



## Model Error Resolution Document

QA: QA  
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*Complete only applicable items.*

### INITIATION

1. Originator: Scott James	2. Date: 4/16/08	3. ERD No: MDL-NBS-HS-000011 ERD 02
4. Document Identifier: MDL-NBS-HS-000011 REV03	5. Document Title: Saturated Zone Site-Scale Flow Model	
6. Description of and Justification for Change (Identify applicable CRs): The purpose of this ERD is to resolve three CRs associated with MDL-NBS-HS-000011 REV 03: CR-11823, CR-11872, and CR-12009. The analyses and impacts are presented in the following pages of this ERD.		

### CONCURRENCE

	Printed Name	Signature	Date
7. Checker	Kenneth Rehfeldt	<i>Kenneth Rehfeldt</i>	05/06/2008
8. QCS/QA Reviewer	Peter Persoff	<i>Peter Persoff</i>	05/06/2008

### APPROVAL

9. Originator	Scott James	<i>Scott James</i>	5/6/08
10. Responsible Manager	Paul Dixon	<i>Paul</i>	5-8-08

## I Background Information Summary

This ERD resolves three CRs associated with *Saturated Zone Site-Scale Flow Model* (MDL-NBS-HS-000011 REV03): CR-11823, CR-11872, and CR-12009.

**CR-11823:** U.S. Department of Energy Office Of Civilian Radioactive Waste Management Office Of Quality Assurance Surveillance 36 identified a concern related to contradictory wording contained in the “Purpose” Sections of Appendix A and B, MDL-NBS-HS-000011 REV 03, Saturated Zone Site Scale Flow Model.

Section A1: “Purpose” of Appendix A1 and Section B1: “Purpose” of Appendix B state: “In this way, this appendix is intended as an independent corroboration of the saturated zone flow model presented in the main text of this report.” However, later in Sections A1 and B1, it states: “This information can be used in the SZ site-scale flow and transport models to simulate the transport of radionuclides as breakthrough curves. These breakthrough curves are then used as input in the TSPA-LA calculations.” This later statement appears to contradict the corroboration statement. The sentence in question indicates that the data can be used as a direct input, which requires qualified data. In fact the Appendices are intended as independent corroboration, which allows unqualified data and, as such, would not produce qualified technical outputs.

Recommended corrective action was to revise the aforementioned wording of the “Purpose” Sections A1 and B1 to remove the contradictory statements cited.

**CR-11872:** Typographical errors were identified in the following two reports: MDL-NBS-HS-000011 REV03 and ANL-NBS-MD-000010 R01 in which the data qualification report by Wilson (2001 [DIRS 155614]) is cited. This is an erroneous citation in both reports. The correct citation is BSC (2001 [DIRS 155713]) entitled *Data Qualification Report: Groundwater Recharge Data for use on the Yucca Mountain Project*. There is no impact to the conclusions of either reports and there is no impact to LA as the data are appropriately identified by the DTN.

The citations from each report are as follows: MDL-NBS-HS-000011 REV 03 (Section C.1.4.2) “Outflow from the UZ model is technical product output, and the estimates of recharge from Fortymile Wash have been separately qualified (Wilson 2001 [DIRS 155614]; DTN: MO0102DQRGWREC.001 [DIRS 155523]).”

**CR-12009:** MDL-NBS-HS-000011 REV 03, Table 6-11 presents target flow rates at the lateral boundaries of the saturated zone site-scale flow model, which were derived from values simulated by the Death Valley Regional Flow System Model (Belcher 2004 [DIRS 173179]). That model is qualified for use in MDL-NBS-HS-000011REV 03 Appendix C. But the source cited at Table 6-11 is Appendix D.

This is a minor error in an internal reference. It has no impact on any conclusions or output from MDL-NBS-HS-000011 REV 03, or on any downstream product. Therefore an Error Resolution Document is an appropriate method to correct the internal reference.

## II Inputs and/or Software

There are no direct inputs to this error resolution document.

No software controlled under IM-PRO-003, *Software Management*, is used in the analysis contained in this error resolution document.

## III Analysis and Results

### III.1 Analysis of CR-11823

On page A-1 of MDL-NBS-HS-000011 REV03, delete the following paragraph (it is a remnant from when this appendix was a stand-alone report):

The physical and hydrochemical parameters summarized in this appendix are important controls on the transport of dissolved and colloidal species in the saturated zone. This information can be used in the SZ site-scale flow and SZ transport models to simulate the transport of radionuclides as breakthrough curves. These breakthrough curves are then used as input in the TSPA-LA calculations.

On page B-1 of MDL-NBS-HS-000011 REV03, delete the following two sentences (they are copies of what are listed in Appendix A):

This information can be used in the SZ site-scale flow and SZ transport models to simulate the transport of radionuclides as breakthrough curves. These breakthrough curves are then used as input in the TSPA-LA calculations.

### III.2 Analysis of CR-11872

In MDL-NBS-HS-000011 REV 03 (Section C.1.4.2), change the reference from Wilson 2001 [DIRS 155614] to BSC 2001 [DIRS 155713].

On page 9-19, delete the following reference listing:

155614 Wilson, C. 2001. *Data Qualification Report: Stratigraphic Data Supporting the Hydrogeologic Framework Model for Use on the Yucca Mountain Project*. TDR-NBS-HS-000013 REV 00. Las Vegas, Nevada: Bechtel SAIC Company. ACC: MOL.20010725.0225.

On page 9-2, insert the following replacement listing:

157713 BSC (Bechtel SAIC Company) 2001. *Data Qualification Report: Groundwater Recharge Data For Use On The Yucca Mountain Project*. TDR-NBS-HS-000011 REV 00. Las Vegas, Nevada: Bechtel SAIC Company. ACC: MOL.20010405.0008; DOC.20071219.0003.

### III.3 Analysis of CR-12009

In MDL-NBS-HS-000011 REV 03 (Table 6-11, page 6-74), change column header from:

**Target Mass/Volume Flows**

to

**Target Mass/Volume Flows<sup>b</sup>**

Also, change column header from:

**Site-Scale Mass/Volume Flows**

to

**Site-Scale Mass/Volume Flows<sup>c</sup>**

Finally, change:

Source: Appendix D (qualified for one time use).  
Output DTN: SN0612T0510106.004, *sz06.pest*.

to

<sup>b</sup> Source: DTN: MO0602SPAMODAR (see Appendix C).  
<sup>c</sup> Output DTN: SN0612T0510106.004, *sz06.pest*.

## IV Impact Evaluation

Because the changes in this ERD are so trivial, they cannot have any impacts on downstream products that use MDL-NBS-HS-000011 REV03 as direct input; hence, no other documents were evaluated. The resolutions of the CRs described in this ERD do not have any impact on any existing downstream technical products such as the TSPA-LA or the SAR. Moreover, there are no impacts to the conclusions of this report.