Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

May 17, 2010
U7-C-STP-NRC-100107

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Response to Request for Additional Information

Attached are the STP Nuclear Operating Company (STPNOC) responses to four of the NRC staff questions in Request for Additional Information (RAI) letter number 333, related to Combined License Application (COLA) Part 2, Tier 2, Sections 2.4S.12, "Groundwater," and 2.4S.13, "Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters." Also attached is the schedule for responding to the remaining questions in RAI letter number 333. Attachments 1 through 4 provide the responses to the RAI questions listed below:

02.04.12-38 02.04.12-41 02.04.12-45 02.04.13-15

When a change to the COLA is indicated, it will be incorporated into the next routine revision of the COLA following NRC acceptance of this RAI response.

There are no commitments in this letter.

If you have any questions, please contact me at (361) 972-7136, or Bill Mookhoek at (361) 972-7274.

D091
NRO

STI 32674932

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 5/17/10

Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

rhb

Attachments:
1. RAI 02.04.12-38
2. RAI 02.04.12-41
3. RAI 02.04.12-45
4. RAI 02.04.13-15
5. Response Date Extension for RAI Questions

cc: w/o attachments and enclosure except*
(paper copy)

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02.04.12-38

QUESTION:

To meet the requirements of 52.79(a) and assist staff in its analysis, additional information concerning the groundwater modeling is required. Aquifer pump test data and data reduction to mean values are inconsistent between the ER and FSAR (which are consistent), and the groundwater model document. Provide a consistent presentation of the hydraulic conductivity data and mean values, and, if necessary, provide amendments to the ER, FSAR and/or groundwater model document. Differences exist in the number of data presented and the data values, see ER Table 2.3.1-15, FSAR Table 2.4S.12-10, Groundwater Model document Section 2.7.1 (page 19, Table 4).

RESPONSE:

The differences in the amount of data presented in ER Table 2.3.1-15 and FSAR Table 2.4S.12-10 of the COLA and the amount of data presented in Table 4 of the Groundwater Model report (Reference 1) are due to the differences in the objectives of these studies. The Groundwater Model report only uses historical site-specific Shallow Aquifer pumping test results because the modeling effort only involves the Shallow Aquifer and therefore does not include information on the Deep Aquifer. ER Table 2.3.1-15 and FSAR Table 2.4S.12-10 summarize site-specific Shallow Aquifer and Deep Aquifer pumping test results to present site-scale values to compare with published regional values. The Groundwater Model report includes Shallow Aquifer pumping testing results conducted on five MCR relief wells to provide information to support the representation of the relief wells around the MCR in the groundwater model.

The transmissivity value from Well WW-1 and the hydraulic conductivity values from Wells WW-2 and WW-4 differ between Table 4 of the Groundwater Model report and ER Table 2.3.1-15 and FSAR Table 2.4S.12-10 of the COLA. The differences in values for Wells WW-1 and WW-2 between ER Table 2.3.1-15 and FSAR Table 2.4S.12-10 of the COLA and Table 4 of the Groundwater Model report are due to rounding the values obtained from FSAR Reference 2.4S.12-7. For Well WW-4, FSAR Reference 2.4S.12-7 presents aquifer property values calculated from short-term and long-term multi-well aquifer pumping tests. The hydraulic conductivity value for WW-4 presented in Table 4 of the Groundwater Modeling report is from the long-term aquifer pumping test whereas the value presented in ER Table 2.3.1-15 and FSAR Table 2.4S.12-10 of the COLA is from the short-term aquifer pumping test. The resulting geometric mean values presented in these tables also differ because they are derived from these differing values.

For consistency, ER Table 2.3.1-15 and FSAR Table 2.4S.12-10 will be revised in a future COLA revision as shown below to reflect the values in Table 4 of the Groundwater Model report. Gray shading indicates changes from COLA Rev. 3.

