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

June 30, 2022

John T. Sauger
Chief Nuclear Officer, D&D, G&A
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121 W. Trade Street, Suite 2700
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SUBJECT: KEWAUNEE SOLUTIONS, INC. – REVIEW AND ACCEPTANCE OF THE ENERGY*SOLUTIONS*, LLC DECOMMISSIONING QUALITY ASSURANCE PROGRAM (Enterprise Project Identification No. L-2021-DP3-0000)

Dear John Sauger:

By application dated September 29, 2021, as supplemented by letter dated February 25, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML21277A246 and ML22060A191, respectively)), Energy*Solutions*, LLC (Energy*Solutions*) requested the U.S. Nuclear Regulatory Commission (NRC) review and approve the Kewaunee Solutions, Inc. (KS) Decommissioning Quality Assurance Program (DQAP), Revision 1, prior to implementation in pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(a), "Conditions of a License."

The NRC staff concluded the KS DQAP, Revision 1, conforms to the guidance specified in the safety evaluation, and provided a 10 CFR Section 50.54(a)(4) evaluation of the differences between the Kewaunee Solutions DQAP and DOM-QA-1, Revision 30 to demonstrate that the criteria within Appendix B to 10 CFR Part 50 "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants"; 10 CFR Part 71, Subpart H "Quality Assurance'; and 10 CFR Part 72, Subpart G, "Quality Assurance," have been met. Therefore, the NRC staff determined that the Energy*Solutions*' proposed transition from the DOM-QA-1, Revision 30 to the KS DQAP, Revision 1, is acceptable.

Separately, by letter dated May 10, 2021 (ML21131A141), Dominion Energy Kewaunee, Inc. (DEK) and Energy*Solutions* requested NRC approve of the transfer of control of Renewed Facility Operating License No. DPR-43 for Kewaunee Power Station (KPS) and the general license for the Kewaunee Independent Spent Fuel Storage Installation from Dominion Nuclear Projects, Inc. (Dominion), the parent entity of DEK, to Energy*Solutions.* Subsequently upon the closing of the transaction and transfer of the license, KS formally known as DEK, as stated in the letter dated March 15, 2022 (ML22076A065), will assume authority and responsibility for implementation of the current NRC approved quality assurance program for Kewaunee Power Station as described in Dominion Energy Topical Report DOM-QA-1, "Dominion Energy Nuclear Facility Quality Assurance Program Description," Revision 30 (ML21168A339). This commitment shall remain in effect until KS formerly known as DEK implements the KS DQAP at the KPS site.

Enclosed is the safety evaluation report (Enclosure). This evaluation completes the action on your request. Enterprise Project Identification No. L-2021-DP3-0000 is considered **CLOSED**.

In accordance with 10 CFR 2.390, a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Website at https://www.nrc.gov/reading-rm/adams.html.

For any questions regarding this matter, please contact me by telephone at 301-415-8534, or via email to Karl.Sturzebecher@nrc.gov.

Sincerely,

Karl J. Sturzebecher Signed by Sturzebecher, Karl
on 06/30/22

Karl J. Sturzebecher, Project Manager
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Docket Nos. 50-305, 72-64

Enclosure:
As stated

cc:
Via Listserv

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS FOR APPROVAL REQUEST OF KEWAUNEE SOLUTIONS DECOMMISSIONG QUALITY ASSURANCE PROGRAM, REVISION 1 KEWAUNEE POWER STATION (DOCKET NOS. 50-305, 72-64)

1.0 INTRODUCTION

By letter dated May 10, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21131A141)), Dominion Energy Kewaunee, Inc. (DEK) and Energy*Solutions*, LLC (Energy*Solutions*) requested that the U.S. Nuclear Regulatory Commission (NRC) approve of the transfer of control of Renewed Facility Operating License No. DPR-43 for Kewaunee Power Station (KPS) and the general license for the Kewaunee Independent Spent Fuel Storage Installation (ISFSI) from Dominion Nuclear Projects, Inc. (Dominion), the parent entity of DEK, to Energy*Solutions* (whose name will change upon closing of the transfer to Kewaunee Solutions, Inc. [KS]) in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Sections 50.80, "Transfer of licenses," and 72.50, "Transfer of license." The license transfer application stated that KS would develop a KS Quality Assurance (QA) Program for KPS that would be implemented at the time of the transfer and would comply with 10 CFR Section 50.54(a), "Conditions of a License." By letter dated September 29, 2021 (ML21277A246), Energy*Solutions* submitted the KS Decommissioning Quality Assurance Program (DQAP), Revision 0, for NRC review and approval, or, in the alternative, a statement from the NRC that the requirements of 10 CFR Section 50.54(a) have been met. Attachment 2 to the submittal provided the Energy*Solutions*' 10 CFR Section 50.54(a) assessment.

