

HLWYM PEmails

From: James Winterle
Sent: Friday, December 15, 2006 10:23 AM
To: Ronald Janetzke; Patrick Laplante
Subject: RE: TPA Question

Ron,
That makes sense. The neftran code defaults it to a value of 1.0 anyway if a value of zero is read.
--Jim

-----Original Message-----

From: Ron Janetzke [mailto:rjanetzke@cnwra.swri.edu]
Sent: Friday, December 15, 2006 9:16 AM
To: plaplante@cnwra.swri.edu
Cc: jwinterle@cnwra.swri.edu; 'Timothy McCartin'; [REDACTED]; 'Paul Bertetti'; 'Christopher Grossman'
Subject: Re: TPA Question

All,

The code does a 'fatal error' check of the **epalim** values to make sure a zero was not erroneously positioned in the **epalim** column of the input file. So the preferred way to ignore this feature would be to use a value of 1.0.

thanks,

Pat LaPlante wrote:

Jim,

I would add a recommendation that if the approach is to zero out but leave those columns in nuclides.dat that the header for that file note that the columns in question are no longer used or supported to ensure all who read the file in the future do not raise the same questions. Currently, I believe the columns are just not described so there is some ambiguity.

Thanks
Pat

-----Original Message-----

From: James Winterle [mailto:jwinterle@cnwra.swri.edu]
Sent: Friday, December 15, 2006 8:28 AM
To: 'Timothy McCartin'
Cc: [REDACTED]; 'Paul Bertetti'; 'Patrick LaPlante'; 'Ronald Janetzke'; 'Christopher Grossman'
Subject: RE: TPA Question

Tim,

Thanks, that helps a lot. I will ask Ron to zero out these values in the nuclides.dat file as part of whatever SCR might currently be in progress. It should be easy because there would be no code change and associated testing.

The only output files I could find that mention EPA normalized values are the files:

relgwgs.res and rlgwgs.res

These output files seem to be identical and report "EPA Groundwater, Ground Surface, and Total Release for Compliance Period Normalized - Values for Each Realization." If these files

no longer have any meaning, we could delete them from the output, but that would require a code change to accomplish. The other option is to leave them alone since they don't seem to be hurting anything.

If anyone else know anything about what the *relgwgs.res* and *rlgwgs* files might be used for, feel free to chime in.

--Jim

-----Original Message-----

From: Timothy McCartin [<mailto:TJM3@nrc.gov>]

Sent: Friday, December 15, 2006 6:58 AM

To: James Winterle

Cc: [REDACTED]; Paul Bertetti; Patrick LaPlante; Ronald Janetzke; Christopher Grossman

Subject: Re: TPA Question

Jim:

A couple of things on this subject:

- 1) The weighting factors are a vestige dating back to when TPA was initially developed (IPA Phase 1) and the old regulation at Part 60 that required an integrated release calculation using the weighting factors was the compliance measure - this should be removed the easiest possible way (zeroing out should work) with no need to document other than to state this is a portion of the code that is no longer use or supported if necessary).
- 2) Zeroing out should have no effect on dose calculations etc. - at one time there was an epasums file that had the integrated releases (still may be in the output files) and that would be the only place it is used.

Tim

>>> James Winterle <jwinterle@cnwra.swri.edu> 12/14/2006 4:39 PM >>>

Tim:

I have a question on TPA that you may be the only person qualified to answer. I am working on writing the SZFT chapter for the User Guide and am following how the module builds the NEFTRAN input file. One of the values that SZFT writes to neftran input is a weighting factor, described in the neftran manual thusly:

"Weighting factor that divides into total integrated discharge for each isotope. This may be useful for performance assessment applications, where the appropriate weighting factor for each isotope may be found based on the EPA Containment Requirements (EPA, 1985), and the resultant weighted integrated discharges would be equivalent to EPA sums."

These weighting factors are obtained by SZFT from the *nuclides.dat* file from the column labeled "epa lim [Ci/MTU]."

For several radionuclides values of 0.1 and 10.0 are written to neftran. As far as I can figure out, these numbers are divided into the total discharge calculated by neftran. So, for something like T99, which has a factor of 10.0, it seems like the value passed on from neftran to calculate dose is only 1/10th of the actual mass.

I talked to Pat Laplante and Ron Janetzke, and they aren't 100% sure, but think we should not be using these factors anymore. I couldn't find any modifications to the neftran code that zero these values out. My questions to you are these:

1. Is my understanding of how these weighting factors are used correct?

2. Is this something we need to fix since the EPA containment requirements from 1985 are no longer valid?

If a fix is needed, the easiest thing to do would be to just zero out the numbers in this column of the *nuclides.dat* file. I have no idea how this would affect dose estimates: presumably T99 doses would be ten times higher, but doses from Cm, Am, Ra, U, Pa, Th, and Np would go down by a factor of ten.

Please let me know if you have any insight on this or can point me in the right direction.

Jim Winterle
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Recipients:
"Ronald Janetzke" <rjanetzke@cnwra.swri.edu>
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MESSAGE	5601	12/15/2006 10:23:30 AM

Options
Priority: Standard
Return Notification: No
Reply Requested: No
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