

WM Record File

101.2

WM Project

WM-10

Docket No.

3101.2/MRK/83/02/07/0

PDR

- 1 -

LPDR

Distribution:

Distribution:

WM file

WMHL r/f

NMSS r/f

REBrowning

MJBell

MRKnapp

MFWeber

MJGordon

RJWright

HJMiller

JOBunting

PDR - on delayed basis

WMHL: WM-10
3101.2

FEB 17 1983
(Return to WM, 623-SS)

By Telefax and Mail

MEMORANDUM FOR: David Squires, DOE, Richland

FROM: Robert J. Wright, NRC, Washington

SUBJECT: REQUEST FOR CLARIFICATION OF BWIP SCR

Name of Requester: M. Gordon

Date: February 4, 1983

Questions:

1. Can you supply a format guide for PORFLO along with a listing of the input used in the PORFLO modeling effort that is documented in Chapter 12 of the BWIP SCR? This could eliminate the need for answers to questions 2-8.
2. The heat input from the repository in the PORFLO model, sent by DOE to NRC on December 22, 1982, was given in terms of Joules per year per cubic meter. Does this normalizing volume include pillar volumes and the host rock between the two repository halves; does it only include the storage areas pictured in Figure 12-13 through 12-20 (BWIP SCR: Ch. 12); is it the volume of the waste packages themselves; or is it a different volume?
3. Does the heat input into PORFLO neglect end effects of the repository, or are these effects taken into account by the supplied thermal source terms?
4. Please specify the precise gridding of the PORFLO model in terms of numbers and lengths of grid blocks in the horizontal and vertical directions.
5. Are the hydraulic conductivities used in the PORFLO model referenced to a specific temperature or the ambient temperatures encountered at depth? If a reference temperature is used, what is this temperature?

OFC	: WMHL	: WMHL	: WMHL	: WMHT	:	:	:
NAME	: MFWeber	: lmc	: MJGordon	: MRKnapp	: RJWright	:	:
DATE	: 2/10/83	: 2/16/83	: 2/ /83	: 2/ /83	:	:	:

8307270309 830217
PDR WASTE
WM-10 PDR

00240

- 6. Does PATH (the particle tracking program used in Chapter 12 with PORLFO) interpolate groundwater velocities between adjacent nodes or does it allow for step changes in velocity between adjacent nodes? If interpolation is used, is it linear or does it follow another function (please specify)?
- 7. Where does the geothermal gradient (40° C/km) begin in the PORFLO model (e.g., at the ground surface, 20 m below, or at the regional water table)? What is the temperature, depth, and pressure at the repository nodes prior to thermal production by the HLW?
- 8. What is the initial hydraulic gradient beneath the repository?

Robert J. Wright, NRC, Washington

cc: Ralph Stein, DOE HQ

OFC	: WMHL <i>W</i>	: WMHL <i>MJG</i>	: WMHL <i>MR</i>	: WMHT <i>RP</i>	:	:	:
NAME	: MFWeber	: lmc	: MJGordon	: MRKnapp	: RJWright	:	:
DATE	: 2/10/83	: 2/16/83	: 2/17/83	: 2/17/83	:	:	: