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April 11, 2011

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
ATTN: David B. Matthews, Director
Division of New Reactor Licensing

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4
DOCKET NUMBERS 52-034 AND 52-035
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION NO. 5375
(SECTION 11.3)

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein the response to Request for Additional Information (RAI) No. 5375 (CP RAI #200) for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4. The RAI addresses population doses used in the cost-benefit analysis.

Should you have any questions regarding this response, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me.

There are no commitments in this letter.

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

Executed on April 11, 2011.

Sincerely,

Luminant Generation Company LLC

RD Bost for
Rafael Flores

Attachment: Response to Request for Additional Information No. 5375 (CP RAI #200)

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NRO

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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 5375 (CP RAI #200)

SRP SECTION: 11.03 - Gaseous Waste Management System

QUESTIONS for Health Physics Branch (CHPB)

DATE OF RAI ISSUE: 1/26/2011

QUESTION NO.: 11.03-3

The NRC Staff's review of COLA FSAR (Rev. 1) Section 11.3.1.5, Updated Tracking Report (UTR) (Revisions 3 and 4), and the response to RAI 3401, Question 11.04-3 (RAI Letter Number 39) found that the applicant did not fully describe information on the site-specific cost-benefit analysis (CBA) for the GWMS to satisfy CP COL 11.3(8) and meet the compliance with 10 CFR Part 50, Appendix I, Section II.D. FSAR Section 11.3.1.5 states the addition of processing equipment of reasonable treatment technology is not favorable or cost beneficial given the population dose of 2.59 person-rem/yr (Total Body), 2.97 person-rem/yr (Thyroid), and the equipment and operating costs in Regulatory Guide (RG) 1.110.

Please address the following items and provide a mark-up of the proposed FSAR changes.

1. Confirm the above population doses to the Thyroid and Total Body from gaseous effluents in FSAR Section 11.3.1.5, which appear to be evaluated prior to restricted public use of Squaw Creek Reservoir at the Comanche Peak site.
2. In the response to RAI 3401, Question 11.04-3 (RAI Letter Number 39), the site-specific CBA for the GWMS assumes effluent population doses of 5 person-rem/yr (Total Body) and 4 person-rem/yr (Thyroid). The response provides site-specific inputs to determine the Capitol Recovery Factor (CRF) and Labor Cost Correction Factor (LCCF), but does not identify augment(s) listed in Table A-1 to RG 1.110 or other associated costs described in Appendix A to RG 1.110 applied in the site-specific CBA calculation. Specifically, identify the GWMS augment(s) and all costs considered in the site-specific CBA and provide sufficient information for the NRC staff to evaluate the bases and assumptions of these costs used to determine the site-specific CBA in order to verify compliance with NRC regulations and conformance to NRC guidance.

ANSWER:

1. The population doses within 50 miles from normal plant and evaporation pond releases, as calculated by the GASPAR II Code, are 3.77 person-rem (Total Body) and 4.29 person-rem (Thyroid). These include the population doses resulting from public use of Squaw Creek

Reservoir. FSAR Subsection 11.3.1.5 has been revised to reflect the population doses that are used in the cost benefit analysis.

2. The site-specific CBA for the GWMS identified two augments listed in Table A-1 of Regulatory Guide 1.110 for consideration. The site-specific augments analyzed in the CBA are the addition of three gas surge tanks and two charcoal adsorbers, listed in Table A-1 of RG 1.110 as 600-ft^3 Gas Decay Tank and 3-Ton Charcoal Adsorber, respectively. The assumed population doses in the CBA are 5.0 person-rem per year for Total Body and 5.0 person-rem per year for Thyroid. All of the inputs (both generic and site-specific) necessary to calculate the costs of these augments using the methodology described in RG 1.110 were provided in the response to Question 11.04-3 (ML093370112) or are provided directly in RG 1.110. The CBA considered maintenance costs, operating costs, capital costs, equipment and materials costs, and labor costs.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 11.3-1.

Impact on S-COLA

None; the response is site-specific.

Impact on DCD

None.

11.3 GASEOUS WASTE MANAGEMENT SYSTEM

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

11.3.1.5 Site-Specific Cost-Benefit Analysis

CP COL 11.3(8) Replace the third paragraph in DCD Subsection 11.3.1.5 with the following.