Reference: 1. STPNOC Letter U7-C-STP-NRC-090206, dated November 30, 2009, Attachment 2, "Groundwater Model Development and Analysis for STP Units 3 & 4."

FSAR Table 2.4S.12-10 will be revised as shown below:

Table 2.4S.12-10 STP Aquifer Pumping Test Results Summary

Well	Screened Interval (ft bgs)	Aquifer	Test Start Date	Pumping Rate (gpm)	Pumping Duration (hrs)	Hydraulic Conductivity (gpd/ft^2)	Transmissivity (gpd/ft)	Storage Coefficient (unitless)	Data Source
Production Well 5	290-670	Deep	1/27/1975	300/600	8/72	ND	50,000	2.2×10^{-4} to 7.6×10^{-4}	1
Production Well 6	340-685	Deep	10/31/1977	320/614	8/72	ND	24,201	ND	2
Production Well 7	302-702	Deep	1/13/1978	316/614	8/72	ND	25,533	ND	2
WW-1	60-140	Lower Shallow	unknown	200/300	67/24	413 ~~410~~	33,000 ~~33,150~~	7.1×10^{-4}	3
WW-2	59-83	Lower Shallow	11/21/1973	140	120	605 ~~600~~	13,000	4.5×10^{-4}	3
WW-2 Long Term	59-83	Lower Shallow	12/14/1973	140	288	651	14,000	ND	3
WW-3	20-43	Upper Shallow	11/28/1973	10	48	65	1,100	1.7×10^{-3}	3
WW-4	30-45	Upper Shallow	1/4/1974	50	46	735 ~~420~~	12,500	7×10^{-4}	3
Geometric Mean All Tests*						334 ~~337~~	15,221 ~~15,000~~	6.3×10^{-4}	
Geometric Mean Lower Shallow Aquifer*						509 ~~543~~	21,107 ~~18,209~~	5.6×10^{-4}	
Geometric Mean Upper Shallow Aquifer*						219 ~~165~~	3,708	1.1×10^{-3}	
Geometric Mean Deep Aquifer*						ND	31,379	4.1×10^{-4}	

Data Source:

1- Reference 2.4S.12-8

2- pumping test data interpretation

3- Reference 2.4S.12-7

ND = Not Determined

*The average of WW-2 and WW-2 Long Term were used in the geometric mean calculations.

Environmental Report Table 2.3.1-15 will be revised as shown below:

Table 2.3.1-15 STP Aquifer Pumping Test Results Summary

Well	Screened Interval (ft bgs)	Aquifer	Test Start Date	Pumping Rate (gpm)	Pumping Duration (hrs)	Hydraulic Conductivity (gpd/ft^2)	Transmissivity (gpd/ft)	Storage Coefficient (unitless)
Production Well 5	290-670	Deep	1/27/1975	300/600	8/72	ND	50,000	2.2×10^{-4} to 7.6×10^{-4}
Production Well 6	340-685	Deep	10/31/1977	320/614	8/72	ND	24,201	ND
Production Well 7	302-702	Deep	1/13/1978	316/614	8/72	ND	25,533	ND
WW-1	60-140	Lower Shallow	unknown	200/300	67/24	413 ~~410~~	33,000 ~~33,150~~	7.1×10^{-4}
WW-2	59-83	Lower Shallow	11/21/1973	140	120	605 ~~600~~	13,000	4.5×10^{-4}
WW-2 (Long Term)	59-83	Lower Shallow	12/14/1973	140	288	651	14,000	ND
WW-3	20-43	Upper Shallow	11/28/1973	10	48	65	1,100	1.7×10^{-3}
WW-4	30-45	Upper Shallow	1/4/1974	50	46	735 ~~420~~	12,500	7×10^{-4}
Geometric Mean All Tests*						334 ~~337~~	15,221 ~~15,000~~	6.3×10^{-4}
Geometric Mean Lower Shallow Aquifer*						509 ~~543~~	21,107 ~~18,209~~	5.6×10^{-4}
Geometric Mean Upper Shallow Aquifer*						219 ~~165~~	3,708	1.1×10^{-3}
Geometric Mean Deep Aquifer*						ND	31,379	4.1×10^{-4}

Data Source: COLA Part 2 Subsection 2.4S.12.2.4.1
ND = Not Determined

*The average of WW-2 and WW-2 Long Term were used in the geometric mean calculations.