The NRC requested additional information by letter dated February 2, 2022 (ML22032A324). Energy*Solutions* submitted its response dated February 25, 2022 (ML22060A191). In its response, Energy*Solutions* submitted the KS DQAP, Revision 1, for NRC review and approval for KPS, in accordance with the provisions of 10 CFR 50.54(a), "Conditions of a License." The proposed DQAP provides for transition of the DOM-QA-1, Revision 30, "Nuclear Facility Quality Assurance Program Description" (ML21168A339), currently in use at KPS and its ISFSI, to the KS DQAP, Revision 1. Energy*Solutions* and DEK submitted a supplemental to their license transfer application to inform the NRC of KS's intent to adopt and maintain the existing QA program used at KPS, as described in DOM-QA-1, Revision 30 until the NRC approves the KS DQAP.

2.0 REGULATORY BASIS

The NRC's regulatory requirements related to QA programs are set forth in Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants" to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," 10 CFR 50.34(b)(6)(ii), "Contents of applications; technical information," and 10 CFR 50.54(a), "Conditions of licenses." In addition, the NRC's regulatory requirements related to QA programs for an ISFSI and packaging and transportation of radioactive material are addressed in 10 CFR Part 71, "Packaging and

Transportation of Radioactive Materials," Subpart H, "Quality Assurance," and 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste," Subpart G, "Quality Assurance."

Appendix B establishes the requirements for the design, fabrication, construction, and testing of structures, systems, and components (SSCs) for the facility. The pertinent requirements of Appendix B apply to all activities affecting the safety-related functions of those SSCs and include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying.

The regulations in 10 CFR 50.34 require that every applicant for an operating license includes information in its Final Safety Analysis Report on the managerial and administrative controls to be used to ensure safe operation. The information on the controls shall also include a discussion on how the applicable requirements of Appendix B will be satisfied.

The regulations in: (1) 10 CFR 50.54 require each power plant subject to the requirements of Appendix B to implement a QA program; and (2) 10 CFR 50.54(a)(4) require licensees to submit to the NRC, changes to their QA program that reduce commitments.

The regulations in 10 CFR Part 71, Subpart H, establishes the QA requirements applying to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, and modification of components of packaging that are important to safety (ITS).

The regulations in 10 CFR Part 72, Subpart G, establishes the QA requirements that apply to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, modification of SSCs, and decommissioning that are ITS.

3.0 TECHNICAL EVALUATION

The request for review and approval of the proposed KS DQAP, Revision 0, was submitted by letter dated September 29, 2021, for NRC review and approval. In the Request for Additional Information (RAI) issued on February 2, 2022, the NRC staff requested that Energy*Solutions* provide a 10 CFR 50.54(a)(4) evaluation of the differences between the KS DQAP and DOM-QA-1, Revision 30, to demonstrate that the criteria within Appendix B to 10 CFR Part 50; 10 CFR Part 71, Subpart H; and 10 CFR Part 72, Subpart G have been met. In its response to this RAI, Energy*Solutions* provided the KS DQAP, Revision 1, as Attachment 1 and the corresponding 10 CFR 50.54(a) evaluation, as Attachment 2. Energy*Solutions* provided compliance matrices to NUREG-1536, Revision 1, "Standard Review Plan for Spent Fuel Dry Storage Systems at a General License Facility," and NUREG-1757, Volume 1, Revision 2, "Decommissioning Process for Material Licensees," in Attachments 3 and 4 of the RAI responses, respectively.

In evaluating the adequacy of the KS DQAP, Revision 1 and the 10 CFR 50.54(a) evaluation, the NRC staff used the guidance contained in NUREG-1536, Revision 1 and NUREG-1757, Volume 1, Revision 2.

