

## **PMBelCOL PEmails**

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**From:** Spink, Thomas E [tespink@tva.gov]  
**Sent:** Tuesday, August 12, 2008 3:47 PM  
**To:** Mallecia Hood; Tomeka Terry; William Burton  
**Cc:** Neil Haggerty; Sterdis, Andrea Lynn  
**Subject:** Courtesy email copy of TVA's Response to Environmental Report - LTR 38 -  
RADIOLOGICAL/FUEL CYCLE/WASTE SYSTEMS  
**Attachments:** ER- LTR- 38 - Radiological\_Final.pdf

Mallecia:

I have enclosed a pdf copy of our response to twelve RAI's related to Radiological/Fuel Cycle/Waste System with this email as a courtesy. As always, the official submittal has been submitted to the Document Control Desk via paper copy using Federal Express services. The submittal includes the XOQDOQ and GASPAR II Input and Output Decks, July 2008, in Electronic format - CD-ROM. The paper copy and CD-ROM should arrive on August 13, 2008.

*Thomas E. Spink*

Licensing Project Manager  
Nuclear Generation Development  
1101 Market Street, LP 5A  
Chattanooga, TN 37402  
423-751-7062 Fax: (423)-751-6509

**Hearing Identifier:** Bellefonte\_COL\_Public\_EX  
**Email Number:** 974

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**Subject:** Courtesy email copy of TVA's Response to Environmental Report - LTR 38 -  
RADIOLOGICAL/FUEL CYCLE/WASTE SYSTEMS  
**Sent Date:** 8/12/2008 3:47:26 PM  
**Received Date:** 8/12/2008 3:49:20 PM  
**From:** Spink, Thomas E

**Created By:** tespink@tva.gov

**Recipients:**

"Neil Haggerty" <neilhaggerty@comcast.net>  
Tracking Status: None  
"Sterdis, Andrea Lynn" <alsterdis@tva.gov>  
Tracking Status: None  
"Mallecia Hood" <Mallecia.Hood@nrc.gov>  
Tracking Status: None  
"Tomeka Terry" <Tomeka.Terry@nrc.gov>  
Tracking Status: None  
"William Burton" <William.Burton@nrc.gov>  
Tracking Status: None

**Post Office:** TVACOCXVS2.main.tva.gov

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MESSAGE	656	8/12/2008 3:49:20 PM
ER- LTR- 38 - Radiological_Final.pdf		525023

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**



Tennessee Valley Authority, 1101 Market Street, LP 5A, Chattanooga, Tennessee 37402-2801

August 11, 2008

10 CFR 52.80

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

In the Matter of ) Docket Numbers 52-014 and 52-015  
Tennessee Valley Authority )

BELLEFONTE COMBINED LICENSE APPLICATION – RESPONSE TO ENVIRONMENTAL REPORT REQUEST FOR ADDITIONAL INFORMATION – RADIOLOGICAL/FUEL CYCLE/WASTE SYSTEMS

Reference: Letter from Mallecia Hood (NRC) to Ashok S. Bhatnaker (TVA), Request for Additional Information Regarding the Environmental Review of the Combined License Application for Bellefonte Nuclear Plant, Units 3 and 4, dated July 11, 2008 [ML081840493].

This letter provides the Tennessee Valley Authority’s (TVA) response to one of the Nuclear Regulatory Commission’s (NRC) request for additional information (RAI) items included in the reference letter.

The enclosure to this letter provides a response to an NRC RAI related to Radiological/ Fuel Cycle/Waste Systems, as well as identifying any associated changes that will be made in a future revision of the BLN application. The status of the three RAIs from this subject area is also provided in the enclosure.

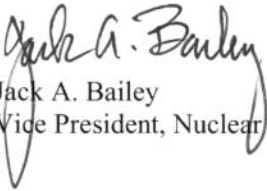
As discussed with the NRC’s environmental project manager responsible for the review of the BLN ER, the data provided on the attached CD-ROM (Attachment 5.4.1-1A) is of a nature that it is not easily converted to PDF output files. Furthermore, it is TVA’s understanding that converting the information to PDF output files would not serve the underlying purpose of submitting this data; i.e., providing the raw, unprocessed data to enable the reviewers to independently validate the applicant’s analyses.

If you should have any questions, please contact Thomas Spink at 1101 Market Street, LP5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7062, or via email at [tespink@tva.gov](mailto:tespink@tva.gov).

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

Executed on this 11<sup>th</sup> day of AUG, 2008.