02.04.12-41

QUESTION:

To meet the requirements of 52.79(a) and assist staff in its analysis, additional information concerning the groundwater modeling is required. In the Groundwater Model document, page 33 of 177, STP states "The Colorado River streamflow gain during a low-flow period in 1918 is estimated to have been about 20 gpm. This result suggests that discharge from the Shallow Aquifer along the model boundary would have been on the order of 100 to 200 gpm prior to filling of the MCR." Provide the source reference for this estimate, and provide a more complete explanation on how the 20 gpm streamflow gain estimate translates into a model boundary discharge estimate of 100 to 200 gpm.

RESPONSE:

The source reference for the 20 gpm discharge estimate from the Shallow Aquifer to the Colorado River is provided in Reference 1. The 1918 data provided in the U.S. Geological Survey Open-File Report (Reference 1 below) indicates that the Colorado River stream flow gain from the Shallow Aquifer along an 18-mile reach from Bay City to the site was 0.8 $feet^3$/second, or about 20 gpm per mile. The portion of the 18-mile reach of the Colorado River represented in the model as constant heads is about 7.4 miles long. Applying the 20 gpm per mile value to the 7.4-mile length of the constant heads that define the east model boundary translates into about 150 gpm. Thus, the groundwater model boundary discharge estimate of 100 to 200 gpm represents bounding values of pre-MCR low-flow stream discharge from the Shallow Aquifer to the Colorado River.

Reference: 1. Slade, Raymond M., Jr., J. Taylor Bentley, and Dana Michaud, 2002. "Results of streamflow gain-loss studies in Texas, with emphasis on gains from and losses to major and minor aquifers." U.S. Geological Survey Open-File Report 02-068.

No COLA revision is required as a result of this RAI response.

02.04.12-45

QUESTION:

To meet the requirements of 52.79(a) and assist staff in its analysis, additional information concerning the groundwater modeling is required. Staff requests additional information for the groundwater model results and the bands of piezometric contours. The manually calibrated model (run 201) exhibits several rectangular bands of piezometric contours at locations on the south and west sides of the model domain in Layers 1&2. Describe whether these model results are reasonable, or whether they indicate model configuration issues with the drain boundary conditions (e.g., surface elevation, drain boundary conditions)?

RESPONSE:

The "rectangular bands" of piezometric contours are produced by hydraulic head differentials between the assigned values of head in the drain boundary cells that simulate canals and ditches in model layers 1 and 2 and the computed head outside of the drain boundary cells. This and the relatively low horizontal hydraulic conductivity of model layers 1 and 2 create steep hydraulic gradients, and when these steep hydraulic gradients develop around rectangular-shaped grid cells, the appearance of rectangular bands of piezometric contours occurs.

The appearance of "rectangular bands" of piezometric contours is a reasonable result in a finite-difference numerical model with variably-spaced grids and steep hydraulic gradients around drain cells. In the case of this model, the drains lower the simulated heads in adjacent cells in model layers 1 and 2 from 10 feet to about 3 feet and from 5 feet to about 0.3 feet along the south domain, and from 22.5 feet to about 13 feet along the west domain. The differential heads between the drain cells and the adjacent cells result in rectangular bands of piezometric contours around the drain cells. Thus, they do not indicate any problem with the model configuration with respect to the drain boundary conditions.

No COLA revision is required as a result of this RAI response.

