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Underground Test Area Activity Preemptive Review Guidance Nevada National Security Site, Nevada

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/s/ Joseph P. Johnston 10/18/2016

Joseph P. Johnston, Navarro CO Date

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UNDERGROUND TEST AREA ACTIVITY PREEMPTIVE REVIEW GUIDANCE NEVADA NATIONAL SECURITY SITE, NEVADA

U.S. Department of Energy, National Nuclear Security Administration
Nevada Field Office
Las Vegas, Nevada

Revision No.: 0

October 2016

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List of Acronyms and Abbreviations

CADD	Corrective action decision document
CAI	Corrective action investigation
CAP	Corrective action plan
CAU	Corrective action unit
CR	Closure report
DOE	U.S. Department of Energy
DRS	Document Review Sheet
EPS	Environmental Program Services
FFACO	*Federal Facility Agreement and Consent Order*
N/A	Not applicable
NDEP	Nevada Division of Environmental Protection
NNSA/NFO	U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office
PER	Preemptive review
QAP	Quality Assurance Plan
TDR	Technical Data Repository
UGTA	Underground Test Area

1.0 Introduction

Preemptive reviews (PERs) of Underground Test Area (UGTA) Activity corrective action unit (CAU) studies are an important and long-maintained quality improvement process. The CAU-specific PER committees provide internal technical review of ongoing work throughout the CAU lifecycle. The reviews, identified in the UGTA Quality Assurance Plan (QAP) (Sections 1.3.5.1 and 3.2), assure work is comprehensive, accurate, in keeping with the state of the art, and consistent with CAU goals. PER committees review various products, including data, documents, software/codes, analyses, and models. PER committees may also review technical briefings including *Federal Facility Agreement and Consent Order* (FFACO)-required presentations to the Nevada Division of Environmental Protection (NDEP) and presentations supporting key technical decisions (e.g., investigation plans and approaches). PER committees provide technical recommendations to support regulatory decisions that are the responsibility of the U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Field Office (NNSA/NFO) and NDEP.

PERs are designed to be adaptable to the varying requirements of individual CAU studies. Their goals include the following:

1. Maintaining high technical standards; ensuring work is technically adequate, competently performed, and documented consistent with other programmatic documents; and verifying that established quality requirements are satisfied.

2. Helping focus CAU studies on UGTA Activity objectives identified in the FFACO by implementing Section 3 of Appendix VI, which includes the UGTA Strategy Flowchart (Figure 3-2) and Process Flow Diagram Dictionary for the UGTA CAUs (Table 3-1).

3. Providing a mechanism for early identification of technical and/or strategy issues that could affect successfully implementing the UGTA strategy.

4. Providing assurance to NDEP that work in progress and final reports are technically sound.

5. Providing independent reviews that allow for a better understanding of the technical work, and result in products that are transparent and sufficient to allow NNSA/NFO to meet regulatory objectives.

PERs must be adaptable to different stages of the UGTA Activity. For the Corrective Action Investigation (CAI) stage, the PER committee critiques the flow and transport document(s)

(inclusive of Hydrologic Data, Transport Data, Hydrostratigraphic Framework Model, and Hydrologic Source Term Model documents; and other documents as needed) and the applicability of the documents to Decision 2, "Are the Model Results and Data Adequate?" to proceed to External Peer Review.

The PER committee reviews the Corrective Action Decision Document (CADD)/Corrective Action Plan (CAP) to ensure that key uncertainties are identified and appropriately addressed by the planned model evaluation studies. The PER committee reviews results of model evaluation studies, and makes recommendations on model refinements or the need for additional data collection to support Decision 6, "Is CAU Model Acceptable for CAU Closure?"

The PER committee is disbanded after advancement to the Closure Report (CR) stage. Activities performed and documents generated during the CR stage generally require different expertise than necessary for the PER. Reviews during the CR stage will therefore be performed at the discretion of NNSA/NFO in consultation with NDEP.

2.0 Committee Membership

PER committees consist of a core group to provide consistency over the CAU lifecycle; subject matter experts are added when additional expertise is needed. Given the relatively small number of UGTA participants and their involvement in multiple CAU studies, committee members may not be fully independent, so partial overlap with some aspects of the CAU studies is difficult to avoid. PER committees work on the honor system, which means that individual committee members do not comment on or review their own work. Potential conflicts of interest are monitored by the PER Chairperson and the Science Advisor, and are referred to the UGTA Activity Lead for resolution if necessary.

2.1 Roles and Responsibilities

The following section outlines the roles and responsibilities of participants routinely involved in the PER process. Roles and responsibilities are summarized in Table 2-1.