A site-specific cost benefit analysis using the guidance of RG 1.110 was performed based on the site-specific calculated radiation doses as a result of radioactive gaseous effluents during normal operations, including AOOs. The result of the dose analysis indicated a public exposure of less than 1 person-rem per year resulting from the discharge of radioactive effluents, effecting a dose cost of less than $1000 per year, in 1975 dollars. ~~Based on a population dose results of 2.59 person-rem per year (Total Body), 2.97 person-rem per year (Thyroid)~~For conservatism, the population doses considered in the cost-benefit analysis were increased to 5.0 person-rem per year (Total Body) and 5.0 person-rem per year (Thyroid). Based on these population doses and the equipment and operating costs as presented in RG 1.110, the cost benefit analysis demonstrates that addition of processing equipment of reasonable treatment technology is not favorable or cost beneficial, and that the design provided herein complies with 10 CFR 50, Appendix I. RCOL2_11.03-3

11.3.2 System Description

STD COL 11.3(9) Add the following text at the end of the second paragraph in DCD Subsection 11.3.2.

The piping and instrumentation diagrams (P&IDs) for the gaseous waste management system (GWMS) are provided in Figure 11.3-201 (Sheets 1 through 3).

CP COL 11.3(3) Replace the last sentence in the last paragraph in DCD Subsection 11.3.2 with the following.

The release point of vent stack is at an elevation of 1051' 5", which is same height of the top of the containment.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 5375 (CP RAI #200)

SRP SECTION: 11.03 - Gaseous Waste Management System

QUESTIONS for Health Physics Branch (CHPB)

DATE OF RAI ISSUE: 1/26/2011

QUESTION NO.: 11.03-4

The NRC Staff's review of FSAR (Rev. 1) Section 11.3 and Tables 11.3-8R, 11.3-9R (Sheets 1 and 2), 11.3-201, 11.3-202, 11.3-203, 11.3-204, and 11.3-205, UTR (Rev. 3 and 4), and response to RAI 3400, Question 11.03-2 (RAI Letter Number 36) found the applicant did not fully describe information on the calculated annual gaseous effluent releases and doses, as it relates to the evaporation pond, the Squaw Creek Reservoir, and the normal releases, to satisfy CP COL 11.3(6) and verify compliance with NRC regulations. Please address the following and provide a mark-up of the proposed FSAR changes.

1. FSAR (Rev. 1) Table 11.3-8R indicates gaseous effluent releases are taken from DCD Tier 2, Table 11.3-5 (Sheet 1 through 3) without departure. Given that a plant-specific liquid effluent releases are presented in FSAR (Rev. 1) Table 11.2-10R (Sheets 1 and 2), justify why plant-specific gaseous effluent releases are not provided in FSAR Section 11.3.

2. FSAR Section 11.3.3.1 describes annual average gaseous effluent releases are taken from DCD Table 11.3-5 (Sheets 1 through 3) to calculate population doses from gaseous effluents resulting from normal operation for a plant referencing the US-APWR design at the Comanche Peak site. Confirm whether the population doses from gaseous effluent releases in FSAR Table 11.3-9R (Sheets 1 and 2) are calculated using a plant-specific gaseous effluent releases. Discuss this impact on the calculations of maximum gaseous effluent releases, and the expected and maximum annual gaseous effluent fractions of concentration limits (sum-of-fractions). Note that Ba-137m identified in DCD Table 11.3-5 (Sheet 3 of 6) is not included in the GASPAR II library. Discuss this impact on the calculated population doses from gaseous effluents in FSAR Sections 11.2 and 11.3.

3. FSAR Tables 11.3-10R (Sheets 1 and 2), 11.3-205 and 11.3-206 to UTR (Rev. 3) present population doses from normal gaseous effluents, total doses due to gaseous effluents from the plant vet stack and evaporation pond, and total doses to the maximum exposed individual at the Squaw Creek Reservoir, respectively. Suggest adding a footnote to these tables to indicate that the calculated gaseous effluent doses are for a single new unit where applicable.

4. In FSAR Section 11.3 (and all other applicable FSAR sections), make reference to the MHI PWR-GALE code and the MHI Technical Report (TR) MUAP-10019 (R0) (ML102850683), which describes the methodology, basis, and assumptions for the calculation of expected and maximum annual gaseous effluent releases in normal operation including anticipated operational occurrences (AOOs) for plants referencing the US-APWR design.