Jack A. Bailey  
Vice President, Nuclear Generation Development

Enclosure and Attachments:

Enclosure:

Response to Environmental Report Request for Additional Information Related to  
Radiological/Fuel Cycle/Waste Systems

Attachment:

5.4.1-1A. Tennessee Valley Authority, XOQDOQ and GASPAR II Input and Output  
Decks, July 2008. (Electronic format - CD-ROM)

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cc (Enclosure and Attachment):

M. A. Hood, NRC/HQ

cc (w/o Enclosure and Attachment):

S.P. Frantz, Morgan Lewis

M.W. Gettler, FP&L

R.C. Grumbir, NuStart

P.S. Hastings, NuStart

P. Hinnenkamp, Entergy

R.H. Kitchen, PGN

M.C. Kray, NuStart

A.M. Monroe, SCE&G

C.R. Pierce, SNC

L. Reyes, NRC/RII

R.F. Smith-Kevern, DOE/HQ

G.A. Zinke, NuStart

ENCLOSURE  
RESPONSE TO ENVIRONMENTAL REPORT REQUEST FOR ADDITIONAL INFORMATION  
RADIOLOGICAL/FUEL CYCLE/WASTE SYSTEMS

**RESPONSE TO ENVIRONMENTAL REPORT  
REQUEST FOR ADDITIONAL  
INFORMATION**

**RADIOLOGICAL / FUEL CYCLE /  
WASTE SYSTEMS**

Responses to Environmental Report Requests for Additional Information – Radiological/  
Fuel Cycle/Waste Systems

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This enclosure provides the status of the three requests for additional information (RAI) related to Radiological/Fuel Cycle/Waste Systems and provides the BLN response to one of these requests.

Status of Requests for Additional Information Related to Radiological/Fuel Cycle/Waste Systems

<u>RAI Number</u>	<u>Date of TVA Response</u>
• 2.7.4.2-1	August 7, 2008. (Reference 1)
• 5.4.1-1	This letter – see following pages.
• 5.4.3-1	August 7, 2008. (Reference 1)

Reference:

1. Letter from Jack A. Bailey (TVA) to NRC Document Control Desk, “Bellefonte Combined License Application – Response to Environmental Report Request for Additional Information – Radiological/Fuel Cycle/Waste Systems and Environmental Impacts of Accidents,” dated August 6, 2008.

TVA Letter Dated: August 11, 2008

Responses to Environmental Report Requests for Additional Information – Radiological/  
Fuel Cycle/Waste Systems

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### **NRC Review of the BLN Environmental Report**

**NRC Environmental Category: RADIOLOGICAL/FUEL CYCLE/WASTE SYSTEMS**

**NRC RAI NUMBER: 5.4.1-1**

- (a) Provide reanalysis of the maximum individual exposure based on the revised  $\chi/Q$  values.
- (b) Provide the input and output decks for the XOQDOQ code.
- (c) Specify whether XOQDOQ used ground-level or elevated release assumptions, and whether building wake effects were turned on.
- (d) Provide well-documented data of the locations of every kind of data in Section 5.4.1 (Exposure Pathways) under “Data and Information Needs” that are used in GASPARG, to enable the reviewer to verify that the maximally-exposed vegetable garden, milk cow/goat, house, animal for meat, and school is identified by compass sector and distance. Revise Table 5.4-6 to list all necessary GASPARG input data and reference the sources or specify the assumptions behind those data.
- (e) Update all affected tables in which these data are found or from which these data derive.
- (f) Provide a copy of the input and output data decks for the PAVAN and GASPARG codes.

### **BLN RESPONSE:**

- (a) As noted in the BLN response to NRC sufficiency review comments ER22 and ER23 provided in the TVA letter dated May 2, 2008 (Reference 1), Bellefonte normal atmospheric dispersion ( $\chi/Q$ ) values required revision. The reanalysis of individual and population exposure based on the new normal  $\chi/Q$  values is made available for NRC review at NuStart’s contractors’ offices.
- (b) Copies of the revised XOQDOQ code input and output decks that were used to determine the new normal  $\chi/Q$  and D/Q values are provided in Attachment 5.4.1-1A.
- (c) A mixed-mode release was assumed in the normal atmospheric dispersion ( $\chi/Q$ ) calculation for BLN. Per Regulatory Guide 1.111 (Reference 2), for cases where a mixed-mode release is assumed, the plume is considered as an elevated release during a part of the time and as a ground-level release during the remainder of the time. The resultant atmospheric dispersion concentration value is based on the percentage of time each type of release would occur. Consistent with the guidance of Regulatory Guide 1.111, the use of ground level or elevated release is determined by XOQDOQ based on the ratio of the plume exit velocity to the wind speed.  
  
Building wake effects were considered in the XOQDOQ analysis of Bellefonte normal  $\chi/Q$  and D/Q values. As indicated in NUREG/CR-2919 (Reference 3), the building height and building area are used to compute the additional dispersion due to the building wake during time periods in which the plume is considered as a ground level release.
- (d) ER Section 5.4 tables have been revised to reflect the reanalysis of individual and population exposure to normal gaseous effluents as well as NUREG-1555, Section 5.4.1 Data and Information Needs (Reference 4). Bellefonte ER Table 5.4-6 has been revised as requested to provide GASPARG input data and references.
- (e) ER Section 2.7.4.1 text and tables and ER Section 5.4 tables are revised as shown below.
- (f) The PAVAN computer code was not used in the analysis of Bellefonte normal effluent releases. In addition to the XOQDOQ input and output decks noted in item (b) above, copies of the latest



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Responses to Environmental Report Requests for Additional Information – Radiological/  
Fuel Cycle/Waste Systems

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GASPAR code input and output decks used in analysis of individual and population exposure associated with normal gaseous reactor effluents are provided in Attachment 5.4.1-1A.

