PMSTPCOL PEmails

From: Eudy, Michael
Sent: Tuesday, April 27, 2010 3:06 PM
To: 'Stephens, Scot'
Cc: STPCOL; Williams, Stephen
Subject: NEW Draft STP RAI
Attachments: RAI 4600.doc

Importance: High

Scot,

Here is new draft RAI for STP Chapter 12. Please let me know if you have any questions before I formally issue it.

Michael A. Eudy - Project Manager
U.S. Nuclear Regulatory Commission
NRO/DNRL/NGE1&2
301-415-3104

-----Original Message-----
From: RAI_Notifications@nrc.gov [mailto:RAI_Notifications@nrc.gov]
Sent: Tuesday, April 27, 2010 1:14 PM
To: Eudy, Michael
Subject: RAI 4600 - The RAI Document is Ready for Review

RAI 4600 - The RAI Document is Ready for Review as attachment 'RAI 4600.doc' to this email.

Hearing Identifier: SouthTexas34Public_EX
Email Number: 2118

Mail Envelope Properties (9E28710E0B702149AEC6639728636440235CF6DEC9)

Subject: NEW Draft STP RAI
Sent Date: 4/27/2010 3:05:34 PM
Received Date: 4/27/2010 3:05:36 PM
From: Eudy, Michael

Created By: Michael.Eudy@nrc.gov

Recipients:
"STPCOL" <STP.COL@nrc.gov>
Tracking Status: None
"Williams, Stephen" <Stephen.Williams@nrc.gov>
Tracking Status: None
"'Stephens, Scot'" <scstephens@STPEGS.COM>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	541	4/27/2010 3:05:36 PM
RAI 4600.doc	32250	

Options
Priority: High
Return Notification: No
Reply Requested: No
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Request for Additional Information No. 4600 Revision 3

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 12.02 - Radiation Sources
Application Section: 12.02

QUESTIONS for Health Physics Branch (CHPB)

12.02-***

The response to RAI 12.02-16 provided the basis for all values and assumptions used in the revised BWR-GALE code calculation of annual gaseous radioactive effluent releases. The response also provided the BWR-GALE code input parameters used to calculate the annual gaseous effluent releases.

The staff used the information provided by the applicant to verify the annual effluents released in the GALE86 Code Liquid Release Source Term Table, in curies per year. The independent verification indicated that all individual radionuclide liquid curie releases were in agreement except, the I-131 liquid release value of 6.50E+03 curies per year, compared to the NRC GALE code output of 6.50E-03 curies per year.

Also, the calculated Xe-133 and Xe-135 gaseous values in the GALE86 Code Gaseous Release Source Term Table, for STP 3&4 Annual Releases in MBq/yr/unit, do not agree with the indicated MBq/yr/unit values using the adjustment factors for noble gases.

The staff reviewed the four adjustments to the GALE gaseous source terms that included:

a) The conversion of curies per year to MBq per year for all source term radionuclides.
b) The increase of the gaseous effluent radionuclide source terms by a factor of 1.16 due to the assumed STP capacity factor of 0.93 versus the GALE Code assumption of 0.80.
c) An Iodine, I-131 adjustment factor based upon the I-131 concentration in the reactor water indicated in the ABWR DCD Subsection 12.2.2.1.
d) A noble gas adjustment factor based upon the noble gas release rate of 555 MBq/s indicated in ABWR DCD Subsection 12.2.2.1.

Please provide your analysis of the following items:

1) The STP I-131 liquid effluent release value of 6.50E+03 curies per year, compared to the NRC GALE code I-131 output of 6.50E-03 curies per year.

2) The STP Xe-133 and Xe-135 gaseous effluent release quantities (MBq/yr/unit) do not agree with the values calculated by the staff using the noble gas adjustment factors provided by STP.

3) The technical justification for using the adjustment factors described in c) and d) above for the STP annual gaseous source term.