5. FSAR Section 11.3.3.1 describes the gaseous effluent releases in FSAR Table 11.3-202 for the evaporation pond as determined, as half of the liquid effluent releases (except noble gases) in FSAR Table 11.2-10R (Sheets 1 and 2) assumed to be diverted into the evaporation pond and conservatively discharged into the atmosphere as aerosol vapor. Confirm whether the population doses from the evaporation pond are calculated using plant-specific liquid effluent releases.

6. FSAR Section 11.3.3.1 and Table 11.3-206 of UTR (Rev. 3) provide GASPAR II code calculations of population doses for restricted public access of the Squaw Creek Reservoir. Confirm whether these population doses are calculated using plant-specific gaseous effluent releases.

7. Update FSAR Section 11.3 to address the impact of the plant capacity factor of 80% applied in population dose calculations from gaseous effluents when typical operating plant capacity factors exceed 90% for compliance with NRC regulations and 40 CFR Part 190 (see response to US-APWR DCD RAI 523-4246, Question 11.02-30, ML100770379).

8. Provide copies of the electronic input/output files for the MHI PWR-GALE code calculation of annual gaseous effluent releases and the GASPAR II code calculation of population doses from gaseous effluents for restricted public use of Squaw Creek Reservoir which show demonstration of regulatory compliance.

ANSWER:

1. The liquid effluent releases for the DCD include the detergent waste release as a conservative assumption. The liquid effluent releases for CPNPP Units 3 and 4 do not include the detergent waste release, which reflects actual site operation.

   The gaseous effluent release of CPNPP Units 3 and 4 is same as the DCD for the following reasons:

   - The gaseous effluent release is not dependent on the detergent waste operation.
   - There are no departures from the DCD regarding other systems related to the gaseous waste management system and HVAC system which affect the gaseous effluent release.

2. As stated in FSAR Table 11.3-8R Sheet 1, the source term input is taken from DCD Table 11.3-5 Sheets 1-3. Therefore, the population doses given in FSAR Table 11.3-9R are calculated from DCD rather than plant-specific gaseous effluents. The only radionuclide in the DCD gaseous effluent source term that is not in the GASPAR library is Ba-137m. A note has been added to FSAR Table 11.3-8R stating that Ba-137m is not included in the library.

3. A footnote has been added to FSAR Tables 11.3-9R, 11.3-205, and 11.3-206 to state that the calculated gaseous doses are for a single new unit.

4. MHI Technical Report MUAP-10019 (R1) has been added as Reference 11.2-27 in DCD Rev. 3 Subsection 11.2.5 and a discussion of the MHI PWR-GALE code which is contained in the Technical Report has been added to FSAR Subsection 11.2.3.1.

5. Half of the liquid effluent is assumed to be diverted to the evaporation pond. Since the liquid effluents are plant-specific, the population doses given in FSAR Table 11.2-10R for the evaporation pond aerosol release are calculated from plant-specific effluents.

6. The values presented in FSAR Subsection 11.3.3.1 and Table 11.3-206 are calculated with the gaseous effluent release values given in DCD Table 11.3-5 (Sheets 1-3).

7. As discussed in the response to Item 1 above, the CPNPP Units 3 and 4 gaseous effluent releases are the same as the DCD releases. The impact to liquid and gaseous effluent releases from a change in plant capacity factor was discussed in the response to DCD RAI 523-4246, Question 11.02-30 (ML100770379).

8. As stated in response to RAI No. 3400 (CP RAI #36) (ML093090162), a description and supporting rationale for all modifications made to the PWR-GALE code subroutines, including source/execute/input/output files for DCD calculations, have been sent to NRC from MHI in response to DCD RAIs 164 (ML090570441), 189 (ML090770414), and 402 (ML092090556).

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 11.2-4, 11.3-6, 11.3-7, 11.3-8, 11.3-9, 11.3-16, 11.3-17, and 11.3-18.

Impact on S-COLA

None; the response is site-specific.

Impact on DCD

None.

monitor reaches the high setpoint, it sends signals to initiate pump shutdown, valve closure and operator actions.

11.2.3.1 Radioactive Effluent Releases and Dose Calculation in Normal Operation

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CP COL 11.2(2)
CP COL 11.2(4)

Replace the last ~~five~~six paragraphs in DCD Subsection 11.2.3.1 with the following. MAP-11-201

The detailed design information of release point is described in Subsection 11.2.2.