This response is PLANT-SPECIFIC.

References:

1. Letter from Andrea L. Sterdis (TVA) to NRC Document Control Desk, "Bellefonte Nuclear Plant (BLN) – Response to Environmental Report Sufficiency Review Comments," May 2, 2008 [ML081270657].
2. Regulatory Guide 1.111, Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors, Revision 1, July 1977.
3. NUREG/CR-2919 (PNL-4380), "XOQDOQ: Computer Program for the Meteorological Evaluation of Routine Effluent Releases at Nuclear Power Stations," September 1982.
4. NUREG-1555, U.S. Nuclear Regulatory Commission Environmental Standard Review Plan, Standard Review Plans For Environmental Reviews For Nuclear Power Plants, Section 2.7, Meteorology and Air Quality, October 1999.

**ASSOCIATED BLN COL APPLICATION TEXT CHANGES:**

1. Change COLA Part 3, ER Chapter 2, Subsection 2.7.4.1, fourth paragraph, beginning with the sixth sentence, as follows:

~~In general, in order for an elevated release to be assumed, either the release height must be at least twice the height of adjacent buildings, or detailed information must be known about the wind speed at the height of the release.~~ For this analysis, the routing releases were ~~conservatively modeled as ground level releases.~~ modeled as mixed-mode releases, that is, the plume is considered as a ground level release part of the time and as an elevated release the remainder of the time.

TVA Letter Dated: August 11, 2008

## Responses to Environmental Report Requests for Additional Information – Radiological/Fuel Cycle/Waste Systems

2. Change COLA Part 3, ER Chapter 2, Section 2.7, by **replacing** Table 2.7-120, “Annual Average  $\gamma/Q$  (sec/m<sup>3</sup>) for No Decay, Undepleted, for Each 22.5° Sector at the Distances (miles) Shown at the Top,” as follows:

TABLE 2.7-120 (Sheet 1 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR NO DECAY, UNDEPLETED  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>0.25</u>	<u>0.5</u>	<u>0.75</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>	<u>3.5</u>	<u>4</u>	<u>4.5</u>
<u>S</u>	<u>3.54E-06</u>	<u>1.39E-06</u>	<u>1.12E-06</u>	<u>8.46E-07</u>	<u>6.88E-07</u>	<u>2.06E-06</u>	<u>1.29E-06</u>	<u>8.88E-07</u>	<u>6.56E-07</u>	<u>5.09E-07</u>	<u>4.09E-07</u>
<u>SSW</u>	<u>4.82E-06</u>	<u>1.81E-06</u>	<u>1.51E-06</u>	<u>1.22E-06</u>	<u>9.04E-07</u>	<u>6.85E-07</u>	<u>5.35E-07</u>	<u>4.30E-07</u>	<u>3.56E-07</u>	<u>8.33E-07</u>	<u>7.33E-07</u>
<u>SW</u>	<u>4.86E-06</u>	<u>1.76E-06</u>	<u>1.45E-06</u>	<u>1.17E-06</u>	<u>8.63E-07</u>	<u>6.56E-07</u>	<u>5.14E-07</u>	<u>4.16E-07</u>	<u>3.45E-07</u>	<u>2.93E-07</u>	<u>2.53E-07</u>
