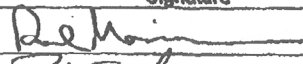
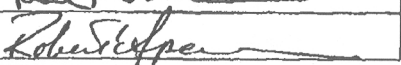
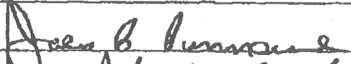



Model Error Resolution Document ANL-EBS-MD-000016 ERD 02
 Defense HLW Glass Degradation Model, ANL-EBS-MD-000016 REV 02

	Model Error Resolution Document <i>Complete only applicable items.</i>		QA: QA Page 1 of 4		
	1. Document Number:	ANL-EBS-MD-000016	2. Revision/Addendum:	02	3. ERD:
4. Title:	Defense HLW Glass Degradation Model				
5. No. of Pages Attached:	3				
6. Description of and Justification for Change (Identify affected pages, applicable CRs and TBVs): This ERD corrects issues in the subject document and its output DTN: MO0502ANLGAMR1.016 based on CR 12450 as documented on the attached pages. The specific pages affected are identified in the attached pages.					
<u>Justification:</u> The issues analyzed and corrected herein have been evaluated and found to have no impact on the conclusions of the report. The corrected errors include a wording change in the technical product output but this change does not affect any downstream document. Therefore there is no impact to the technical product output from this AMR or to the downstream use of that output.					

7. CONCURRENCE			
	Printed Name	Signature	Date
Checker	Paul Mariner		10/20/08
QCS/QA Reviewer	Robert E. Spencer		10/20/08
8. APPROVAL			
Originator	JAMES C. CUNNANE		10/20/08
Responsible Manager	Robert Mackinnon		10/21/08

ANL-EBS-MD-000016 ERD 02 ATTACHMENT

This error resolution document (ERD) addresses errors in the model report “Defense HLW Glass degradation Model” – ANL-EBS-MD-000016 REV 02. The errors addressed herein are documented in CR 12450.

I Background Information Summary

As described in CR 12450, the Product Output DTN: MO0502ANLGAMR1.016 was created in ANL-EBS-MD-000016 REV 02 ACN 002, DEFENSE HLW GLASS DEGRADATION MODEL in response to CR 6753. This DTN supersedes DTN: MO0409ANLGAMR1.016 which is cited in ACN 001. Subsequently, ANL-EBS-MD-000016 REV 02 ACN 02 was cancelled leaving ANL-EBS-MD-000016 REV 02, ACN 001, and ERD 001 as the controlled AMR versions. Consequently, the Product Output DTN: MO0502ANLGAMR1.016 is not cited in the controlled versions of the AMR.

This Error Resolution Document (ERD) documents the fact that ANL-EBS-MD-000016 REV 02 is the source document for the product output DTN: MO0502ANLGAMR1.016 by correcting ANL-EBS-MD-000016 REV 02 to identify DTN: MO0502ANLGAMR1.016 as its product output. It also revises DTN: MO0502ANLGAMR1.016 to correct inconsistent wording on page 4 of DTN: MO0502ANLGAMR1.016 and also corrects related wording in the AMR (ANL-EBS-MD-000016 REV 02).

II Inputs and/or Software

No new input sources or software are used in this ERD.

III Analysis and Results

ANL-EBS-MD-000016 REV 02 ACN 002, which was created in response to CR 6753, corrected the output DTN identification in Sections 8 and 9 of ANL-EBS-MD-000016 REV 02. With the subsequent cancellation of ANL-EBS-MD-000016 REV 02 ACN 002, this correction is no longer documented and the controlled AMR versions now incorrectly identify the superseded DTN: MO0409ANLGAMR1.016 as the product output on pages 8-1 and 9-16 of ANL-EBS-MD-000016 REV 02. This ERD implements the changes made in the cancelled ANL-EBS-MD-000016 REV 02 ACN 002. Specifically, it changes the identification of the output DTN on pages 8-1 and 9-16 of ANL-EBS-MD-000016 REV 02 from MO0409ANLGAMR1.016 to MO0502ANLGAMR1.016.