The annual average release of radionuclides is estimated by the PWR-GALE Code (Ref.11.2-13) with the reactor coolant activities that is described in Section 11.1. The version of the code is a proprietary modified version of the NRC PWR-GALE code reflecting the design specifics of US-APWR design (Ref. 11.2-27). The parameters used by the PWR-GALE Code are provided in Table 11.2-9, and the calculated effluents are provided in Table 11.2-10R. The calculated effluents for the maximum releases are provided in Table 11.2-11R. On this site-specific application, handling of contaminated laundry is contracted to off-site services. Therefore, the detergent waste effluent need not be considered. RCOL2_11.03-4

The calculated effluent concentrations using annual release rates are then compared against the concentration limits of 10 CFR 20 Appendix B (see Tables 11.2-12R and 11.2-13R.).

Once it is confirmed that the treated effluent meets discharge requirements, the effluent is released into Squaw Creek Reservoir via the CPNPP Units 1 and 2 circulating water return line. The liquid effluent is maintained at ambient temperature, as it is stored inside the auxiliary building (A/B) waste monitoring tanks. Currently, Squaw Creek Reservoir has a tritium concentration limit of 30,000 pCi/L (Reference 11.2-201). Based on an analysis, the tritium concentration in Squaw Creek Reservoir is anticipated to remain within the tritium limit due to the local rainfall, evaporation, and spillover (control release) from Squaw Creek Reservoir to Squaw Creek.

However, during the maximum tritium generation condition (i.e., all four units operating at full power), the tritium concentration could be exceeded. When the tritium concentration in Squaw Creek Reservoir is determined to be close to the offsite dose calculation manual (ODCM) limit, as much as half of the liquid effluent from CPNPP Units 3 and 4 can be diverted to the evaporation pond for temporary staging.

When the tritium concentration in Squaw Creek Reservoir again decreases below the operating target, the effluent in the pond is sampled and analyzed for suitability to discharge back into Squaw Creek Reservoir. In the event that both

CP COL 11.3(6)

Table 11.3-8R

Input Parameters for the GASPAR II Code (Sheet 2 of 2)

Parameter	Value	
Source term	DCD Table 11.3-5(2) (Sheet 1 to 3)	RCOL2_11.03-4
Other parameters	RG 1.109(1)	CTS-01105
SCR χ/Q and D/Q values for plant vent release		
No decay, undepleted	6.0×10^{-5} s/m^3	
2.26 day decay, undepleted	6.0×10^{-5} s/m^3	
8.00 day decay, depleted	5.6×10^{-5} s/m^3	
D/Q for maximum individual dose calculation	3.9×10^{-7} m^{-2}	

Note:

1. The dose conversion factors from GASPAR II are used instead of those found in RG 1.109 because they have been updated to reflect more current information. NUREG/CR-4653 provides further information on the dose factors used by GASPAR II.
2. Ba-137m is not included in the GASPAR library. Because of its short half-life, 2.552 minutes, Ba-137m has a negligible impact on the offsite doses.

CP COL 11.3(6)

Table 11.3-9R

Calculated Doses from Gaseous Effluents (Sheets 1 of 2)

Type of Dose	Dose (1)(2)
Gamma dose in air (mrad/yr)	~~5.77E-03~~8.42E-02
Beta dose in air (mrad/yr)	~~4.46E-02~~6.50E-01
Dose to total body (mrem/yr)	~~3.69E-03~~5.38E-02
Dose to skin (mrem/yr)	~~3.45E-02~~5.03E-01

RCOL2_11.03-4
CTS-01105

Note:

1. Dose due to noble gases ~~that include Ar-41~~, including Ar-41.
2. Calculated doses are due to the addition of a single new unit.

RCOL2_11.03-4

CP COL 11.3(6)

Table 11.3-9R

Calculated Doses from Gaseous Effluents (Sheets 2 of 2)