1. The ***UGTA Federal Activity Lead*** has primary management responsibility for the UGTA Activity and is responsible for the following: (a) establishing a PER committee; (b) selecting a PER Chairperson; (c) selecting, replacing, or augmenting committee members as needed; and (d) authorizing the review. The UGTA Federal Activity Lead has sole authority in making the aforementioned decisions and will work with the appropriate Contract Managers to ensure that funding is available for committee members to conduct the review, and consider and authorize remedial scope of work that may be required in response to a PER. The UGTA Federal Activity Lead is also responsible for addressing differences of opinion when not resolved through consensus of the Science Advisor, PER Chairperson, CAU Lead, and Environmental Program Services (EPS) UGTA Project Manager.

2. The ***PER Chairperson*** will coordinate with the Science Advisor, EPS UGTA Project Manager, and CAU Lead to develop guiding questions for the review. The PER Chairperson coordinates with the CAU Lead, EPS UGTA Integration Manager, and committee members to develop the review schedule. The PER Chairperson convenes the committee, ensures that the CAU Lead is distributing review materials in a timely fashion so that committee members will be prepared for the review, and ensures that committee members are conducting reviews as needed. The PER Chairperson is responsible for compiling individual review comments and crafting overview comments that address the guiding questions and other concerns as identified. The PER Chairperson will work with the CAU Lead to ensure that the overview comments are addressed and that the committee has the opportunity to respond to the proposed resolution before responses are finalized and the review completed. The PER Chairperson will post documentation associated with the review process to the UGTA

Table 2-1
PER Roles and Position Responsibility Matrix
(Page 1 of 2)

Activity	UGTA Federal Activity Lead	PER Chairperson	Science Advisor	CAU Lead	EPS UGTA Project Manager	EPS UGTA Integration Manager	PER Committee Member, NDEP Employee, and Nye County Representative	Contract Manager
Select PER Chairperson	Select chairperson	N/A	Advise UGTA Federal Activity Lead	N/A	N/A	N/A	N/A	N/A
Select PER members	Select PER members	N/A	Advise UGTA Federal Activity Lead	N/A	N/A	N/A	N/A	Determine availability of selected member
Initiate PER review	Authorize review	N/A	Advise UGTA Federal Activity Lead	Identify the need for PER	Identify the need for PER	N/A	N/A	N/A
Ensure funding is available for PER committee members to participate	Authorize funding	N/A	N/A	Plan PER with EPS UGTA Project and Integration managers	Plan PER with CAU Lead and EPS UGTA Integration manager	Coordinate PER with Contract Managers and UGTA Federal Activity Lead	N/A	Work with EPS UGTA Integration Manager and UGTA Federal Activity Lead to ensure funding is available
Identify PER Objective and Determine guiding questions	Provide support/guidance as needed	Work with Science Advisor, CAU Lead, and EPS UGTA Project Manager to develop questions	Work with PER Chairperson, CAU Lead, and EPS UGTA Project Manager to develop questions	Work with PER Chairperson, Science Advisor, and EPS UGTA Project Manager to develop questions	Work with PER Chairperson, Science Advisor, and CAU Lead to develop questions	N/A	N/A	N/A
Develop schedule for review	N/A	Work with CAU Lead, EPS UGTA Integration Manager, and committee members to develop schedule	N/A	Work with PER Chairperson and EPS UGTA Integration Manager to develop schedule	N/A	Work with PER Chairperson and CAU Lead to develop schedule and communicate the schedule to Contract Managers	N/A	Identify whether any schedule conflicts exist

Table 2-1
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(Page 2 of 2)