<u>WSW</u>	<u>1.06E-06</u>	<u>3.93E-07</u>	<u>3.38E-07</u>	<u>2.91E-07</u>	<u>2.40E-07</u>	<u>1.95E-07</u>	<u>1.60E-07</u>	<u>1.33E-07</u>	<u>1.14E-07</u>	<u>9.87E-08</u>	<u>8.69E-08</u>
<u>W</u>	<u>3.26E-07</u>	<u>1.22E-07</u>	<u>1.05E-07</u>	<u>8.70E-08</u>	<u>7.18E-08</u>	<u>6.21E-08</u>	<u>5.46E-08</u>	<u>4.86E-08</u>	<u>4.37E-08</u>	<u>3.96E-08</u>	<u>3.62E-08</u>
<u>WNW</u>	<u>4.26E-07</u>	<u>1.64E-07</u>	<u>1.42E-07</u>	<u>1.15E-07</u>	<u>8.66E-08</u>	<u>6.80E-08</u>	<u>5.54E-08</u>	<u>4.65E-08</u>	<u>4.00E-08</u>	<u>2.86E-07</u>	<u>2.32E-07</u>
<u>NW</u>	<u>1.07E-06</u>	<u>3.94E-07</u>	<u>2.95E-07</u>	<u>2.05E-07</u>	<u>1.28E-07</u>	<u>9.21E-08</u>	<u>7.16E-08</u>	<u>5.85E-08</u>	<u>2.05E-07</u>	<u>3.58E-07</u>	<u>2.90E-07</u>
<u>NNW</u>	<u>1.31E-06</u>	<u>5.21E-07</u>	<u>4.16E-07</u>	<u>3.03E-07</u>	<u>2.00E-07</u>	<u>1.48E-07</u>	<u>1.17E-07</u>	<u>9.63E-08</u>	<u>3.05E-07</u>	<u>4.77E-07</u>	<u>3.86E-07</u>
<u>N</u>	<u>2.33E-06</u>	<u>9.03E-07</u>	<u>6.88E-07</u>	<u>4.89E-07</u>	<u>3.21E-07</u>	<u>2.40E-07</u>	<u>1.91E-07</u>	<u>1.59E-07</u>	<u>1.36E-07</u>	<u>1.19E-07</u>	<u>1.05E-07</u>
<u>NNE</u>	<u>5.80E-06</u>	<u>2.06E-06</u>	<u>1.45E-06</u>	<u>1.00E-06</u>	<u>6.50E-07</u>	<u>4.83E-07</u>	<u>3.83E-07</u>	<u>3.15E-07</u>	<u>2.68E-07</u>	<u>2.32E-07</u>	<u>2.05E-07</u>
<u>NE</u>	<u>4.12E-06</u>	<u>1.49E-06</u>	<u>1.08E-06</u>	<u>7.70E-07</u>	<u>5.19E-07</u>	<u>3.89E-07</u>	<u>3.07E-07</u>	<u>1.10E-06</u>	<u>1.23E-06</u>	<u>9.60E-07</u>	<u>7.75E-07</u>
<u>ENE</u>	<u>2.31E-06</u>	<u>8.81E-07</u>	<u>6.52E-07</u>	<u>4.59E-07</u>	<u>2.93E-07</u>	<u>1.50E-06</u>	<u>9.41E-07</u>	<u>6.53E-07</u>	<u>4.84E-07</u>	<u>3.77E-07</u>	<u>3.04E-07</u>
<u>E</u>	<u>1.50E-06</u>	<u>6.26E-07</u>	<u>4.85E-07</u>	<u>3.54E-07</u>	<u>6.15E-07</u>	<u>9.94E-07</u>	<u>6.20E-07</u>	<u>4.28E-07</u>	<u>3.17E-07</u>	<u>2.46E-07</u>	<u>1.98E-07</u>
<u>ESE</u>	<u>1.21E-06</u>	<u>5.16E-07</u>	<u>3.94E-07</u>	<u>2.74E-07</u>	<u>1.17E-06</u>	<u>6.98E-07</u>	<u>4.36E-07</u>	<u>3.02E-07</u>	<u>2.24E-07</u>	<u>1.74E-07</u>	<u>1.40E-07</u>
<u>SE</u>	<u>1.38E-06</u>	<u>5.36E-07</u>	<u>4.26E-07</u>	<u>3.16E-07</u>	<u>1.31E-06</u>	<u>7.70E-07</u>	<u>4.79E-07</u>	<u>3.31E-07</u>	<u>2.44E-07</u>	<u>1.89E-07</u>	<u>1.52E-07</u>
<u>SSE</u>	<u>2.25E-06</u>	<u>8.75E-07</u>	<u>6.72E-07</u>	<u>4.80E-07</u>	<u>2.11E-06</u>	<u>1.28E-06</u>	<u>8.02E-07</u>	<u>5.55E-07</u>	<u>4.11E-07</u>	<u>3.20E-07</u>	<u>2.58E-07</u>

