ACE/ATRIUM 10XM Critical Power Correlation," (ANP-10298P-A) dated March 31, 2014 (ADAMS Accession No. ML14183A734) uses ACE/ATRIUM 10XM critical

power correlation. The ACE correlation uses a [[
]] to characterize the local peaking factor effect on the
assembly critical power.

Because of the dependence of the core power distribution on channel bow, the MCPR safety limit is impacted by channel bow. The main cause of bow in the fuel channel is the differential irradiation growth between two opposing sides of the channel. The fuel channel accommodates the differential axial growth by bending such that the curving side is the longer side. Neglecting the effects of elastic stresses and strains, the bending is assumed to be a fully permanent deformation. The MICROBURN-B2 calculation [[

]]

In the Framatome methodology, the effects of channel bow on the critical power performance are accounted for in the SLMCPR analysis. Framatome [[

]] The execution [[

]]

The SAFLIM3D program receives MICROBURN-B2 information directly and [[
]] The information affecting channel bow uncertainty is attained [[

]]

3.2 NRC Staff Analysis

The licensee proposed to revise the SLMCPR for TLO and SLO operation. The proposed changes would lower the TLO SLMCPR TS value when not in the EFW domain, or in the EFW domain with a ratio of power to core flow < 42 MWt/Mlb/hr from 1.15 to 1.08. The proposed change would also lower the TLO SLMCPR TS value while operating in the EFW domain, and a ratio of power to core flow ≥ 42 MWt/Mlb/hr from 1.19 to 1.14. The proposed change would also lower the SLO SLMCPR TS limit from 1.20 to 1.13. These SLMCPR values apply when the steam dome pressure ≥ 586 psig, and core flow ≥ 10 percent rated core flow.

The reactor core MCPR must remain at or above the SLMCPR during steady-state operation and during anticipated AOOs. The SLMCPR includes a margin for uncertainties in plant operating parameters such as the power distribution, nuclear instrumentation, and the critical power correlation. The SLMCPR is determined using an NRC-approved, statistical process to convolute the various uncertainties as described in ANP-10307PA. The NRC staff reviewed the Framatome calculation note 6, Framatome report FS1-0039792, Revision 1.0, "Monticello Cycle 30 SAFLIM3D MCPR Safety Limit Results for the new SLMCPR values for cycle 30" (FS1-0039792), provided as an enclosure to the amendment request. This report provides a summary of the SLMCPR methodology and results of the cycle specific reload safety analysis results supporting the SLMCPRs determined for MNGP in the next operating cycle. The NRC staff reviewed the methodology that the licensee used to determine the SLMCPR for TLO and SLO in ANP-10307PA and agrees that this methodology is acceptable for use with mixed cores.

The reactor core for cycle 30 will consist of a mixed core of ATRIUM 10XM and GE14 fuel types. For the ATRIUM 10XM fuel, the ACE/TRIUM 10XM critical power correlation methodology in ANP-10298P-A, Revision 1, "ACE/TRIUM 10XM Critical Power Correlation," dated March 31, 2014 (ADAMS Accession No. ML14183A734) was applied. The Siemens Power Corporation critical power correlation for boiling water reactors, SPCB, as described in EMF-2209(P)(A) Revision 1, "SPCB Critical Power Correlation, AREVA NP, (Proprietary Version)," dated September 2009 (ADAMS Accession No. ML031290329, non-publicly available), was applied for GE14 fuel.

The application of the SPCB critical power correlation to GE14 fuel follows the indirect correlation application process described in EMF-2245(P) (A) Revision 0, "Application of Siemens Power Corporation's Critical Power Correlations to Co-Resident Fuel" (ADAMS Accession No. ML031290332). The indirect correlation application (ICA) process is used when either no experimental critical heat transfer data are available to Siemens Power Corporation (SPC) or to the licensee for the co-resident fuel when insufficient data are available for the range of conditions for which the SPC correlation is to be applied. The ICA process is applied to previously exposed co-resident fuel by:

1. Determining additive constants for co-resident fuel with unsatisfactory or no experimental data in the SPC or licensee data base for the specific SPC critical power correlation to be used, but for which a calculated critical power data base (with uncertainties) from another approved correlation is available,
2. performing a rigorous statistical evaluation of the approved critical power correlation for the co-resident fuel design to determine its standard deviation for the predicted critical power ratio data base, and
3. using appropriate co-variance, calculate a combined standard deviation as the product of two random variables: (a) the ratio of the SPC correlation standard deviation to the approved co-resident fuel design standard deviation, and (b) the co-resident fuel correlation standard deviation.