Doses from Vent Stack Only

CTS-01105

RCOL2_11.03-4

CTS-01105

Pathway	Dose to each organ [1][3] (mrem/yr)					
	GI-Tract	Bone	Liver	Kidney	Thyroid	Lung
Ground	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01	~~4.35E-02~~ 1.01E-01
Vegetable						
Adult	3.44E-02	2.50E-01	3.09E-02	2.48E-02	5.70E-02	2.27E-02
Teen	4.75E-02	3.62E-01	4.76E-02	3.83E-02	7.71E-02	3.53E-02
Child	8.77E-02	7.99E-01	1.01E-01	8.53E-02	1.59E-01	8.04E-02
Meat						
Adult	1.42E-02	3.70E-02	8.36E-03	7.68E-03	8.79E-03	7.42E-03
Teen	9.96E-03	3.09E-02	6.90E-03	6.35E-03	7.13E-03	6.16E-03
Child	1.33E-02	5.77E-02	1.23E-02	1.16E-02	1.28E-02	1.13E-02
Cow Milk						
Adult	9.72E-03	5.06E-02	1.65E-02	1.14E-02	5.40E-02	9.43E-03
Teen	1.66E-02	9.04E-02	2.91E-02	2.02E-02	8.75E-02	1.69E-02
Child	3.72E-02	2.17E-01	5.95E-02	4.42E-02	1.82E-01	3.87E-02
Infant	7.52E-02	3.96E-01	1.19E-01	8.71E-02	4.28E-01	7.89E-02
Goat Milk						
Adult	1.09E-02	6.92E-02	3.33E-02	1.78E-02	6.42E-02	1.23E-02
Teen	1.83E-02	1.21E-01	5.78E-02	3.07E-02	1.03E-01	2.19E-02
Child	3.97E-02	2.86E-01	1.07E-01	6.13E-02	2.13E-01	4.63E-02
Infant	7.90E-02	4.95E-01	2.09E-01	1.14E-01	5.03E-01	9.18E-02
Inhalation						
Adult	~~1.91E-03~~ 5.89E-03	~~4.80E-04~~ 1.53E-03	~~1.87E-03~~ 5.79E-03	~~1.85E-03~~ 5.70E-03	~~4.27E-03~~ 1.33E-02	~~2.98E-03~~ 9.33E-03
Teen	~~1.92E-03~~ 5.93E-03	~~5.67E-04~~ 1.81E-03	~~1.91E-03~~ 5.90E-03	~~1.88E-03~~ 5.81E-03	~~5.09E-03~~ 1.59E-02	~~3.59E-03~~ 1.13E-02
Child	~~1.65E-03~~ 5.09E-03	~~6.72E-04~~ 2.15E-03	~~1.70E-03~~ 5.25E-03	~~1.66E-03~~ 5.13E-03	~~5.74E-03~~ 1.79E-02	~~3.08E-03~~ 9.67E-03
Infant	~~9.38E-04~~ 2.90E-03	~~2.07E-04~~ 9.47E-04	~~9.92E-04~~ 3.07E-03	~~9.60E-04~~ 2.96E-03	~~4.74E-03~~ 1.48E-02	~~1.95E-03~~ 6.13E-03
Total[2]						
Adult	~~1.15E-01~~ 1.76E-01	~~4.51E-01~~ 5.10E-01	~~1.34E-01~~ 1.96E-01	~~1.07E-01~~ 1.69E-01	~~2.32E-01~~ 2.98E-01	~~9.83E-02~~ 1.62E-01
Teen	~~1.38E-01~~ 1.99E-01	~~6.48E-01~~ 7.07E-01	~~1.87E-01~~ 2.48E-01	~~1.41E-01~~ 2.03E-01	~~3.23E-01~~ 3.92E-01	~~1.27E-01~~ 1.93E-01
Child	~~2.23E-01~~ 2.84E-01	~~1.40E+00~~ 1.46E+00	~~3.25E-01~~ 3.86E-01	~~2.48E-01~~ 3.09E-01	~~6.16E-01~~ 6.86E-01	~~2.23E-01~~ 2.88E-01
Infant	~~1.99E-01~~ 2.58E-01	~~9.35E-01~~ 9.93E-01	~~3.72E-01~~ 4.32E-01	~~2.46E-01~~ 3.05E-01	~~9.79E-01~~ 1.05E+00	~~2.16E-01~~ 2.78E-01

CTS-01105

Note:
1. Dose due to iodine, particulate, H-3 and C-14
2. Conservatively, both Cow Milk and Goat Milk are considered.
3. Calculated doses are from the addition of a single new unit.