3.1 Organization

The KS DQAP describes and defines the responsibility and authority for planning, establishing, and implementing a QA program that govern the quality activities pertaining to a decommissioning nuclear site. Specifically, KS is responsible for the establishment and execution of the QA program for the KPS. The KS DQAP provides a general description of the organizational structure and functional responsibilities of station management regarding the implementation of ITS activities and key facility activities at KPS. Section 1.1.2 of the KS DQAP states that the ultimate responsibility for operation, maintenance, inspection, test, modification, decommissioning, and storage of spent fuel resides with the KS President. The General Manager (GM) reports to the KS President and has the overall responsibility for the establishment and execution of the DQAP. The Quality Assurance Manager (QAM) reports to the GM and both the QAM and GM have responsibility for reviewing and approving the KS DQAP. Section 1.3.1 of the KS DQAP describes the responsibilities of the QAM, which includes: (1) raising any condition adverse to quality that are not otherwise effectively resolved via the KS Corrective Action Program to the GM; (2) assuring ITS activities at KPS are performed in accordance with implementing procedures; (3) managing the performance of audits, surveillances, and inspections; (4) establishing lines of communication and control measures between the QA organization and suppliers to ensure appropriate QA program direction and provide for resolution of QA issues; (5) reporting on oversight activities to the GM; and (6) stopping work when quality is adversely affected. This section also states that the QAM is located off-site, but delegates management of day-to-day oversight of implementation of the DQAP for all ITS activities to on-site QA personnel for which the QAM retains responsibility.

Section 1.4 of the KS DQAP describes the roles and responsibilities for each key function of station management, including the decommissioning plant manager, radiation protection manager, engineering manager, licensing manager, waster manager, and ISFSI manager. Section 1.4.8 of the KS DQAP states that management may be comprised of on-site and off-site staff and implementing procedures for the DQAP will clearly establish roles and responsibilities in the organization for the activities within the DQAP scope. Section 1.5.1 states that KS may delegate the execution of portions of the work under the DQAP to others such as contractors, agents, or consultants; however, KS retains overall responsibility for those activities and the DQAP.

Based on these descriptions of the roles and responsibilities within the KS organization for planning, establishing, and implementing a QA program for KPS decommissioning activities, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.1, “Quality Assurance Organization,” and NUREG-1757, Volume 1, Revision 2, Section 17.6.1, “Organization,” for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion I, “Organizations” of Appendix B to 10 CFR Part 50, Section 71.103, “Quality Assurance Organization” of 10 CFR Part 71, Subpart H, and Section 72.142, “Quality Assurance Organization” of 10 CFR Part 72, Subpart G.

3.2 Quality Assurance Program

Section 2 of the KS DQAP describes the QA program established for the KPS, which includes the DQAP and its implementing procedures, instructions, and drawings. Section 2.1.1 of the KS DQAP states that this DQAP provides control over ITS SSCs and selected decommissioning related activities to an extent consistent with their importance to ensure safety and compliance

as defined in procedures. The DQAP requirements apply to SSCs designated as ITS identified in Appendix B of the DQAP. Section 2.1.2 states that the DQAP satisfies the requirements of Appendix B to 10 CFR Part 50, 10 CFR Part 71, Subpart H, and 10 CFR Part 72, Subpart G. Appendix C of the KS DQAP identifies additional regulatory commitments, and Appendix D of this DQAP identifies additional requirements for specific programs. Section 2.1.5 states that changes to the DQAP will be implemented in accordance with 10 CFR 50.54(a) and 10 CFR 71.106.

Section 2.2 of the KS DQAP describes the training and qualifications requirements for personnel performing activities which fall under the scope of the DQAP. Section 2.3 of the KS DQAP specifies the requirements for those personnel performing work activities such as design, engineering, procurement, installation, maintenance, modification, operation, and independent verification activities. This section of the DQAP also specifies that these work activities must be accomplished and verified using instructions, procedures, or other appropriate means that are of a detail commensurate with the activity's complexity and ITS.

Based on the descriptions of the QA program within Section 2 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.2, "Quality Assurance Program," and NUREG-1757, Volume 1, Revision 2, Section 17.6.2, "Quality Assurance Program," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion II, "Quality Assurance Program" of Appendix B to 10 CFR Part 50, Section 71.105, "Quality Assurance Program" of 10 CFR Part 71, Subpart H, and Section 72.144, "Quality Assurance Program" of 10 CFR Part 72, Subpart G.

3.3 Design Control

Section 3 of the KS DQAP describes the measures established by the QA program to ensure that activities associated with the design of ITS SSCs and modifications thereto, are executed in a planned, controlled, and orderly manner. This includes measures that KS will implement to ensure that: (1) design inputs will be identified and correctly translated to design outputs; (2) final design outputs will have sufficient detail to permit verification; and (3) design verification will be performed by competent individuals or groups other than those who performed the original design activity. While the KS DQAP specify the design controls of all ITS SSCs at KPS, Section 3.1.2 clarifies that Appendix B identifies the original design authority for each type of SSC within the scope of the DQAP and the respective design authority for subsequent design modifications of these SSCs. Each design authority will complete any subsequent design modifications in accordance with its NRC approved quality assurance program.