02.04.13-15

QUESTION:

NRC review of responses to RAI 11-02-7 and RAI 11.02-8 notes that the CST is an alternative for disposition of treated radioactive water and is located outside and surrounded by a dike. NRC review of STPNOC response to RAIs 11.02-7 note that a CST release to groundwater and/or surface water should take into account assumptions of release similar to those used in FSAR Section 2.4S.13 for the LCW tank in the Radwaste Building. NRC staff believe the statement in the response to RAI 11.02-7 that design features of the CST will preclude releases of contaminated liquid to the groundwater or surface water if there is a failure of the CST does not take into account assumptions similar to those of the postulated release from the LCW tank.

Using similar assumptions of leaks and system failures associated with the LCW tank release, a CST release should be postulated. Further, review of the postulated release of the LCW tank contents to surface water in FSAR Section 2.4S.13 indicates a dilution factor of 178 associated with flooding of the Radwaste Building before LCW tank contents contact surface waters outside the building. Taking this dilution into account, the isotopic concentrations in the CST and in water leaving the Radwaste Building from a LCW tank release are more comparable, and those for key isotopes H-3, Cs-134, and Cs-137 are higher in a CST release. Because the analysis of the LCW tank release during an MCR breach flood event takes into account design features of the Radwaste Building, the MCR breach flood event as applied in FSAR Section 2.4S.13 for the LCW tank release may not apply to a CST release.

NRC requests STPNOC assess the potential for CST release to groundwater and surface water consistent with assumptions previously made with regard to LCW tank release from the Radwaste Building. Such a release should be considered independent of and in conjunction with a flood event. One of these scenarios could be more severe than the groundwater or surface water release scenarios currently included in FSAR Section 2.4S.13.

Please provide information concerning the severity of the CST release scenarios. If one or more of these CST scenarios are analyzed to be more severe than the scenarios currently included in the FSAR for accidental release of radioactive liquid effluent to groundwater and surface waters, please provide (1) the detailed design information of CST tank and dike (e.g., elevation, dimension, dike materials, holding capacity, etc.), (2) an assessment of the radiological effects of the potential release from the CST, and (3) modifications to FSAR Section 2.4S.13.

RESPONSE:

A Condensate Storage Tanks (CST), one each for Units 3 and 4, is located near the south west corner of the respective turbine building (COLA Figure 1.2-37). The volume of liquid in the CST is 2110 m^3 (74,525 cubic feet) when full. The CST is 42 feet in diameter and when full contains water with a depth of approximately 54 feet. The CST is located in a diked containment area sufficient to hold the entire contents of the CST. The volume within the containment area up to an elevation of 48.5 feet is approximately 121,800 cubic feet, which is much larger than the volume of the CST. The bottom elevation of CST containment is approximately El 13.5 feet with dike walls extending to El 48.5 feet. The adjacent grade elevation near the CST is 34 feet. The failure of CST is considered independent of and in conjunction with a MCR dike breach flood event.

Releases to Groundwater from a CST Failure

Any significant amount of CST water released by a CST failure will be contained within the containment of the CST. Potential release of the contents of the CST to groundwater is addressed in the revised response to RAI 11.02-7 (letter U7-C-STP-NRC-090219, dated December 30, 2009). The response to RAI 11.02-7 demonstrates that, except for tritium, the concentrations of radionuclides in the CST are a factor of 100 less than the concentrations used to evaluate releases of radioactivity to the ground water in COLA Section 2.4S.13. The tritium concentration assumed in the CST is the same concentration used in the groundwater evaluation in COLA Section 2.4S.13. Therefore, releases from the CST to the groundwater are bounded by the existing groundwater evaluation described in COLA Section 2.4S.13 and the response to RAI 02.04.12-28, Supplement 1 (letter U7-C-STP-NRC-090205, dated November 23, 2009).