In preparing this ERD, it was noticed that there is an incorrect statement on page 4 of the DTN: MO0502ANLGAMR1.016. Specifically, the wording: “... $rate_G$ is the specific degradation rate of the glass (in units mass glass/(area·time)), which is the sum of the rates calculated with Equations 50 and 51, ...” is inconsistent with earlier statements in the DTN and needs to be corrected to state: “... $rate_G$ is the specific degradation rate of the glass (in units mass glass/(area·time)), which is the greater of the rates calculated with Equations 50 and 51, ...”. DTN: MO0502ANLGAMR1.016 REV 01 is therefore generated by this ERD to correct the inconsistent wording identified above. In addition, this ERD corrects related wording in the AMR (ANL-EBS-MD-000016 REV 02).

Change the sentence on page 6-57, line 15 as follows:

The greater of the rates from Equations 50 and 51 is used as the degradation rate in the current model.

Change the second to last sentence in Section 8, page 8-1 to:

These are summarized in the following sections of the output DTN:
MO0502ANLGAMR1.016.

Change the text following Eq. 9 on page 8-4 as follows:

... $rate_G$ is the specific degradation rate of the glass (in units mass glass/(area·time)), which is the greater of the rates calculated with Equations 50 and 51, ...

Change the first reference in Section 9.4, page 9-16 to:

MO0502ANLGAMR1.016 . HLW Glass Degradation Model. Submittal date: 10/07/2008

Change in DTN: MO0502ANLGAMR1.016

Change the text following Eq. 9 on page 4 of DTN: MO0502ANLGAMR1.016 as follows:

... $rate_G$ is the specific degradation rate of the glass (in units mass glass/(area·time)), which is the greater of the rates calculated with Equations 50 and 51, ...

IV Impact Evaluation

A DIRS impact analysis has shown that the correct product output (DTN: MO0502ANLGAMR1.016 [DIRS 172830]) is used, and that the superseded product output (DTN: MO0409ANLGAMR1.016 [DIRS 172446]) is not used, in other controlled documents. This DIRS impact analysis showed that DTN: MO0502ANLGAMR1.016 [DIRS 172830] is used in the following controlled documents:

- 181165 SNL (Sandia National Laboratories) 2007. *Geochemistry Model Validation Report: Material Degradation and Release Model*. ANL-EBS-GS-000001 REV 02. Las Vegas, Nevada: Sandia National Laboratories. ACC: [DOC.20070928.0010](#).
- 183041 SNL (Sandia National Laboratories) 2008. *Features, Events, and Processes for the Total System Performance Assessment: Analyses*. ANL-WIS-MD-000027 REV 00. Las Vegas, Nevada: Sandia National Laboratories. ACC: [DOC.20080307.0003](#); [DOC.20080407.0009](#); [DOC.20080722.0002](#).
- 177407 SNL (Sandia National Laboratories) 2007. *EBS Radionuclide Transport Abstraction*. ANL-WIS-PA-000001 REV 03. Las Vegas, Nevada: Sandia National Laboratories. ACC: [DOC.20071004.0001](#); [LLR.20080414.0023](#).
- 183478 SNL (Sandia National Laboratories) 2008. *Total System Performance Assessment Model /Analysis for the License Application*. MDL-WIS-PA-000005 REV 00 AD 01. Las Vegas, Nevada: Sandia National Laboratories. ACC: [DOC.20080312.0001](#);

Model Error Resolution Document ANL-EBS-MD-000016 ERD 02
Defense HLW Glass Degradation Model, ANL-EBS-MD-000016 REV 02
[LLR.20080414.0037](#); [LLR.20080507.0002](#); [LLR.20080522.0113](#);
[DOC.20080724.0005](#).

182846 SNL (Sandia National Laboratories) 2007. *TSPA Information Package for the Draft Supplemental Environmental Impact Statement*. TDR-WIS-PA-000014 REV 00. Las Vegas, Nevada: Sandia National Laboratories. ACC: [LLR.20071004.0002](#).

Each citation and use of DTN: MO0502ANLGAMR1.016 [DIRS 172830] in these documents was examined to see if it was affected by the DTN change identified above in Section III of this ERD. It was found that the change made in DTN: MO0502ANLGAMR1.016 [DIRS 172830] by this ERD does not affect its use in the above documents. Therefore, no other documents are impacted by the changes made in this ERD and the extent of condition is bounded by the usage in ANL-EBS-MD-000016 REV 02 alone.