UNREVIEWED WASTE MANAGEMENT QUESTION EVALUATION (UWMQE)

UWMQE Number: SRR-UWMQE-2017-00006 **Revision:** 0

UWMQE Title: UWMQE to Evaluate Impacts to HTF PA Doses Due to the Update of the GSA Model

UWMQE Supported Documents

TECHNICAL

Number:	SRR-CWDA-2017-00068	Date:	Oct. 2017	Revision:	0
Number:	SRNL-STI-2017-00008	Date:	Sept. 2017	Revision:	1

SUPPORTING

Number:	SRR-CWDA-2010-00128	Date:	Nov. 2012	Revision:	1
Number:	SRR-CWDA-2016-00078	Date:	Jul. 2016	Revision:	0

1. Unreviewed Waste Management Question Evaluation

Proposed Activity Description

The General Separations Area (GSA) Model was recently updated to incorporate new field data from groundwater monitoring wells and to apply more a rigorous approach (mathematical optimization) for integrating and interpreting the groundwater data. The GSA Model provides inputs (groundwater flow rates and groundwater flow directions) to all SRS Performance Assessments (PAs), including the H-Tank Farm (HTF) PA. The updated GSA Model is documented in the *Groundwater Flow Simulation of the Savannah River Site General Separations Area* (SRNL-STI-2017-00008) and the evaluation of this new data, with respect to PA modeling, is documented in the *Evaluation of Impacts to FTF and HTF PA Doses Due to the Update of the GSA Database* (SRR-CWDA-2017-00068).

NOTE: Each question below requires Comment / Justification.

a. Is the Proposed Activity or New Data outside the bounds of the critical inputs/assumptions of the analyses contained in the WD, PA, CA, approved SA(s), or approved UWMQE(s)? For example, does the proposed activity or new information involve a change to the assumed critical design features for a waste tank/disposal unit design as described in the WD, PA, CA, approved SA(s), or approved UWMQE(s) such as critical inputs/assumptions?

Yes ☒ **No** ☐

Comment / Justification:

Changes made to the GSA Model result in different flow fields relative to those used as inputs to previous PA and Special Analysis (SA) modeling. Modeling in support of this evaluation indicates that expected doses may increase or decrease depending on the assumed flow field; however, any increases are well within the bounds of the performance objectives during the 1,000-year compliance period (i.e., Member of the Public doses less than 1 mrem/yr in all cases).

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1. Unreviewed Waste Management Question Evaluation - continued

b. Does the New Data involve an increase in the radionuclide inventory or chemical constituents evaluated in the approved WD, PA, CA, approved SA(s), and approved UWMQE(s)?

Yes ☐ **No** ☒

Comment / Justification:

The new data does not result in an increase to the residual inventory.

c. Would the radionuclide disposal limits need to be changed to implement the proposed activity?

Yes ☐ **No** ☒

Comment / Justification:

The HTF is not used for waste disposal.

d. Is it possible that the Proposed Activity or New Data causes the WD, PA, CA, approved SA(s), or approved UWMQE(s) performance objectives to be exceeded?

Yes ☐ **No** ☒

Comment / Justification:

The evaluation of the new GSA Model indicates that expected HTF doses may increase in some cases, however "the dose results from this evaluation are all within the performance objectives required for compliance" (SRR-CWDA-2017-00068). Within the 1,000-year compliance period, all doses remain well below the performance objectives (i.e., Member of the Public doses less than 1 mrem/yr in all cases).

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2. UWMQE Originator

IS the activity within the bounds of the existing WD, PA, CA or approved SA(s) and approved UWMQEs?	**Yes** ☒	**No** ☐
IS a Special Analysis required?	**Yes** ☐	**No** ☒

Comment / Justification:

Modeling performed in support of this evaluation (SRR-CWDA-2017-00068) demonstrates that although the calculated doses are higher than those reported within the existing PA and SAs for several cases and time periods, the doses remain well within the bounds of the performance objectives within 1,000 years (i.e., Member of the Public doses less than 1 mrem/yr in all cases). As such, no further action is needed.

Check one of the following boxes below and forward to peer reviewer.

☐ CANCEL the proposed activity. (Document canceled activities as applicable.)

☐ MODIFY the proposed activity.

☒ PROCEED to PARC approval (if no SA is required).

☐ PROCEED with proposed activity; categorical exclusion applies.

☐ PERFORM Special Analysis.

Originator: Kent H. Rosenberger / Kent H. Rosenberger
Print Signature

Date: 10/31/2017 Time: 1505

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3. UWMQE Peer Reviewer

Concur with the UWMQEO's determination? **Yes** ☑ **No** ☐

Comment / Justification:

No comments.

Peer Reviewer: Mark Layton / _____
Print Signature

Date: 10/31/17

UNREVIEWED WASTE MANAGEMENT QUESTION EVALUATION (UWMQE)

4. UWMQE AGCC Reviewer

Is there a legal objection to the UWMQEO's determination? Yes ☐ No ☑

Comment / Justification:

No legal objection and no requirement for DOE review and approval prior to the next routine PA review

AGCC ~~or Delegate AGCC~~ Thomas Frank England / Thomas Frank England
Print Signature

Date: 9 NOV 2017

5. UWMQE VP/GC Reviewer

a. Will ~~VP~~/GC participate in the UWMQE? Yes ☒ No ☐

b. If "Yes" to 5a., Does ~~VP~~/GC concur with the UWMQEO's determination? Yes ☒ No ☐

Comment / Justification:

~~VP~~/GC ~~or Delegate VP/GC~~ Thomas Frank England / Thomas Frank England
Print Signature

Date: 9/NOV 2017

UNREVIEWED WASTE MANAGEMENT QUESTION EVALUATION (UWMQE)

6. PARC Chairman

IS the activity consistent with the existing WD? **Yes** ☒ **No** ☐

IS a Special Analysis required? **Yes** ☐ **No** ☒

Comment / Justification:

None.

IF a Special Analysis is required, **INDICATE** the follow-up action by checking one of the following boxes below and return to the UWMQE Originator

☐ CANCEL the proposed activity (Document canceled activities as applicable)

☐ MODIFY the proposed activity to attempt to eliminate the SA

☐ PERFORM SA

PARC Chairman or Designee: James W. Barker / _____
Print Signature

Date: ~~10-6-17~~ 11-9-17