	Model Error Resolution Document *Complete only applicable items.*	QA: QA Page 1 of 2

INITIATION

1. Originator:	2. Date:	3. ERD No.
Maryla A. Wasiolek	3/27/2008	MDL-MGR-MD-000001 ERD 01

4. Document Identifier:	5. Document Title:
MDL-MGR-MD-000001 REV 02	Biosphere Model Report

6. Description of and Justification for Change (Identify applicable CRs and TBVs):

This ERD addressed TBV-8529 and CR-11638.

In regard to TBV-8529:

Background Information—TBV-8529 was assigned to *Features, Events, and Processes for the Total System Performance Assessment* (ANL-WIS-MD-000026) (SNL 2007 [DIRS 179476]) as referenced in Section 6.2 of *Biosphere Model Report* before the FEP document was split into the following two report: FEP methods (ANL-WIS-MD-000026) (SNL 2008 [DIRS 179476]) and FEP analyses (ANL-WIS-MD-000027) (SNL 2008 [DIRS 183041]). The citation in *Biosphere Model Report* refers to the screening arguments for excluded FEPs and description of TSPA disposition for included FEPs. This information that is now included in the *Analyses* part of the FEP document (ANL-WIS-MD-000027) (SNL 2008 [DIRS 183041]).

Inputs and/or Software—No additional inputs or software were used in performing the impact assessment.

Description of Changes—The following is the description of changes (added text is underlined; deleted text is stricken through):

- In Section 6.2: The associated document, *Features, Events, and Processes for the Total System Performance Assessment: Analyses* (SNL ~~2007~~ 2008 [DIRS ~~179476~~ 183041]) contains the screening arguments for excluded FEPs and describes disposition of included FEPs in the documentation that supports the biosphere model.
- In Section 6.2: The report *Features, Events, and Processes for the Total System Performance Assessment: Analyses* (SNL ~~2007~~ 2008 [DIRS ~~179476~~ 183041]) presents screening arguments for excluding 19 of the biosphere-related FEPs from consideration in the biosphere model.
- In Section 9, References, reference designated as [DIRS 179476] should be replaced with the [DIRS 183041] reference (SNL 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).

Impact Evaluation—The reference to the FEP document in *Biosphere Model Report* is a general reference. No actual data or other information was obtained from that source so the changes outlined in the following paragraph have no impact on the conclusions of *Biosphere Model Report*, on *Safety Analysis Report*, or the results of the *Total System Performance Assessment*.

(Continued on next page)

CONCURRENCE

	Printed Name	Signature	Date
7. Checker	Kenneth Rehfeldt	Kenneth Rehfeldt	03/27/2008
8. QCS/QA Reviewer	Charles D. Beach	Charles D. Beach	3-27-08

APPROVAL

9. Originator	MARYLA WASIOLEK	Maryla Wasiolek	3.27.08
10. Responsible Manager	Paul R. Dixon	Paul R. Dixon	3-27-08

	Model Error Resolution Document *Complete only applicable items.*	QA: QA Page 2 of 2

INITIATION

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6. Description of and Justification for Change (continued):

In regard to CR-11638:

Background Information—CR-11638, Level D, was initiated concerning the following two discrepancies found in *Biosphere Model Report*:

1. On page 6-106, the first full paragraph, the values of dry deposition velocity are given as "5×10^{-4} to 3×10^{-2} m/s". In Table 6.6-3 (page 6-197), the range of velocity is given as 3×10^{-4} to 3×10^{-1}. The recommended fix is to explain on page 6-106 that though the range of 5×10^{-4} to 3×10^{-2} m/s is supported by an appropriate reference, a larger range of 3×10^{-4} to 3×10^{-1} was used in the Biosphere Model.
2. On page 6-162. After Equation 6.5.6-2, the definitions of the variables are given. For the first definition given after Equation 6.5.6-2, the variable name is listed as "$D_{inh,p,i}(t)$" which is incorrect. The variable name should be replaced with "$D_{inh,p,i}(t, T)$".

Inputs and/or Software—No additional inputs or software were used in performing the impact assessment.

Description of Changes—To resolve CR-11638, the text changes described in the following paragraph are made.

(Added text is underlined; deleted text is stricken through.)

On page 6-106, first full paragraph:

> The dry deposition velocity for airborne particulates, V_d, is a function of particle size and the conditions in the atmospheric boundary layer near the soil surface. For climatic conditions in the Amargosa Valley, the appropriate velocity ranges from ~~5×10^{-4} to 3×10^{-2}~~ 3×10^{-4} to 3×10^{-1} m/s (BSC 2004 [DIRS 169672], Section 6.2.2.1).

On page 6-162, in definitions of parameters used in Equation 6.5.6-2:

> $D_{inh,p,i}(t, T)$ = annual dose from inhalation of radionuclide i resulting from exposure to resuspended particles at time t after repository closure, conditional on a volcanic eruption at time T, where $t > T$ (Sv/yr)

Impact Evaluation—These changes are editorial and have no impact on the conclusions of *Biosphere Model Report*, on *Safety Analysis Report*, the results of the *Total System Performance Assessment*, or on any other document that cites *Biosphere Model Report*.