Releases to Surface Water from a CST Failure in Conjunction with MCR Dike Breach Flood Event

The CST is designed so that all of the CST water is stored in the tank partly above grade and partly below grade with containment dike walls extending to El 48.5 feet. The containment is large enough to contain the entire contents of the CST, so releases from the CST to surface waters is prevented in the event of a CST failure. The only hypothetical event that could lead to releases to the surface water is a large flood due to the MCR dike breach. The dispersal of a significant amount of CST water from CST failure following the MCR dike breach flood requires three failures; the failure of the CST, the failure of the CST containment dike and the failure of the MCR dike. All of these failures have a very low probability, and the simultaneous occurrence of these failures would not be considered a normal design basis event. However, to respond to this question, an approximate quantitative evaluation of this event is provided here.

A dilution factor occurs as the CST water flows out of the CST containment and mixes with the MCR breach floodwater outside the CST containment. The MCR has surface area of 7,000 acres with storage volume of 202,700 acre-feet at the maximum operating level of 49 feet. The maximum flood level analysis at STP Units 3 & 4 due to MCR dike breach is presented in Reference 1. In this analysis a postulated failure of the MCR dike with trapezoidal breach having bottom width of 380 feet at elevation 29 feet and side slope of 1H: 1V was analyzed. An initial MCR water level of 50.9 feet was used at time of breach. Two potential breach locations, East Breach and West Breach were analyzed to focus on either Unit 3 or Unit 4. A breach time of 1.7 hours was used for this analysis. Based on the analysis, an MCR breach would result in a flood with peak discharge of 130,000 cubic feet per second downstream of the breach. Flood water from the MCR breach will flow through the area encompassing Units 1 and 2 and proposed Units 3 & 4 and will spread into and past the area bounded by FM 521 road to the north of the site. The proposed grade of Units 3 and 4 is 34 feet with a floor elevation of 35 feet for the various facilities within the power block area. North of FM 521 and west of the West MCR embankment there are levees with approximate top elevation of 29 feet to 30 feet. South of the MCR, along its south embankment, is an east-west canal with levees on both sides. The flood water from the MCR breach will flow north towards the units and part of the water will flow towards east to the Colorado River. The other part of the flood water will flow to the west and will reach the Little Robins Slough. This flood water will flow through the Little Robins Slough along the west embankment of the MCR and flow east ward south of the MCR and ultimately flows to the intra coastal water way near the Gulf of Mexico.

Flow through the MCR breach with respect to time after initiation of the breach is presented in Table 2.4S.4-6 of Reference 1. As shown in the table, breach flow rapidly increases to 130,000 cubic feet per second in 1.7 hours; thereafter this flow slowly reduces to 112,800 cubic feet per second at 3 hours from the start of the breach and there after gradually reduces to 14,840 cubic feet per second at 30 hours from start of the breach. Similarly the MCR water level drops from initial water level of 50.9 feet to 34 feet at 30 hours from start of the breach. It is assumed that at the end of 30 hours the water level near the CST will be approximately 34 feet or slightly lower. Water levels at different plant facilities associated with the East and West breaches are presented in Reference 1. The maximum water level near the plant buildings due to the MCR dike breach is 38.8 feet, which is used in the present analysis.

The MCR dike breach flood scenario results in a flood elevation that could be as high as El. 38.8 feet. The CST is surrounded by dike wall with top of dike elevation of 48.5 feet. It is conservatively assumed that both CST and dike walls fail and the volume of the contents in the tank above the grade elevation of 34 feet will uniformly mix with the floodwater. This results in dilution of the contents of the CST above the grade elevation with the floodwater on the site before reaching the site boundary.