TABLE 2.7-120 (Sheet 2 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR NO DECAY, UNDEPLETED  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>5</u>	<u>7.5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>
<u>S</u>	<u>3.38E-07</u>	<u>1.73E-07</u>	<u>1.12E-07</u>	<u>6.46E-08</u>	<u>4.39E-08</u>	<u>3.26E-08</u>	<u>2.56E-08</u>	<u>2.09E-08</u>	<u>1.76E-08</u>	<u>1.51E-08</u>	<u>1.31E-08</u>
<u>SSW</u>	<u>6.06E-07</u>	<u>3.10E-07</u>	<u>2.01E-07</u>	<u>1.15E-07</u>	<u>7.82E-08</u>	<u>5.80E-08</u>	<u>4.55E-08</u>	<u>3.71E-08</u>	<u>3.11E-08</u>	<u>2.66E-08</u>	<u>2.32E-08</u>
<u>SW</u>	<u>2.63E-07</u>	<u>3.86E-07</u>	<u>2.52E-07</u>	<u>1.46E-07</u>	<u>9.97E-08</u>	<u>7.44E-08</u>	<u>5.87E-08</u>	<u>4.80E-08</u>	<u>4.04E-08</u>	<u>3.48E-08</u>	<u>3.04E-08</u>
<u>WSW</u>	<u>7.75E-08</u>	<u>2.22E-07</u>	<u>1.46E-07</u>	<u>8.61E-08</u>	<u>5.94E-08</u>	<u>4.47E-08</u>	<u>3.55E-08</u>	<u>2.92E-08</u>	<u>2.47E-08</u>	<u>2.13E-08</u>	<u>1.87E-08</u>
<u>W</u>	<u>3.33E-08</u>	<u>1.35E-07</u>	<u>8.92E-08</u>	<u>5.27E-08</u>	<u>3.65E-08</u>	<u>2.75E-08</u>	<u>2.18E-08</u>	<u>1.80E-08</u>	<u>1.52E-08</u>	<u>1.32E-08</u>	<u>1.16E-08</u>
<u>WNW</u>	<u>1.93E-07</u>	<u>1.01E-07</u>	<u>6.68E-08</u>	<u>3.94E-08</u>	<u>2.72E-08</u>	<u>2.05E-08</u>	<u>1.63E-08</u>	<u>1.34E-08</u>	<u>1.14E-08</u>	<u>9.83E-09</u>	<u>8.63E-09</u>
<u>NW</u>	<u>2.41E-07</u>	<u>1.27E-07</u>	<u>8.37E-08</u>	<u>4.95E-08</u>	<u>3.42E-08</u>	<u>2.58E-08</u>	<u>2.05E-08</u>	<u>1.69E-08</u>	<u>1.43E-08</u>	<u>1.24E-08</u>	<u>1.09E-08</u>
<u>NNW</u>	<u>3.20E-07</u>	<u>1.68E-07</u>	<u>1.10E-07</u>	<u>6.48E-08</u>	<u>4.47E-08</u>	<u>3.36E-08</u>	<u>2.67E-08</u>	<u>2.19E-08</u>	<u>1.86E-08</u>	<u>1.60E-08</u>	<u>1.40E-08</u>
<u>N</u>	<u>9.42E-08</u>	<u>6.38E-08</u>	<u>1.73E-07</u>	<u>1.01E-07</u>	<u>6.98E-08</u>	<u>5.24E-08</u>	<u>4.16E-08</u>	<u>3.42E-08</u>	<u>2.89E-08</u>	<u>2.49E-08</u>	<u>2.18E-08</u>
<u>NNE</u>	<u>1.83E-07</u>	<u>1.23E-07</u>	<u>3.75E-07</u>	<u>2.21E-07</u>	<u>1.53E-07</u>	<u>1.15E-07</u>	<u>9.13E-08</u>	<u>7.52E-08</u>	<u>6.37E-08</u>	<u>5.50E-08</u>	<u>4.82E-08</u>
<u>NE</u>	<u>6.44E-07</u>	<u>3.36E-07</u>	<u>2.21E-07</u>	<u>1.29E-07</u>	<u>8.89E-08</u>	<u>6.67E-08</u>	<u>5.29E-08</u>	<u>4.35E-08</u>	<u>3.67E-08</u>	<u>3.16E-08</u>	<u>2.77E-08</u>
<u>ENE</u>	<u>2.52E-07</u>	<u>1.31E-07</u>	<u>8.57E-08</u>	<u>5.01E-08</u>	<u>3.44E-08</u>	<u>2.57E-08</u>	<u>2.04E-08</u>	<u>1.67E-08</u>	<u>1.41E-08</u>	<u>1.22E-08</u>	<u>1.06E-08</u>
<u>E</u>	<u>1.64E-07</u>	<u>8.42E-08</u>	<u>5.48E-08</u>	<u>3.17E-08</u>	<u>2.16E-08</u>	<u>1.61E-08</u>	<u>1.27E-08</u>	<u>1.04E-08</u>	<u>8.72E-09</u>	<u>7.49E-09</u>	<u>6.54E-09</u>
<u>ESE</u>	<u>1.16E-07</u>	<u>5.99E-08</u>	<u>3.91E-08</u>	<u>2.28E-08</u>	<u>1.56E-08</u>	<u>1.17E-08</u>	<u>9.22E-09</u>	<u>7.57E-09</u>	<u>6.38E-09</u>	<u>5.50E-09</u>	<u>4.81E-09</u>
<u>SE</u>	<u>1.25E-07</u>	<u>6.40E-08</u>	<u>4.14E-08</u>	<u>2.38E-08</u>	<u>1.61E-08</u>	<u>1.20E-08</u>	<u>9.38E-09</u>	<u>7.65E-09</u>	<u>6.42E-09</u>	<u>5.50E-09</u>	<u>4.80E-09</u>
<u>SSE</u>	<u>2.13E-07</u>	<u>1.10E-07</u>	<u>7.20E-08</u>	<u>4.19E-08</u>	<u>2.87E-08</u>	<u>2.14E-08</u>	<u>1.69E-08</u>	<u>1.39E-08</u>	<u>1.17E-08</u>	<u>1.01E-08</u>	<u>8.83E-09</u>