The NRC staff reviewed table 1 in FS1-0039792 which identifies the reactor system and core monitoring uncertainties that were used by Framatome for the MNGP cycle specific analysis. Table 2 in FS1-0039792 provides the results of the SLMCPR analysis for cycle 30. Figure 1 in FS1-0039792 provides a copy of the MNGP Power/Flow Map for MNGP cycle 30.

The removal of references to GEH methods from TS 2.1.1 and the deletion of item 24 from TS 5.6.3 remove outdated and duplicate references.

3.3 Technical Evaluation Conclusion

The NRC staff reviewed the information presented in the license amendment request to revise the SLMCPR values for MNGP cycle 30 and permit non-technical changes to the TS which would remove information that was specific to GEH safety analysis methodologies. The staff has determined that the proposed TS changes to the SLMCPR values for MNGP cycle 30 are acceptable because:

1. The licensee used approved SLMCPR methodologies for Boiling Water Reactors, with acceptable justification for deviations and adjustments relating to the channel bow uncertainty for cycle 30;

2. the licensee continues to apply a 0.03 penalty when the ratio of core power to core flow for TLO is ≥ 42 MWt/Mlbm/hr in the EFW region which is shown in Figure 1 of FS1-0039792.

The cycle 30 SLMCPR will ensure that 99.9 percent of the fuel rods in the core will not experience boiling transition. Consequently, the licensee's proposed amendment is consistent with the regulatory requirements and guidance as discussed in Section 2.0 of this SE. Based on its review of the application, the NRC staff has concluded that the SLMCPR mixed core analysis and TS changes for cycle 30 operation are acceptable.

The NRC staff finds the removal of references to GEH methods and corresponding changes to TS 2.1.1 and the removal of item 24 from TS 5.6.3 are acceptable because the changes remove outdated and duplicate information.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Minnesota State official was notified of the proposed issuance of the amendment on March 14, 2019. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR, Part 20, or change the surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (84 FR 1803). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Terrance Brimfield, NRR

Date of issuance: April 22, 2019

C. Church

**SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - ISSUANCE OF AMENDMENT
RE: REVISION TO TECHNICAL SPECIFICATIONS 2.1.2 SAFETY LIMIT
MINIMUM CRITICAL POWER RATIO (EPID NO. L-2018-LLA-0306) DATED
APRIL 22, 2019**

DISTRIBUTION

PUBLIC/Non-Public

RidsNrrDssStsb Resource
RidsNrrDorLpl3 Resource
RidsNrrLASRohrer Resource
RidsRgn3MailCenter Resource

RidsNrrDorIDpr Resource
RidsNrrPMMonticello Resource
RidsNrrDssSrxb Resource
RidsAcrs_MailCTR Resource

ADAMS Accession No.:

Proprietary ML19074A240

Non Proprietary: ML19074A269

*-memo dated

**-via e-mail

OFFICE	NRR/DORL/LPL3/PM	NRR/DORL/LPL3/LA	NRR/DSS/SRXB/BC	NRR/DSS/STSB/BC
NAME	RKuntz	SRohrer	JWhitman*	VCusumano**
DATE	03/19/19	03/18/19	02/27/19	04/03/19
OFFICE	OGC	NRR/DORL/LPL3/BC	NRR/DORL/LPL3/PM	
NAME	JScro NLO**	DWrona	RKuntz	
DATE	04/02/19	04/22/19	04/22/19	

OFFICIAL RECORD COPY