The total CST volume is 2110 m^3 (74,525 cubic feet). Out of this total volume of CST water the volume of the CST above the adjacent grade elevation of 34 feet is 46,123 cubic feet and this amount will mix with the MCR flood water. This volume of water released from the CST will mix with a portion of the flood water volume outside the CST area and will flow away from the CST. To provide a quantitative estimate of dilution it is assumed that the flood volume flowing out of the breach will split into two halves, one half flows east towards Colorado River and the second half flow west towards Little Robins Slough. For this analysis the dilution due to west breach on the Unit 4 CST failure is investigated. The total volume of water out of the breach from the start of the breach until 30 hours after the breach is estimated as 118,260 acre feet. Half of this volume that flows towards the west will be 59,130 acre feet. The release from the CST will mix with part of this volume that flows towards the west. Conservatively assuming only 4% of this volume (2365 acre feet or 103,019,400 cubic feet) mixes with the 46,123 cubic feet of water from the CST will yield a dilution factor of 2233. In addition even after the 30-hour period there will be flow out of the MCR from El 34' to the bottom of the breach elevation of 29 feet, which will provide additional dilution.

The attached Table 1 is a list of the bounding estimate of the activity in the CST developed in the response to RAI 11.02-7. The activity is converted to a concentration outside the CST containment dike by dividing the CST activity by the tank volume and the dilution factor identified above. Then the fraction of the 10 CFR 20 effluent concentration limit (ECL) is computed and summed. Since the sum of the fractions is less than one, this table demonstrates that the concentrations resulting from this approximate evaluation of the effect of the CST failure in conjunction with MCR dike are a small fraction of the 10 CFR 20 limits. The ECL fraction shown in Table 1 is smaller than the ECL fraction computed for the LCW tank failure analyzed in the response to RAI 02.04.13-13. Therefore, even for this hypothetical case, releases from the CST are bounded by the releases from the LCW tank.

No COLA revision is required as a result of this RAI response.

Reference: 1. South Texas Project (STP) Units 3 & 4, COL Application, Section 2.4S.4, Final Safety Analysis Report (FSAR) Revision 3.

Table 1. Activity Released from the CST Following an MCR Dike Breach

Nuclide	CST Inventory (MBq)	Release Concentration (uCi/cc)	ECL (uCi/cc)	ECL Ratio
H-3	7.8E+05	4.5E-06	1.00E-03	4.5E-03
I-131	1.9E+03	1.1E-08	1.00E-06	1.1E-02
I-132	1.6E+04	9.2E-08	1.00E-04	9.2E-04
I-133	1.3E+04	7.4E-08	7.00E-06	1.1E-02
I-134	2.8E+04	1.6E-07	4.00E-04	4.0E-04
I-135	1.8E+04	1.0E-07	3.00E-05	3.4E-03
Rb-89	8.1E+02	4.6E-09	9.00E-04	5.2E-06
Cs-134	5.9E+01	3.4E-10	9.00E-07	3.8E-04
Cs-136	6.3E+00	3.6E-11	6.00E-06	6.0E-06
Cs-137	1.9E+02	1.1E-09	1.00E-06	1.1E-03
Cs-138	1.6E+03	9.2E-09	4.00E-04	2.3E-05
Na-24	2.7E+02	1.5E-09	5.00E-05	3.1E-05
P-32	1.3E+01	7.4E-11	9.00E-06	8.3E-06
Cr-51	8.1E+02	4.6E-09	5.00E-04	9.3E-06
Mn-54	3.0E+01	1.7E-10	3.00E-05	5.7E-06
Mn-56	1.4E+03	8.0E-09	7.00E-05	1.1E-04
Fe-55	1.4E+02	8.0E-10	1.00E-04	8.0E-06
Fe-59	5.6E+00	3.2E-11	1.00E-05	3.2E-06
Co-58	4.8E+01	2.7E-10	2.00E-05	1.4E-05
Co-60	2.1E+02	1.2E-09	3.00E-06	4.0E-04
Ni-63	5.9E-01	3.4E-12	1.00E-04	3.4E-08
Cu-64	7.8E+02	4.5E-09	2.00E-04	2.2E-05
Zn-65	8.5E+01	4.9E-10	5.00E-06	9.7E-05
Sr-89	2.1E+01	1.2E-10	8.00E-06	1.5E-05
Sr-90	4.1E+00	2.3E-11	5.00E-07	4.7E-05
Y-90	4.1E+00	2.3E-11	7.00E-06	3.4E-06
Sr-91	1.1E+02	6.3E-10	2.00E-05	3.2E-05
Sr-92	2.9E+02	1.7E-09	4.00E-05	4.2E-05
Y-91	3.0E+02	1.7E-09	8.00E-06	2.1E-04
Y-92	1.7E+02	9.7E-10	4.00E-05	2.4E-05
Y-93	1.1E+02	6.3E-10	2.00E-05	3.2E-05
Zr-95	5.9E+01	3.4E-10	2.00E-05	1.7E-05
Nb-95	7.4E+01	4.2E-10	3.00E-05	1.4E-05