Based on the descriptions of the design control measures within Section 3 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.3, "Design Control," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion III, "Design Control" of Appendix B to 10 CFR Part 50, Section 106, "Changes to quality assurance program," and Section 71.107, "Package design control," of 10 CFR Part 71, Subpart H, and Section 72.146, "Design control" of 10 CFR Part 72, Subpart G.

3.4 Procurement Document Control

Section 4 of the KS DQAP describes the measures established by the QA program to ensure that that purchased items and services will meet the required quality and technical requirements. The QA program will implement provisions for invoking applicable technical, regulatory, administrative (e.g., record keeping), and reporting requirements in procurement documents. The QA program will implement provisions for clearly delineating the sequence of actions that need to be accomplished in the preparation, review, approval, and control of procurement documents.

Based on the descriptions of the procurement document control measures within Section 4 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.4, "Procurement Document Control," and NUREG-1757, Volume 1, Revision 2, Section 17.6.3, "Procurement Document Control," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion IV, "Procurement Document Control," of Appendix B to 10 CFR Part 50, Section 71.109, "Procurement Document Control," of 10 CFR Part 71, Subpart H, and Section 72.148, "Procurement Document Control," of 10 CFR Part 72, Subpart G.

3.5 Instructions, Procedures and Drawings

Section 5 of the KS DQAP specifies the provisions within the QA program that will ensure activities affecting quality are prescribed by and performed in accordance with documented instructions, procedures, or drawings. The QA program will implement provisions for clearly delineating the sequence of actions that must be accomplished in the preparation, review, approval, and control of instructions, procedures, and drawings. Instructions, procedures, and drawings will include as appropriate, quantitative, or qualitative acceptance criteria for determining that activities have been satisfactorily accomplished. Controls will be established to ensure that instructions, procedures, and drawings are current and accurately reflect the facility design and regulatory requirements.

Based on the descriptions the provisions within the QA program to ensure the use of instructions, procedures, and drawings for ITS activities within Section 5 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.5, "Instructions, Procedures and Drawings," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion V, "Instructions, Procedures, and Drawings," of Appendix B to 10 CFR Part 50, Section 71.111, "Instructions, Procedures, and Drawings," of 10 CFR Part 71, Subpart H, and Section 72.150, "Instructions, Procedures, and Drawings," of 10 CFR Part 72, Subpart G.

3.6 Document Control

Section 6 of the KS DQAP describes the measures established by the QA Program that will control the development, review, approval, issue, use, and revision of documents. The QA program will ensure: (1) the appropriate organizations review, approve, and issue documents and changes thereto before release to ensure that the documents are adequate and applicable quality requirements are stated; and (2) revisions of controlled documents are reviewed for

adequacy and approved for release by the same organization that originally reviewed and approved the document or by a designated organization. This section identifies the scope of documents under the document control program.

Based on the descriptions of document controls measures within Section 6 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.6, "Document Control," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion VI, "Document Control," of Appendix B to 10 CFR Part 50, Section 71.113, "Document Control," of 10 CFR Part 71, Subpart H, and Section 72.152, "Document Control," of 10 CFR Part 72, Subpart G.

3.7 Control of Purchased Material, Equipment, and Services

Section 7 of the KS DQAP describes the measures established by the QA program that will ensure purchased material, equipment, and services conform to the procurement documents, as applicable to the SSCs within the scope of the KS DQAP. The QA program will include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery. The processes used for implementation of these provisions will use a graded approach with considerations of a material's, component's or service's importance to safety, complexity, and history of previous use.

Section 7.2.1 of the KS DQAP describes the supplier evaluation and selection process that will be used to verify the effectiveness of the control of quality by contractors and subcontractors. This includes use of direct audit of suppliers, in-process surveillance of the supplier's documented program, or by review of audit history performed by Energy*Solutions* or an approved third-party source. KS will maintain an approved supplier list and will perform external audits to confirm a supplier's QA Program based on the importance of the activity with a frequency of not greater than 3 years with a 90-day grace period. For external audits of suppliers, an overall 25 percent extension for triennial audits or surveys may be exercised during periods where performance of such activities is not feasible as a result of extenuating circumstances. Examples of extenuating circumstances are described in the KS DQAP. Section 7.2.1 of the KS DQAP describes the evaluation that will be performed to: (1) summarize why the audit or survey could not be performed prior to the end of the 90-day graced period, and (2) provide the basis for maintaining the supplier as an approved supplier during the 25 percent grace period. Section 7 of the KS DQAP provides provisions for the use of accreditation in lieu of commercial grade surveys for procurement of laboratory calibration and test services in accordance with the International Organization for Standardization/International Electrotechnical Commission Standard No. 17025:2017, as described in the staff's November 20, 2020, letter to the Nuclear Energy Institute (ML20325A192).