Activity	UGTA Federal Activity Lead	PER Chairperson	Science Advisor	CAU Lead	EPS UGTA Project Manager	EPS UGTA Integration Manager	PER Committee Member, NDEP Employee, and Nye County Representative	Contract Manager
Conduct reviews	N/A	Coordinate review; ensure members receive necessary information; compile comments; develop overview comments	Monitor PER review; interact with committee; and inform UGTA Federal Activity Lead of issues/concerns	Provide materials to PER Chairperson and committee members, as needed	N/A	N/A	Provide review comments to PER Chairperson, and review/accept overview comments	Report schedule and budget issues to EPS UGTA Integration Manager and UGTA Federal Activity Lead
Participate in comment resolution process	Resolve differing opinions that cannot be resolved by consensus of the Science Advisor, PER Chairperson, CAU Lead, and EPS UGTA Project Manager	Work with committee and CAU Lead to resolve comments; post review process documentation on SharePoint site	Advise PER Chairperson, CAU Lead, EPS UGTA Project Manager and/or UGTA Federal Activity Lead to resolve comments as necessary	Work with authors to develop comment responses and PER Chairperson to facilitate comment resolution	Advise CAU Lead as needed	N/A	Provide feedback on proposed comment responses to the PER Chairperson	N/A
Manage potential outcomes of review process	Solicit/receive guidance to determine necessity for remedial work scope; authorize work scope	Support PER committee as needed; work with CAU Lead and Science Advisor to ensure unresolved comments are resolved before products are finalized	Advise UGTA Federal Activity Lead, and provide assistance as needed; work with CAU Lead and PER Chairperson to ensure unresolved comments are resolved before products are finalized	Ensure work resulting from the PER is coordinated with other CAU studies; track comments that have yet to be resolved	Support CAU Lead as needed	Provide support to UGTA Federal Activity Lead to integrate new work scope required as an outcome of the PER	N/A	Work with EPS UGTA Integration Manager to plan remedial work if needed

N/A = Not applicable

SharePoint site. Overview comments that are not resolved by the end of the review of in-process products will be entered by the PER Chairperson into the UGTA SharePoint site using the Action Tracking tool. The PER Chairperson will work with the CAU Lead and Science Advisor to ensure that unresolved overview comments are resolved before in-process products are finalized.

3. A ***Science Advisor*** will be assigned to each PER committee. The Science Advisor provides advice to the UGTA Federal Activity Lead to determine whether a PER is needed, select PER committee membership, identify PER Chairperson candidates, resolve differences of opinion, and determine whether remedial scopes of work are required to address PER comments. The Science Advisor will work with the CAU Lead, EPS UGTA Project Manager, and PER Chairperson to craft guiding questions. The Science Advisor also participates in the PER committee as an ex officio, nonvoting member. The Science Advisor may fully participate in all committee discussions but will abstain from providing written comments directly to the PER Chairperson. The Science Advisor may provide comments directly to the UGTA Federal Activity Lead. The Science Advisor provides guidance to the CAU Lead and PER Chairperson to facilitate comment resolution, and will work with the PER Chairperson to ensure that overview comments have been addressed during the reviews of final products. The Science Advisor will work with the CAU Lead and PER Chairperson to ensure that unresolved overview comments are resolved before in-process products are finalized.

4. The ***CAU Lead*** is responsible for identifying the need to initiate a PER. The CAU Lead will work with the Science Advisor, EPS UGTA Project Manager, and PER Chairperson to identify the PER objective and develop guiding questions for the review. The CAU Lead is responsible for ensuring that CAU-specific products are prepared and presented to the PER Chairperson in a timely fashion so that committee members can be effectively prepared for the review process and that participants who helped develop the product being reviewed are available as needed to interact with the PER committee. The CAU Lead works with the PER Chairperson to implement the comment resolution process if differences of opinion arise and to provide documentation of comment resolution to the PER Chairperson. The CAU Lead is responsible for ensuring that all PER overview comments related to final products have been addressed. The CAU Lead will work with the PER Chairperson, EPS UGTA Project Manager, and Science Advisor to ensure unresolved overview comments are resolved before in-process products are finalized. The CAU Lead may consult with the EPS UGTA Project and Integration managers to assess any impact on the schedule that stems from the comment resolution process.

5. The ***EPS UGTA Project Manager*** is responsible for the integration of UGTA technical work scope and therefore participates in critical technical aspects in support of the PER. The EPS UGTA Project Manager assists the UGTA Federal Activity Lead, PER Chairperson, and CAU Lead as needed to identify the need for a PER, define the PER objective, develop guiding questions, and assist the PER committee in meeting that objective. The EPS UGTA Project Manager will advise the CAU Lead as needed for resolving PER comments, and will work with CAU Lead and UGTA Federal Activity Lead to identify work scope required as an outcome of the PER.

6. The ***EPS UGTA Integration Manager*** assists the UGTA Federal Activity Lead, PER Chairperson, and CAU Lead as needed to establish a review schedule, and works with the UGTA Federal Activity Lead to ensure funding is available. The EPS UGTA Integration Manager will work with the contract managers and UGTA Federal Activity Lead to integrate new work scope required as an outcome of the PER.

7. The ***PER committee members*** are UGTA participants who have the appropriate expertise for ongoing studies but are not directly responsible for the CAU products under review. The PER committee members are responsible for participating in all technical and programmatic reviews as requested. A committee member must recuse himself/herself from reviewing products that he/she developed. The PER committee members will review proposed comment resolution and will provide feedback to the PER Chairperson during the comment resolution process.

