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<p style="text-align: center;"><b>NUCLEAR WASTE MANAGEMENT PROCEDURE</b></p> <p><small>Sandia National Laboratories</small></p>	<h2 style="margin: 0;">Parameter Problem Report (PPR)</h2>	<p>Form Number: NP 9-2-2</p> <p>Page 1 of 1</p>
<p>Material Abbreviated Name: <u>REFCON</u></p> <p>Property Abbreviated Name: <u>FVW</u></p> <p>Associated Analysis: (CCA, PAVT, etc.) <u>CRA1; PABC</u> <sup>mg 2/5/07</sup> <u>AMW; CRAIBC</u></p> <p>Effective Date: <u>June 28, 1996</u></p>		
<p><b>Description of Problem</b></p> <p>The parameter REFCON:FVW should have a value of be 0.385 instead of 0.386. The parameter is derived by dividing REPOSIT:VOLCHW (1.69e5 m<sup>3</sup>) by REFCON:VREPOS. REFCON:VREPOS was changed from 4.3602320e5 m<sup>3</sup> for the CCA to a value of 4.3840608e5 m<sup>3</sup> for the CRA (Stein, 2002; ERMS 523760) because of the inclusion of additional waste volume. The use and impact of the REFCON:FVW parameter is discussed more fully on the attached memo (Kirchner 2007).</p> <p>Stein, J.S., 9/17/2002. Errors Identified in Waste Storage Volume Parameters used to Construct BRAGFLO Grid. ERMS 523760</p>		
<p><b>Concurrence of Problem</b></p> <p>Sean Dunagan <u>[Signature]</u> 2/5/07      Tom Kirchner <u>[Signature]</u> 2/5/07  PPR Initiator (Print, Sign and Date)      Requester (Print, Sign and Date)</p> <p>Condition Adverse to Quality?   <input type="checkbox"/> Yes   <input checked="" type="checkbox"/> No   (Initiate NP 16 -1 if yes)</p>		
<p><b>Problem Resolution and Justification for no Condition Adverse to Quality</b></p> <p>The parameter will be corrected and entered into the Performance Assessment Parameter Database (PAPDB). The use of the incorrect value is insignificant, especially since it overestimates the cuttings and spillings releases. See attached memo (Kirchner 2007).</p> <p>No QA requirements were violated, however the change of the VREPOS property should have included a more inclusive review of additional properties potentially affected by the change.</p>		
<p><b>Concurrence</b></p> <p>Moo Lee <u>[Signature]</u> 2/5/2007      SNL WIPP PA Manager (Sign and Date)  PA Manager (Print)</p> <p>Mario Chavez <u>[Signature]</u> 2/5/07      2007-001  QA Staff (Print, Sign and Date)      Parameter Problem Report No. (PPR)</p>		

Information Only



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date: January 3, 2007

to: Eric Vugrin, Mario Chavez

from: Tom Kirchner

subject: Error in REFCON:VFW

The parameter REFCON:VFW is referred to as the "volume fraction of CH waste" (VolumeFractionCH) in CCDFGF. In a typical PA analysis VolumeFractionCH is used to weight the concentration in the cuttings. The code where the variable is used is

```
CuttingsConcentration=CuttingsConcentration/DBLE(nWasteStreams) * &  
& VolumeFraction
```

where VolumeFraction was previously set to VolumeFractionCH if it was determined that CH waste rather than RH waste was encountered by an intrusion event. VolumeFractionCH is also used to weight the concentration in the spallings. The code where the variable is used is

```
If (RepositoryScale) Then  
!.....Locate concentration time range corresponding to current time  
IT=ExceedsTime(TimesOfSpallingConc, TIME, nTimesSpallingConc)  
  
!.....Interpolate spallings concentration  
SpallingConcentration=LININT(TIME, TimesOfSpallingConc(IT-1), &  
& TimesOfSpallingConc(IT), ConcOfSpallings(IT-1), &  
& ConcOfSpallings(IT)) * VolumeFractionCH  
Else  
SpallingConcentration = CuttingsConcentration  
End If
```

There is an option to CCDFGF that can be set to treat VolumeFractionCH as a probability rather than a weighting factor. That option was not used in the PABC analysis.

The error in REFCON:VFW (0.386 instead of 0.385) was such that the cuttings and spallings concentrations would have been more heavily weighted, although by only a small amount, when using the incorrect parameter value as compared to using the correct value. Hence the effect would have been to slightly inflate release estimates. Thus the conclusions based on the PA would not change.