Based on the descriptions of measures established for control of purchased materials, equipment and services within Section 7 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.7, "Control of Purchased Material, Equipment, and Services," for the scope of activities related to spent fuel and decommissioning. In accordance with 10 CFR 50.54(a)(3)(ii), the NRC staff determined that the NRC safety evaluation (ML20216A681) for the Callaway exigent condition alternative apply to the exceptions made in Section 7.2.1 of the KS DQAP for external audit frequency extensions due to extenuating circumstances. Therefore, the NRC staff concludes

that the KS DQAP meets the requirements of Criterion VII, “Control of Purchased Material, Equipment, and Services,” of Appendix B to 10 CFR Part 50, Section 71.115, “Control of Purchased Material, Equipment, and Services,” of 10 CFR Part 71, Subpart H, and Section 72.154, “Control of Purchased Material, Equipment, and Services,” of 10 CFR Part 72, Subpart G.

3.8 Identification and Control of Materials, Parts, and Components

Section 8 of the KS DQAP describes the measures established by the QA program that will ensure the proper identification and control ITS items to prevent the use of incorrect or defective items. These measures include provisions to: (1) ensure that installed limited-life items will be replaced before their expiration, and (2) prevent the use of items in inventory that have exceeded their specified shelf-life. The identification of each item will be maintained using heat number, part number, serial number, or other appropriate means. Traceability of these items will be maintained consistent with the item’s importance to safety.

Based on the descriptions of measures established for identification and control of materials, parts, and components within Section 8 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.8, “Identification and Control of Materials, Parts, and Components, and Services,” for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion VIII, “Identification and Control of Materials, Parts, and Components,” of Appendix B to 10 CFR Part 50, Section 71.117, “Identification and Control of Materials, Parts, and Components,” of 10 CFR Part 71, Subpart H, and Section 72.156, “Identification and Control of Materials, Parts, and Components,” of 10 CFR Part 72, Subpart G.

3.9 Control of Special Processes

Section 9 of the KS DQAP describes the measures established by the QA program that will properly control special processes identified as ITS, including those for ensuring these special processes are accomplished by qualified personnel, using appropriate equipment and procedures. This section provides examples of special processes that will be controlled under the QA program.

Based on the descriptions of measures established for control of special processes within Section 9 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.9, “Control of Special Processes,” for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion IX, “Control of Special Processes,” of Appendix B to 10 CFR Part 50, Section 71.119, “Control of Special Processes,” of 10 CFR Part 71, Subpart H, and Section 72.158, “Control of Special Processes,” of 10 CFR Part 72, Subpart G.

3.10 Inspection

Section 10 of the KS DQAP describes the measures established by the QA program to ensure inspections of ITS activities are planned, executed, and documented to verify conformance with instructions, procedures, and drawings for accomplishing the activity. Provisions will be established to ensure that planning activities include the identification of characteristics and

activities to be inspected, the inspection techniques, the acceptance criteria, and the organization responsible for performing the inspections. Any required inspection hold points and the organizations, that will need to approve release from these hold points, will be identified. Unacceptable inspection results will be evaluated and resolved in accordance with procedures. This section also identifies the items that will be included in the inspection records, as a minimum.

Based on the descriptions of measures established by the QA program to ensure inspection of ITS activities within Section 10 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.10, "Licensee Inspection," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion X, "Inspections," of Appendix B to 10 CFR Part 50, Section 71.121, "Internal Inspections," of 10 CFR Part 71, Subpart H, and Section 72.160, "Licensee and Certificate Holder Inspections," of 10 CFR Part 72, Subpart G.

3.11 Test Control

Section 11 of the KS DQAP describes the measures established by the QA program to demonstrate that ITS items will perform satisfactorily in service using approved test procedures. This section describes criteria for the development of test procedures, including incorporation of requirements and acceptance limits from applicable design documents, instructions and perquisites to perform the test, use of proper test equipment, and dispositioning of unacceptable test results.

Based on the descriptions of test control measures within Section 11 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.11, "Test Control," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50, Section 71.123, "Test Control," of 10 CFR Part 71, Subpart H, and Section 72.162, "Test Control," of 10 CFR Part 72, Subpart G.