Table 1. Activity Released from the CST Following an MCR Dike Breach

Nuclide	CST Inventory (MBq)	Release Concentration (uCi/cc)	ECL (uCi/cc)	ECL Ratio
Mo-99	5.2E+01	3.0E-10	2.00E-05	1.5E-05
Tc-99m	5.2E+01	3.0E-10	1.00E-03	3.0E-07
Ru-103	1.2E+02	6.9E-10	3.00E-05	2.3E-05
Rh-103m	1.2E+02	6.9E-10	6.00E-03	1.1E-07
Ru-106	3.7E+01	2.1E-10	3.00E-06	7.1E-05
Rh-106	3.7E+01	2.1E-10	N/A	
Ag-110m	4.1E-01	2.3E-12	6.00E-06	3.9E-07
Te-129m	5.6E+00	3.2E-11	7.00E-06	4.6E-06
Te-131m	2.4E+00	1.4E-11	8.00E-06	1.7E-06
Te-132	6.3E-01	3.6E-12	9.00E-06	4.0E-07
Ba-137m	1.7E+02	9.7E-10	N/A	
Ba-140	2.3E+01	1.3E-10	8.00E-06	1.6E-05
La-140	1.8E+02	1.0E-09	9.00E-06	1.1E-04
Ce-141	1.6E+02	9.2E-10	3.00E-05	3.1E-05
Ce-144	3.6E+01	2.1E-10	3.00E-06	6.9E-05
Pr-144	3.6E+01	2.1E-10	6.00E-04	3.4E-07
W-187	7.8E+00	4.5E-11	3.00E-05	1.5E-06
Np-239	2.1E+02	1.2E-09	2.00E-05	6.0E-05
			Total:	3.4E-02

Response Date Extension for RAI Questions

RAI Question	Reason for Extension	Response Date
02.04.12-42	Additional time needed to complete the evaluation of the Groundwater Model as required by the RAI.	05/27/2010
02.04.12-49	Additional time needed to complete the evaluation of the Groundwater Model as required by the RAI.	05/27/2010
02.04.12-39	Additional time needed to complete a sensitivity analysis of the Groundwater Model as required by the RAI.	06/17/2010
02.04.12-40	Additional time needed to complete a sensitivity analysis of the Groundwater Model as required by the RAI.	06/17/2010
02.04.12-43	Additional time needed to complete a sensitivity analysis of the Groundwater Model as required by the RAI.	06/17/2010
02.04.12-44	Additional time needed to complete the evaluation of the Groundwater Model and the sensitivity analysis required by the RAI.	07/12/2010
02.04.12-46	Additional time needed to complete a sensitivity analysis of the Groundwater Model as required by the RAI.	07/12/2010
02.04.12-47	Additional time needed to complete a sensitivity analysis of the Groundwater Model as required by the RAI.	07/12/2010
02.04.12-50	Additional time needed to complete a sensitivity analysis of the Groundwater Model as required by the RAI.	07/12/2010
02.04.12-48	Additional time needed to complete a sensitivity analysis of the Groundwater Model as required by the RAI.	07/26/2010