RCOL2_11.03-4

CP COL 11.3(6)

Table 11.3-205

Total Doses Due to Gaseous Effluent from Vent Stack and Evaporation Pond

RCOL2_11.03-4

Pathway	Dose to each organ (1)(3) (mrem/yr)					
	GI-Tract	Bone	Liver	Kidney	Thyroid	Lung
Ground	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01	~~6.55E-02~~ 1.24E-01
Vegetable						
Adult	3.21E-01	2.63E-01	1.47E-01	1.38E-01	1.67E-01	1.27E-01
Teen	3.86E-01	3.82E-01	1.86E-01	1.72E-01	2.03E-01	1.54E-01
Child	4.42E-01	8.46E-01	3.18E-01	2.95E-01	3.58E-01	2.65E-01
Meat						
Adult	1.90E+00	6.67E-02	2.46E-02	7.89E-02	2.38E-02	2.22E-02
Teen	1.19E+00	5.59E-02	1.69E-02	6.25E-02	1.61E-02	1.51E-02
Child	7.35E-01	1.05E-01	2.44E-02	8.47E-02	2.38E-02	2.21E-02
Cow Milk						
Adult	4.94E-02	5.83E-02	6.76E-02	5.32E-02	9.78E-02	4.55E-02
Teen	6.76E-02	1.04E-01	1.03E-01	7.75E-02	1.47E-01	6.49E-02
Child	1.12E-01	2.49E-01	1.77E-01	1.35E-01	2.82E-01	1.15E-01
Infant	1.88E-01	4.49E-01	3.19E-01	2.26E-01	6.06E-01	1.96E-01
Goat Milk						
Adult	8.48E-02	9.16E-02	1.52E-01	1.09E-01	1.46E-01	8.74E-02
Teen	1.14E-01	1.61E-01	2.34E-01	1.58E-01	2.12E-01	1.23E-01
Child	1.88E-01	3.79E-01	3.90E-01	2.63E-01	3.93E-01	2.05E-01
Infant	3.02E-01	6.51E-01	7.02E-01	4.23E-01	8.08E-01	3.39E-01
Inhalation						
Adult	~~6.04E-02~~ 6.66E-02	~~0.96E-04~~ 2.07E-03	~~5.87E-02~~ 6.48E-02	~~5.88E-02~~ 6.49E-02	~~6.11E-02~~ 7.23E-02	~~7.73E-02~~ 8.65E-02
Teen	~~6.10E-02~~ 6.73E-02	~~1.29E-03~~ 2.56E-03	~~5.94E-02~~ 6.56E-02	~~5.94E-02~~ 6.56E-02	~~6.25E-02~~ 7.55E-02	~~9.10E-02~~ 1.02E-01
Child	~~5.29E-02~~ 5.84 E-02	~~1.66E-03~~ 3.18E-03	~~5.25E-02~~ 5.80E-02	~~5.26E-02~~ 5.80E-02	~~5.65E-02~~ 7.07E-02	~~8.05E-02~~ 9.01E-02
Infant	~~3.02E-02~~ 3.33E-02	~~8.41E-04~~ 1.51E-03	~~3.03E-02~~ 3.35E-02	~~3.03E-02~~ 3.34E-02	~~3.41E-02~~ 4.54E-02	~~5.28E-02~~ 5.89E-02
Total(2)						
Adult	~~2.48E+00~~ 2.55E+00	~~5.47E-01~~ 6.06E-01	~~5.16E-01~~ 5.80E-01	~~5.04E-01~~ 5.68E-01	~~5.61E-01~~ 6.30E-01	~~4.25E-01~~ 4.92E-01
Teen	~~1.88E+00~~ 1.95E+00	~~7.70E-01~~ 8.29E-01	~~6.64E-01~~ 7.29E-01	~~5.95E-01~~ 6.59E-01	~~7.06E-01~~ 7.78E-01	~~5.14E-01~~ 5.83E-01
Child	~~1.60E+00~~ 1.66E+00	~~1.65E+00~~ 1.71E+00	~~1.03E+00~~ 1.09E+00	~~8.96E-01~~ 9.60E-01	~~1.18E+00~~ 1.25E-01	~~7.53E-01~~ 8.21E-01
Infant	~~5.86E-01~~ 6.47E-01	~~1.17E+00~~ 1.23E+00	~~1.12E+00~~ 1.18E+00	~~7.45E-01~~ 8.06E-01	~~1.51E+00~~ 1.58E+00	~~6.53E-01~~ 7.18E-01

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Note:

1. Dose due to iodine, particulate and H-3
2. Conservatively, both Cow Milk and Goat Milk are considered.
3. Calculated doses are from the addition of a single new unit.

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Table 11.3-206

Total Gaseous Doses to the Maximally Exposed Individual at Squaw Creek Reservoir

Pathway	Calculated Dose (mrem) per unit
Whole Body	7.22E-02
Thyroid	8.02E-02
TEDE	7.46E-02

Note: Calculated doses are from the addition of a single new unit.

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