3.12 Control of Measuring and Test Equipment

Section 12 of the KS DQAP describes the measures established by the QA program for controlling the calibration, maintenance, and use of measuring and test equipment (M&TE) consistent with the activity's importance to safety to ensure accuracy. This section describes the criteria that will be used for identifying the equipment covered by the program, and for documenting and maintaining the status of all calibrated M&TE within procedures. M&TE will be calibrated at specified intervals or immediately before use, using calibration reference standards that are based on nationally recognized standards. M&TE will be labeled, tagged or controlled via other means to indication its calibration status.

Based on the descriptions of measures established for ensuring that M&TE used in activities affecting quality are properly controlled within Section 12 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.12, "Control of Measuring and Test Equipment," and NUREG-1757, Volume 1, Revision 2, Section 17.6.4, "Control of Measuring and Test Equipment," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that

the KS DQAP meets the requirements of Criterion XII, “Control of Measuring and Test Equipment,” of Appendix B to 10 CFR Part 50, Section 71.125, “Control of Measuring and Test Equipment,” of 10 CFR Part 71, Subpart H, and Section 72.162, “Control of Measuring and Test Equipment,” of 10 CFR Part 72, Subpart G.

3.13 Handling, Storage, and Shipping

Section 13 of the KS DQAP describes the measures established by the QA program that will control the handling, storage, shipping, cleaning, and preserving of items to prevent damage or deterioration. This section identifies the criteria for specifying and using special protective measures when required to prevent damage or deterioration, and for developing specific procedures for cleaning, handling, storage, packaging, shipping, and preserving items to prevent damage or deterioration. Section 13.2 of the KS DQAP describes the provisions that will be implemented to ensure that the requirements of 10 CFR Part 71, Subpart H, 10 CFR Part 72, Subpart G, and Department of Transportation requirements as identified in 49 CFR for restrictions concerning handling, storage, and shipping of NRC-licensed packages will be met.

Based on the descriptions of measures established for controlling the handling, storage and shipping of material and equipment to prevent damage or deterioration within Section 13 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.13, “Handling, Storage and Shipping,” for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion XIII, “Handling, Storage, and Shipping,” of Appendix B to 10 CFR Part 50, Section 71.127, “Handling, Storage, and Shipping Control,” of 10 CFR Part 71, Subpart H, and Section 72.166, “Handling, Storage, and Shipping Control,” of 10 CFR Part 72, Subpart G.

3.14 Inspection, Test, and Operating Status

Section 14 of the KS DQAP describes the measures established by the QA program that will ensure proper indication of the status of inspections and tests, and operating status of items ITS. The QA program will implement provisions to ensure that ITS items have satisfactorily passed all required inspections and tests prior to their release, fabrication, receipt installation, test, and use, as applicable. For those items that have incomplete inspections and tests or inconclusive test results, criteria for allowing conditional release of these items will be included in procedures.

Based on the descriptions of measures established to indicate the status of inspections and tests performed and the operating status of ITS SSCs within Section 14 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.14, “Inspection, Test, and Operating Status,” for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion XIV, “Inspection, Test, and Operating Status,” of Appendix B to 10 CFR Part 50, Section 71.129, “Inspection, Test, and Operating Status,” of 10 CFR Part 71, Subpart H, and Section 72.168, “Inspection, Test, and Operating Status,” of 10 CFR Part 72, Subpart G.

3.15 Nonconforming Materials, Parts, or Components

Section 15 of the KS DQAP describes the measures established by the QA program that will ensure nonconforming ITS materials, parts, components, associated services, and activities are properly identified and controlled. This includes control of nonconforming items through use of procedures that define identification, documentation, segregation requirements, disposition and approval authority, and notification requirements to the affected organization to prevent the inadvertent installation and use of nonconforming items. Criteria will be established within procedures for reviewing nonconforming items for disposition as either accepted, rejected, repaired, or reworked. Nonconformance reports will be periodically evaluated for trends, provided sufficient quantity of data exists and any adverse trends will be entered into the corrective action program.

Based on the descriptions of measures established by the QA program to ensure proper labeling and disposition of nonconforming materials, parts, or components within Section 15 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.15, “Nonconforming Materials, Parts, or Components,” for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion XV, “Nonconforming Materials, Parts, or Components,” of Appendix B to 10 CFR Part 50, Section 71.131, “Nonconforming Materials, Parts, or Components,” of 10 CFR Part 71, Subpart H, and Section 72.170, “Nonconforming Materials, Parts, or Components,” of 10 CFR Part 72, Subpart G.