TABLE 2.7-120 (Sheet 3 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR NO DECAY, UNDEPLETED  
FOR EACH 22.5° SECTOR AT THE SEGMENTS (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>0.5 - 1</u>	<u>1 - 2</u>	<u>2 - 3</u>	<u>3 - 4</u>	<u>4 - 5</u>	<u>5 - 10</u>	<u>10 - 20</u>	<u>20 - 30</u>	<u>30 - 40</u>	<u>40 - 50</u>
<u>S</u>	<u>1.06E-06</u>	<u>1.33E-06</u>	<u>1.33E-06</u>	<u>6.66E-07</u>	<u>4.12E-07</u>	<u>1.83E-07</u>	<u>6.59E-08</u>	<u>3.28E-08</u>	<u>2.10E-08</u>	<u>1.51E-08</u>
<u>SSW</u>	<u>1.45E-06</u>	<u>8.77E-07</u>	<u>5.33E-07</u>	<u>5.59E-07</u>	<u>7.15E-07</u>	<u>3.27E-07</u>	<u>1.18E-07</u>	<u>5.84E-08</u>	<u>3.72E-08</u>	<u>2.67E-08</u>
<u>SW</u>	<u>1.40E-06</u>	<u>8.39E-07</u>	<u>5.12E-07</u>	<u>3.46E-07</u>	<u>2.69E-07</u>	<u>2.99E-07</u>	<u>1.49E-07</u>	<u>7.49E-08</u>	<u>4.82E-08</u>	<u>3.48E-08</u>
<u>WSW</u>	<u>3.29E-07</u>	<u>2.31E-07</u>	<u>1.58E-07</u>	<u>1.14E-07</u>	<u>8.69E-08</u>	<u>1.56E-07</u>	<u>8.76E-08</u>	<u>4.49E-08</u>	<u>2.93E-08</u>	<u>2.13E-08</u>
<u>W</u>	<u>1.01E-07</u>	<u>7.08E-08</u>	<u>5.42E-08</u>	<u>4.35E-08</u>	<u>3.61E-08</u>	<u>9.21E-08</u>	<u>5.36E-08</u>	<u>2.76E-08</u>	<u>1.80E-08</u>	<u>1.32E-08</u>
<u>WNW</u>	<u>1.35E-07</u>	<u>8.47E-08</u>	<u>5.52E-08</u>	<u>1.36E-07</u>	<u>2.33E-07</u>	<u>1.06E-07</u>	<u>4.01E-08</u>	<u>2.06E-08</u>	<u>1.35E-08</u>	<u>9.84E-09</u>
<u>NW</u>	<u>2.77E-07</u>	<u>1.29E-07</u>	<u>7.18E-08</u>	<u>2.21E-07</u>	<u>2.92E-07</u>	<u>1.33E-07</u>	<u>5.03E-08</u>	<u>2.60E-08</u>	<u>1.70E-08</u>	<u>1.24E-08</u>
<u>NNW</u>	<u>3.89E-07</u>	<u>2.00E-07</u>	<u>1.17E-07</u>	<u>3.11E-07</u>	<u>3.89E-07</u>	<u>1.76E-07</u>	<u>6.60E-08</u>	<u>3.38E-08</u>	<u>2.20E-08</u>	<u>1.60E-08</u>
<u>N</u>	<u>6.47E-07</u>	<u>3.22E-07</u>	<u>1.91E-07</u>	<u>1.36E-07</u>	<u>1.05E-07</u>	<u>1.19E-07</u>	<u>1.03E-07</u>	<u>5.27E-08</u>	<u>3.43E-08</u>	<u>2.49E-08</u>
<u>NNE</u>	<u>1.39E-06</u>	<u>6.54E-07</u>	<u>3.83E-07</u>	<u>2.68E-07</u>	<u>2.05E-07</u>	<u>2.48E-07</u>	<u>2.25E-07</u>	<u>1.16E-07</u>	<u>7.54E-08</u>	<u>5.50E-08</u>
<u>NE</u>	<u>1.03E-06</u>	<u>5.17E-07</u>	<u>6.46E-07</u>	<u>1.09E-06</u>	<u>7.81E-07</u>	<u>3.53E-07</u>	<u>1.32E-07</u>	<u>6.71E-08</u>	<u>4.36E-08</u>	<u>3.17E-08</u>
<u>ENE</u>	<u>6.17E-07</u>	<u>8.66E-07</u>	<u>9.75E-07</u>	<u>4.92E-07</u>	<u>3.07E-07</u>	<u>1.38E-07</u>	<u>5.10E-08</u>	<u>2.59E-08</u>	<u>1.68E-08</u>	<u>1.22E-08</u>
<u>E</u>	<u>4.58E-07</u>	<u>7.25E-07</u>	<u>6.43E-07</u>	<u>3.22E-07</u>	<u>1.99E-07</u>	<u>8.88E-08</u>	<u>3.23E-08</u>	<u>1.62E-08</u>	<u>1.04E-08</u>	<u>7.51E-09</u>
<u>ESE</u>	<u>3.68E-07</u>	<u>7.60E-07</u>	<u>4.52E-07</u>	<u>2.27E-07</u>	<u>1.41E-07</u>	<u>6.31E-08</u>	<u>2.32E-08</u>	<u>1.17E-08</u>	<u>7.59E-09</u>	<u>5.50E-09</u>
<u>SE</u>	<u>4.02E-07</u>	<u>8.50E-07</u>	<u>4.97E-07</u>	<u>2.48E-07</u>	<u>1.53E-07</u>	<u>6.76E-08</u>	<u>2.43E-08</u>	<u>1.20E-08</u>	<u>7.68E-09</u>	<u>5.51E-09</u>
<u>SSE</u>	<u>6.32E-07</u>	<u>1.38E-06</u>	<u>8.31E-07</u>	<u>4.18E-07</u>	<u>2.60E-07</u>	<u>1.16E-07</u>	<u>4.27E-08</u>	<u>2.16E-08</u>	<u>1.39E-08</u>	<u>1.01E-08</u>

