



		<b>Scientific Analysis/Calculation Error Resolution Document</b> <small>Complete only applicable items.</small>		QA: QA Page 1 of 3
<b>INITIATION</b>				
1. Originator: Kathy Turnham		2. Date: May 19, 2008		3. ERD No. ANL-WIS-MD-000027 ERD 01
4. Document Identifier: ANL-WIS-MD-000027 REV 00 and ACN 01			5. Document Title: Features, Events, and Processes for the Total System Performance Assessment: Analyses	
6. Description of and Justification for Change: This Error Resolution Document (ERD) is provided to update ANL-WIS-MD-000027 REV 00 (including ACN 01) to correct issues identified in condition reports (CRs) CR-12112 and CR-12015, and to correct typographical errors identified in the process of addressing these CRs. There is no impact to the overall conclusion of the report caused by these minor corrections.  <b>CR-12112 – Evaluation of issues related to FEHM software.</b> “During the process of examining mass balance calculations from FEHM Version 2.24-01, it was noticed that the filtration logic for colloids passing between units in the rock matrix was not filtering out any of the particles based on particle size versus pore size. An examination of the FEHM source code showed that in the subroutine inmpr.f, there is a line that sets the random seed...”  ANL-WIS-MD-000027 was determined to be impacted by this condition report. It was determined that the following fixes needed to be conducted to resolve CR-12112:  (1) Page 6-675, FEP 2.1.09.19.0A, second paragraph, change the following paragraph from:  In Waste Form and In-Drift Colloids-Associated Radionuclide Concentrations: Abstraction and Summary (SNL 2007 [DIRS 177423], Sections 6.3.1 and 7.2), physical filtration of colloids is not explicitly included in the abstraction.  to:  <i>(see attached pages)</i>				
<b>CONCURRENCE</b>				
		Printed Name	Signature	Date
7. Checker		Rob Howard		23 MAY 2008
8. QCS/QA Reviewer		Peter Persoff		05/23/08
<b>APPROVAL</b>				
9. Originator		Kathy Turnham		5/23/08
10. Responsible Manager		Paul Dixon		5-23-08

*(continued from Block 6)*

In Waste Form and In-Drift Colloids-Associated Radionuclide Concentrations: Abstraction and Summary (SNL 2007 [DIRS 177423], Sections 6.3.1 and 7.2), physical filtration of colloids in the EBS is not explicitly included in the abstraction.

- (2) Page 6-1027, FEP 2.2.08.10.0B, second paragraph, delete the sentence that reads: “Colloids can also be permanently removed from the system by a size-based filtration at matrix unit boundaries.”
- (3) An editorial correction has been made to DTN: MO0706SPAFEPLA.001 [DIRS 185200] to reflect the text changes.

**CR-12015 – FEP exclusion described incorrectly in ANL-WIS-MD-000027 REV 00.** “FEP 1.1.03.01.0A currently states that it is excluded based on Regulation when in fact the Screening Justification describes this FEP as being excluded on Low Consequence. This does not change the conclusion that the FEP is still excluded; we just need to change the screening decision from excluded by regulation to excluded by Low Consequence. The last sentence of this FEP on page 6-40 must be corrected to say this FEP is excluded based on Low Consequence and not Regulation.”

ANL-WIS-MD-000027 was determined to be impacted by this condition report. It was determined that the following corrections will be made:

- (1) Page 6-39, FEP 1.1.03.01.0A, change the screening decision from “Excluded by Regulation” to “Excluded by Low Consequence.”
- (2) Page 6-40, FEP 1.1.03.01.0A, change the last sentence from:

In summary, FEP 1.1.03.01.0A (Error in Waste Emplacement) is excluded from the performance assessments conducted to demonstrate compliance with proposed 10 CFR 63.311 and 63.321 (70 FR 53313 [DIRS 178394]), and with 10 CFR 63.331 [DIRS 180319], on the basis of regulation.

to:

In summary, FEP 1.1.03.01.0A (Error in Waste Emplacement) is excluded from the performance assessments conducted to demonstrate compliance with proposed 10 CFR 63.311 and 63.321 (70 FR 53313 [DIRS 178394]), and with 10 CFR 63.331 [DIRS 180319], on the basis of low consequence.

- (3) An editorial correction has been made to DTN: MO0706SPAFEPLA.001 [DIRS 185200] to reflect the text changes.

**Typographical Errors:** The following are typographical errors to be corrected:

- (1) FEP 2.2.08.10.0B; page 6-1028; end of second paragraph, “campared” corrected to “compared.”
- (2) Table A-1, Repository Design Use in Performance Assessment, page A-11; FEP 2.1.14.15.0A, In-Package Criticality (Intact Configuration). Add “**(Excluded)**” at the end of the FEP titles when they appear in the two locations under Control Parameters 03-26 and 04-04.

**Impact Evaluation:** Note that other documents could be impacted by the conditions identified in CR-12015 and CR-12112. The following documents were identified as being potentially impacted by this ERD. After examination, it was determined that none of the documents listed below are impacted by this ERD. The documents identified include:

- MDL-WIS-PA-000005 REV 00 AD 01
- MDL-NBS-HS-000020 REV 02 AD 02
- ANL-WIS-MD-000026 REV 00
- ANL-WIS-MD-000024 REV 01
- TDR-PCS-SE-000001 REV 05 AD 01
- ANL-DS0-NU-000001 REV 00.

**Inputs and/or Software:** None.

**Justification for No Impact from CR-12112:** Deleting the sentence “Colloids can also be permanently removed from the system by a size-based filtration at matrix unit boundaries” does not change the overall screening decision for FEP 2.2.08.10.0B, Colloid Transport in the UZ. The screening decision remains as “Included.” Since the screening decision is not changed, the deletion does not impact the conclusions of other documents. The addition of “in the EBS” provides clarification and strength to the Screening Justification for FEP 2.1.09.19.0A without altering the technical content of the discussion.

**Justification for No Impact from CR-12015:** The change from excluded by regulation to excluded by Low Consequence does not change the screening decision, just the technical basis for its exclusion. The Screening Justification text supports the “by Low Consequence” technical approach; therefore, there is no impact the conclusions of this or other documents.

Correcting the errors listed above will have no impact to the conclusions of this report, nor would correcting them have downstream impacts to other documents.

**Justification for No Impact from Typographical Errors:** Correcting the typographical errors will not alter the conclusions of ANL-WIS-MD-000027.