3.16 Corrective Action

Section 16 of the KS DQAP describes the measures established by the corrective actions program that will ensure prompt identification and reporting of conditions adverse to quality. These measures include requirements within the KS QA program for: (1) evaluating conditions adverse to quality to assess the need for corrective action to address the conditions identified, and to preclude recurrence of the condition; and (2) performing follow-up activities to verify proper implementation of corrective actions and close out of the corrective action documentation in a timely manner. The QA program will also ensure that for significant conditions adverse to quality, a cause determination will be performed; corrective actions to prevent recurrence will be implemented; and follow-up actions will be taken to verify the proper implementation and effectiveness of the required corrective actions. Reports of conditions that are adverse to quality will be analyzed to identify negative trends.

Based on the descriptions of measures established by the corrective actions program to ensure that conditions adverse to quality will be promptly identified and corrected, and precluding the repetition of significant conditions adverse to quality, within Section 16 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.16, “Corrective Action,” and NUREG-1757, Volume 1, Revision 2, Section 17.6.5, “Corrective Action,” for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion XVI, “Corrective Action,” of Appendix B to 10 CFR Part 50, Section 71.133, “Corrective Action,” of 10 CFR Part 71, Subpart H, and Section 72.172, “Corrective Action,” of 10 CFR Part 72, Subpart G.

3.17 Quality Assurance Records

Section 17 of the KS DQAP describes the measures established by the QA program that will ensure sufficient records of ITS items and activities affecting quality are generated and maintained to reflect the work completed. These measures include controls for the administration, identification, receipt, storage, preservation, safekeeping, retrieval, and disposition of records, as described in implementing procedures. Management of the electronic storage of records will utilize guidance provided in the Nuclear Information and Records Management Association (NIRMA) standards specified in this section of the KS DQAP. Section 17.4 describes the exemption request for allowing elimination of the requirement to maintain records that are no longer necessary due to the permanently defueled condition and decommissioning status of the KPS. On May 10, 2017 (ML17069A394), the NRC granted KPS a partial exemption from the requirements of Criterion XVII from Appendix B to 10 CFR Part 50, and 10 CFR 50.59(d)(3), "Changes, tests, and experiments," and 10 CFR 50.71(c), "Maintenance of records, making of reports," to allow KPS to advance the schedule to remove records associated with SSCs that have been or will be removed form NRC licensing basis documents by appropriate change mechanisms. Energy*Solutions* adopted this exemption request through its KPS license transfer request (ML21131A141).

Based on the descriptions of measures established by the QA program to ensure proper documentation of records associated with activities affecting quality within Section 17 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.17, "Quality Assurance Records," and NUREG-1757, Volume 1, Revision 2, Section 17.6.6, "Quality Assurance Records," for the scope of activities related to spent fuel and decommissioning. Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion XVII, "Quality Assurance Records," of Appendix B to 10 CFR Part 50, Section 71.135, "Quality Assurance Records," of 10 CFR Part 71, Subpart H, and Section 72.174, "Quality Assurance Records," of 10 CFR Part 72, Subpart G.

3.18 Audits

Section 18 of the KS DQAP describes the measures established by the QA program that will ensure the: (1) proper planning, performing, and documenting audits in order to verify compliance with all aspects of the KD DQAP; and (2) verification of effective implementation of activities within the scope of the KS DQAP. Qualified auditors utilizing approved written procedures will perform internal audits and external audits of suppliers. KS will evaluate, for acceptability, the results of audits performed by licensees/utilities, contractors, or consultants acting on behalf of KS to satisfy KS audit requirements. Sections 18.2 and 18.3 of the KS DQAP identify the training and qualification requirements of lead auditors, requirements for auditor independence from the work being audited, and requirements for use of written procedures to schedule, prepare, perform, document the results and follow-up actions of, and maintain records of, audits. Section 18.4 of the KS DQAP identifies the requirements for the frequency of internal audits, with criteria for allowing the audit interval to be extended beyond the specified frequency under certain conditions.

Based on the descriptions of measures established by the QA program to ensure the performance of periodic internal and external audits within Section 18 of the KS DQAP, the NRC staff determined that the KS DQAP conforms to the applicable guidance within NUREG-1536, Revision 1, Section 14.5.18, "Audits," and NUREG-1757, Volume 1, Revision 2, Section 17.6.7, "Audits and Surveillance," for the scope of activities related to spent fuel and decommissioning.

Therefore, the NRC staff concludes that the KS DQAP meets the requirements of Criterion XVIII, “Audits,” of Appendix B to 10 CFR Part 50, Section 71.137, “Audits,” of 10 CFR Part 71, Subpart H, and Section 72.176, “Audits,” of 10 CFR Part 72, Subpart G.