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3. Change COLA Part 3, ER Chapter 2, Section 2.7, by **replacing** Table 2.7-121, “Annual Average  $\gamma/Q$  (sec/m<sup>3</sup>) for No Decay, Depleted, for Each 22.5° Sector at the Distances (miles) Shown at the Top,” as follows:

TABLE 2.7-121 (Sheet 1 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR NO DECAY, DEPLETED  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

SECTOR	0.25	0.5	0.75	1	1.5	2	2.5	3	3.5	4	4.5
S	<a href="#">3.30E-06</a>	<a href="#">1.28E-06</a>	<a href="#">1.04E-06</a>	<a href="#">8.00E-07</a>	<a href="#">6.61E-07</a>	<a href="#">2.01E-06</a>	<a href="#">1.23E-06</a>	<a href="#">8.38E-07</a>	<a href="#">6.10E-07</a>	<a href="#">4.66E-07</a>	<a href="#">3.70E-07</a>
SSW	<a href="#">4.49E-06</a>	<a href="#">1.66E-06</a>	<a href="#">1.41E-06</a>	<a href="#">1.16E-06</a>	<a href="#">8.69E-07</a>	<a href="#">6.60E-07</a>	<a href="#">5.16E-07</a>	<a href="#">4.15E-07</a>	<a href="#">3.43E-07</a>	<a href="#">8.19E-07</a>	<a href="#">7.13E-07</a>
SW	<a href="#">4.53E-06</a>	<a href="#">1.62E-06</a>	<a href="#">1.36E-06</a>	<a href="#">1.11E-06</a>	<a href="#">8.30E-07</a>	<a href="#">6.32E-07</a>	<a href="#">4.96E-07</a>	<a href="#">4.01E-07</a>	<a href="#">3.33E-07</a>	<a href="#">2.82E-07</a>	<a href="#">2.44E-07</a>
WSW	<a href="#">9.82E-07</a>	<a href="#">3.62E-07</a>	<a href="#">3.17E-07</a>	<a href="#">2.78E-07</a>	<a href="#">2.32E-07</a>	<a href="#">1.89E-07</a>	<a href="#">1.55E-07</a>	<a href="#">1.30E-07</a>	<a href="#">1.11E-07</a>	<a href="#">9.60E-08</a>	<a href="#">8.45E-08</a>
W	<a href="#">3.04E-07</a>	<a href="#">1.13E-07</a>	<a href="#">9.78E-08</a>	<a href="#">8.29E-08</a>	<a href="#">6.94E-08</a>	<a href="#">6.03E-08</a>	<a href="#">5.32E-08</a>	<a href="#">4.74E-08</a>	<a href="#">4.27E-08</a>	<a href="#">3.87E-08</a>	<a href="#">3.54E-08</a>
WNW	<a href="#">3.97E-07</a>	<a href="#">1.52E-07</a>	<a href="#">1.33E-07</a>	<a href="#">1.10E-07</a>	<a href="#">8.34E-08</a>	<a href="#">6.57E-08</a>	<a href="#">5.36E-08</a>	<a href="#">4.50E-08</a>	<a href="#">3.87E-08</a>	<a href="#">2.83E-07</a>	<a href="#">2.26E-07</a>
NW	<a href="#">9.96E-07</a>	<a href="#">3.62E-07</a>	<a href="#">2.73E-07</a>	<a href="#">1.92E-07</a>	<a href="#">1.21E-07</a>	<a href="#">8.71E-08</a>	<a href="#">6.78E-08</a>	<a href="#">5.54E-08</a>	<a href="#">2.02E-07</a>	<a href="#">3.53E-07</a>	<a href="#">2.82E-07</a>
NNW	<a href="#">1.22E-06</a>	<a href="#">4.81E-07</a>	<a href="#">3.88E-07</a>	<a href="#">2.86E-07</a>	<a href="#">1.90E-07</a>	<a href="#">1.41E-07</a>	<a href="#">1.12E-07</a>	<a href="#">9.23E-08</a>	<a href="#">3.01E-07</a>	<a href="#">4.70E-07</a>	<a href="#">3.75E-07</a>
N	<a href="#">2.17E-06</a>	<a href="#">8.34E-07</a>	<a href="#">6.40E-07</a>	<a href="#">4.59E-07</a>	<a href="#">3.04E-07</a>	<a href="#">2.29E-07</a>	<a href="#">1.83E-07</a>	<a href="#">1.52E-07</a>	<a href="#">1.30E-07</a>	<a href="#">1.14E-07</a>	<a href="#">1.01E-07</a>
NNE	<a href="#">5.40E-06</a>	<a href="#">1.89E-06</a>	<a href="#">1.34E-06</a>	<a href="#">9.32E-07</a>	<a href="#">6.14E-07</a>	<a href="#">4.59E-07</a>	<a href="#">3.65E-07</a>	<a href="#">3.02E-07</a>	<a href="#">2.56E-07</a>	<a href="#">2.23E-07</a>	<a href="#">1.96E-07</a>
NE	<a href="#">3.84E-06</a>	<a href="#">1.37E-06</a>	<a href="#">9.96E-07</a>	<a href="#">7.20E-07</a>	<a href="#">4.92E-07</a>	<a href="#">3.71E-07</a>	<a href="#">2.93E-07</a>	<a href="#">1.09E-06</a>	<a href="#">1.21E-06</a>	<a href="#">9.30E-07</a>	<a href="#">7.42E-07</a>
ENE	<a href="#">2.15E-06</a>	<a href="#">8.13E-07</a>	<a href="#">6.05E-07</a>	<a href="#">4.31E-07</a>	<a href="#">2.78E-07</a>	<a href="#">1.48E-06</a>	<a href="#">9.09E-07</a>	<a href="#">6.20E-07</a>	<a href="#">4.54E-07</a>	<a href="#">3.48E-07</a>	<a href="#">2.78E-07</a>
E	<a href="#">1.40E-06</a>	<a href="#">5.82E-07</a>	<a href="#">4.54E-07</a>	<a href="#">3.35E-07</a>	<a href="#">6.03E-07</a>	<a href="#">9.69E-07</a>	<a href="#">5.93E-07</a>	<a href="#">4.03E-07</a>	<a href="#">2.94E-07</a>	<a href="#">2.25E-07</a>	<a href="#">1.79E-07</a>
ESE	<a href="#">1.13E-06</a>	<a href="#">4.81E-07</a>	<a href="#">3.69E-07</a>	<a href="#">2.59E-07</a>	<a href="#">1.16E-06</a>	<a href="#">6.77E-07</a>	<a href="#">4.15E-07</a>	<a href="#">2.83E-07</a>	<a href="#">2.06E-07</a>	<a href="#">1.58E-07</a>	<a href="#">1.26E-07</a>
SE	<a href="#">1.29E-06</a>	<a href="#">4.94E-07</a>	<a href="#">3.97E-07</a>	<a href="#">2.98E-07</a>	<a href="#">1.30E-06</a>	<a href="#">7.46E-07</a>	<a href="#">4.56E-07</a>	<a href="#">3.09E-07</a>	<a href="#">2.25E-07</a>	<a href="#">1.72E-07</a>	<a href="#">1.36E-07</a>
SSE	<a href="#">2.10E-06</a>	<a href="#">8.08E-07</a>	<a href="#">6.26E-07</a>	<a href="#">4.52E-07</a>	<a href="#">2.09E-06</a>	<a href="#">1.24E-06</a>	<a href="#">7.63E-07</a>	<a href="#">5.20E-07</a>	<a href="#">3.79E-07</a>	<a href="#">2.91E-07</a>	<a href="#">2.31E-07</a>