8. An ***NDEP employee*** participates in each of the PER committees. NDEP committee members have all of the rights and obligations of committee membership. NDEP committee members may, at their discretion, abstain from providing comments on documents, presentations, or other items that will be officially reviewed by NDEP at a later date.

9. A ***Nye County representative*** may participate in each of the PER committees. Nye County representatives have all of the rights and obligations of committee membership.

10. The ***Contract Manager*** works with the EPS UGTA Integration Manager and the UGTA Federal Activity Lead to ensure that adequate resources are available to conduct the review and to support required remedial work resulting from the PER.

11. Observers (e.g., Nevada Site Specific Advisory Board member) may attend PER meetings with approval by the UGTA Federal Activity Lead.

3.0 PER Process

There is no required interval between or expected duration for individual PERs. Reviews can range from formal document reviews conducted over several months to quick-turnaround feedback on presentations. Reviews may also be conducted incrementally, with various parts of a product being reviewed over lengthier time periods. Reviews should be conducted on important items contributing to CAU studies, such as major work elements, guidance requests from the CAU Lead, and important contributing documents or presentations. Regardless of the type of product being reviewed, two types of review comments—overview comments and individual comments—are developed.

- ***Overview comments*** focus on the guiding questions and/or other significant issues and recommendations that relate to advancing the work through the UGTA strategy. Overview comments are of high importance and require formal response. Final overview comments must be submitted on a Document Review Sheet (DRS), or its equivalent, to assist their mandatory resolution. These comments are developed through an iterative process led by the PER Chairperson. Minority technical comments may also be part of the finalized overview comments. Overview comment resolution of final products is required before the product is published. Comment resolution of in-process products is not required until that product is finalized. However, unresolved overview comments must be tracked to ensure that comment resolution is achieved before finalizing the product. Documentation must be developed that indicates committee members' concurrence with the finalized response to overview and highlighted comments of special concern.

- ***Individual comments*** are developed by each committee member, including the PER Chairperson, and the NDEP and Nye County representatives. Individual comments should focus on technical merit, but also may suggest alternative ways to present material for better readability or comprehension. Individual comments should be submitted on a DRS, in the pdf being reviewed, or as a memorandum, as requested by the PER Chairperson. The authors of the product being reviewed are not required to formally respond to individual comments; however, the authors should consider the comments as they revise the reviewed product. Individual comments of special concern may be highlighted by the PER Chairperson or by committee members as being of special significance. If a majority of the PER committee concurs, then the highlighted comments will be included with overview comments and submitted to the CAU Lead for comment response.

Conducting a PER may involve considerable time and effort, and must not be convened without adequate planning and identifying the review benefits and requirements. Alternatively, waiting too long between reviews could make them more difficult, jeopardize the timely identification of activity issues, and delay the benefits of technical and programmatic insights. The PER format is intentionally

flexible in order to meet varying needs over time. Guidelines for the PER process include the initiation, review, comment resolution, close-out, and follow-up stages. The steps within each of these stages may be adapted as required to the specific characteristics of each CAU and the needs of each review. These adaptations will be developed by the PER Chairperson and the Science Advisor to meet the specific needs of the product.

3.1 Initiation

The following PER initiation process steps are provided as guidance:

1. The CAU Lead and EPS UGTA Project Manager identify the need for a PER.

2. The PER Chairperson, Science Advisor, EPS UGTA Project Manager, and CAU Lead identify the PER objective and develop guiding questions to focus the review.

3. The CAU Lead and PER Chairperson, in consultation with the EPS UGTA Integration Manager, will determine the review schedule to ensure there is adequate time to conduct all aspects of the review, starting with review planning and ending with final comment resolution.

4. The CAU Lead will communicate the schedule, guiding questions, and review objective to the UGTA Federal Activity Lead for authorization.

5. Upon authorization, the EPS UGTA Integration Manager will work with the Contract Managers affected by the review to integrate the review schedule into the baseline schedule and identify resource constraints.

3.2 Review

The following review process steps are provided as guidance:

1. The PER Chairperson presents to the PER committee (a) review questions that clearly state the review objective and (b) the review schedule.

2. Material is presented to the PER committee for review. The CAU Lead and/or authors of the products being reviewed may summarize the product/document at the start of a review and make recommendations to assist the committee members in conducting the review.

3. PER committee members submit comments to the PER Chairperson. The Science Advisor submits comments to the UGTA Federal Activity Lead.