3.19 Regulatory Commitments

In Appendix C of the KS DQAP, the licensee commits to comply with the following regulatory requirements:

- Appendix B to 10 CFR Part 50, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants;”

- 10 CFR Part 71, Subpart H, “Quality Assurance” for Packaging and Transportation of Radioactive Material; and

- 10 CFR Part 72, Subpart G, “Quality Assurance” for Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste.

The licensee also commits to conform to the following regulatory guidance:

- Regulatory Guide 7.10, “Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material,” Revision 3;

- NUREG/CR-6407, “Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety,” dated February 1996; and

- Regulatory Guide 4.15, “Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment,” Revision 1.

Exceptions to the above guidance may be taken for suppliers providing commercial grade calibration and test services, who are accredited by a nationally recognized accrediting body, as described in NEI 14-05, provided that the conditions of the associated NRC safety evaluation are met.

Based on the above, the NRC staff determined that the KS DQAP conforms to the applicable guidance in NUREG-1536, Revision 1, Section 14, “Quality Assurance Evaluation,” and NUREG-1757, Volume 1, Revision 2, Section 17.6, “Decommissioning Plan: Quality Assurance Program Overview,” for the scope of activities related to decommissioning and spent fuel.

4.0 CONCLUSIONS

The NRC staff used the acceptance criteria of NUREG-1536, Revision 1, Section 14 and NUREG-1757, Volume 1, Revision 2, Section 17.6 as the basis for evaluating the acceptability of the proposed KS DQAP, Revision 1, for compliance with Appendix B to 10 CFR Part 50, Subpart H of 10 CFR Part 71, and Subpart G of 10 CFR Part 72. As described in Section 3 of this safety evaluation, the staff determined that the QA program description within the KS DQAP, Revision 1, adequately describes the provisions to meet the aforementioned regulatory

requirements. Therefore, the NRC staff concludes that the proposed KS DQAP, Revision 1, meets the QA requirements in Appendix B to 10 CFR Part 50, Subpart H of 10 CFR Part 71, and Subpart G of CFR Part 72, and is, therefore, acceptable.

5.0 REFERENCES

1. Dominion Energy Kewaunee, Inc. and Energy*Solutions* LLC, "Application for Order Approving Transfer of Control of KPS License and Conforming License Amendments," dated May 10, 2021 (ML21131A141).

2. Energy*Solutions* Letter to the U.S. NRC, "Resubmittal of the Kewaunee Solutions Decommissioning Quality Assurance Program (DQAP), Revision 0 for Kewaunee Power Station (KPS)," dated September 29, 2021 (ML21277A246).

3. U.S. NRC letter to Energy*Solutions*, "Request for Additional Information Regarding Energy*Solutions*, LLC Submittal for Approval of Decommissioning Quality Assurance Program," dated February 2, 2022 (ML22032A324).

4. Energy*Solutions* Letter to the U.S. NRC, "Response to NRC Requests for Additional Information for Approval of the Kewaunee Solutions Decommissioning Quality Assurance Program (DQAP), Revision 0 for Kewaunee Power Station (KPS)," dated February 25, 2022 (ML22060A191).

5. Energy*Solutions* LLC and Dominion Energy Kewaunee, Inc. Supplement to License Transfer application Related to use of Existing Dominion Energy Quality Assurance Program," dated March 15, 2022 (ML22076A065).

6. NUREG-0800, "Standard Review Plant for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Section 17.3, "Quality Assurance Program Description," August 1990.

7. NUREG-1536, Revision 1, "Standard Review Plan for Spent Fuel Dry Storage Systems at a General License Facility," July 2010.

8. NUREG-1757, Volume 1, Revision 2, "Decommissioning Process for Materials Licensees," September 2006.

9. NUREG/CR-6407, "Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety," February 1996.

10. Regulatory Issue Summary RIS-2000-18, "Guidance on Managing Quality Assurance Records in Electronic Media," October 23, 2000.

11. U.S. NRC letter to Nuclear Energy Institute (NEI), "Update to the Provision Recognition of the International Standard Organization/International Electrotechnical Commission Standard No. 17025, "General Requirements for the Competence of Testing and Calibration Laboratories," 2017 Edition," November 20, 2020 (ML20325A192).

12. U.S. NRC letter to Callaway Energy Center, "Callaway Plant, Unit No. 1 – Operating Quality Assurance Manual Change Revision 34b (EPID L-2020-LLQ-0004 [COVID-19])," dated August 6, 2020 (ML20216A681).

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Date: June 30, 2022

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