4. The PER Chairperson compiles the individual comments and develops overview comments. The PER Chairperson must strive to develop overview comments with sufficient clarity to minimize confusion due to interpretation. A matrix with comments and individual priorities may be developed to facilitate progress. Meetings with the committee may be convened to ensure committee concerns are being addressed.

5. The PER Chairperson will deliver a draft set of overview comments to the committee for their review and concurrence. Comments should, at the discretion of the PER Chairperson and committee members, include suggestions for comment resolution that will best satisfy committee concerns.

6. The PER Chairperson and Science Advisor informally present and discuss the finalized overview comments with the CAU Lead. This discussion should be limited to clarifying comments or correcting factual errors in the comments, and should avoid debating the merits of the comments.

7. The PER Chairperson will submit the final overview comments to the CAU Lead, EPS UGTA Project and Integration managers, and UGTA Federal Activity Lead.

8. Some reviews may be conducted as multistep processes. The CAU Lead, Science Advisor, and PER Chairperson will evaluate the review to determine whether comment responses are required for each step of the review process, or whether it is more efficient to implement comment responses at one or more discrete stages of the multistep review.

9. The EPS UGTA Integration Manager will be notified by the CAU Lead if significant deviations from the review schedule are incurred.

3.3 Comment Resolution

The following comment resolution steps are provided as guidance:

1. If the review is being conducted as multistep process, the CAU Lead, EPS UGTA Project Manager, Science Advisor, and PER Chairperson will determine whether the comment resolution process is required for each step of the review process, or whether it is more efficient to initiate comment resolution at one or more discrete stages of the multistep review.

2. The CAU Lead with EPS UGTA Project Manager support will facilitate comment resolution with authors and will deliver the proposed comment resolution on a DRS, or its equivalent, to the PER Chairperson. Comment resolution is mandatory for all overview comments (including highlighted comments of special concern).

3. The PER committee will review proposed resolutions for sufficiency. Acceptance of proposed comment responses will be documented on a DRS, or its equivalent, by the PER Chairperson and delivered to the CAU Lead and EPS UGTA Project Manager.

4. If proposed resolutions are insufficient, the PER Chairperson, Science Advisor, EPS UGTA Project Manager, and CAU Lead will work to resolve the issues. If there are significant differences of opinion, the PER Chairperson, PER committee member, Science Advisor, EPS UGTA Project Manager, and/or CAU Lead may submit written concerns to the UGTA Federal Activity Lead for resolution.

5. If proposed resolution requires unplanned resources or time, the CAU Lead, EPS UGTA Project Manager, and appropriate Contract Manager will consult with the EPS UGTA Integration Manager to request work authorization by the Activity Lead before initiating work.

6. The PER Chairperson will post the DRS, or its equivalent, with the comment resolutions and acceptance on the UGTA SharePoint site.

7. The CAU Lead is expected to address noted inadequacies. If there are differing opinions about the adequacy of review-induced changes, the PER Chairperson and CAU Lead will notify the UGTA Federal Activity Lead.

3.4 Close-out

PERs are not open-ended. There should be a stated purpose, a planned schedule, a demonstration that the identified needs were met, and a conclusion of the review. At the end of a review, the PER Chairperson will post sufficient material to the UGTA SharePoint site to document the review process. The minimum mandatory materials includes the following:

- Committee membership
- Guiding questions
- Final comments (overview and individual comments)
- Comment responses
- Acceptance documentation (including acceptance of unresolved comments)
- Reviewed material

Additional materials may consist of meeting and conference call notes, agendas, presentations, email correspondence, and a closeout note if appropriate. When all documentation is posted, the PER Chairperson notifies the CAU Lead and the EPS UGTA Integration Manager that the PER has been completed. Once completed, the PER Chairperson enters the documentation into the Technical Data Repository (TDR). Overview and highlighted comments of special concern associated with in-process reviews that are not resolved before closing out a particular review will be tracked on the UGTA SharePoint site using the Action Tracking tool. Resolution must be obtained before the associated document is submitted as final.

3.5 Follow-up

Tracking final overview comments during follow-up activities (after the review) is important. Comment resolution pertaining to documents and presentations must be completed and concurrence obtained from the PER Chairperson before the document is published. For ongoing CAU studies or incremental versions of products, the CAU Lead, with help from the EPS UGTA Project Manager, is expected to present the status of comment resolution and to identify changes made in response to unresolved comments. The PER Chairperson, with the help of the PER committee, will track the adequacy of the responses to the overview comments as work progresses and will discuss any unresolved issues. The UGTA SharePoint Action Tracking tool will be updated by the PER Chairperson to reflect the status of unresolved comments.

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