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TABLE 2.7-121 (Sheet 2 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR NO DECAY, DEPLETED  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>5</u>	<u>7.5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>
<u>S</u>	<u>3.02E-07</u>	<u>1.48E-07</u>	<u>9.22E-08</u>	<u>4.99E-08</u>	<u>3.22E-08</u>	<u>2.30E-08</u>	<u>1.74E-08</u>	<u>1.37E-08</u>	<u>1.12E-08</u>	<u>9.33E-09</u>	<u>7.92E-09</u>
<u>SSW</u>	<u>5.83E-07</u>	<u>2.86E-07</u>	<u>1.79E-07</u>	<u>9.69E-08</u>	<u>6.28E-08</u>	<u>4.48E-08</u>	<u>3.40E-08</u>	<u>2.69E-08</u>	<u>2.19E-08</u>	<u>1.83E-08</u>	<u>1.56E-08</u>
<u>SW</u>	<u>2.54E-07</u>	<u>3.67E-07</u>	<u>2.31E-07</u>	<u>1.27E-07</u>	<u>8.30E-08</u>	<u>5.97E-08</u>	<u>4.56E-08</u>	<u>3.63E-08</u>	<u>2.97E-08</u>	<u>2.49E-08</u>	<u>2.13E-08</u>
<u>WSW</u>	<u>7.53E-08</u>	<u>2.15E-07</u>	<u>1.37E-07</u>	<u>7.63E-08</u>	<u>5.05E-08</u>	<u>3.66E-08</u>	<u>2.81E-08</u>	<u>2.25E-08</u>	<u>1.85E-08</u>	<u>1.56E-08</u>	<u>1.34E-08</u>
<u>W</u>	<u>3.26E-08</u>	<u>1.31E-07</u>	<u>8.38E-08</u>	<u>4.69E-08</u>	<u>3.11E-08</u>	<u>2.26E-08</u>	<u>1.74E-08</u>	<u>1.39E-08</u>	<u>1.15E-08</u>	<u>9.68E-09</u>	<u>8.31E-09</u>
<u>WNW</u>	<u>1.86E-07</u>	<u>9.36E-08</u>	<u>5.96E-08</u>	<u>3.32E-08</u>	<u>2.20E-08</u>	<u>1.59E-08</u>	<u>1.22E-08</u>	<u>9.77E-09</u>	<u>8.05E-09</u>	<u>6.78E-09</u>	<u>5.81E-09</u>
<u>NW</u>	<u>2.32E-07</u>	<u>1.17E-07</u>	<u>7.45E-08</u>	<u>4.16E-08</u>	<u>2.75E-08</u>	<u>1.99E-08</u>	<u>1.53E-08</u>	<u>1.23E-08</u>	<u>1.01E-08</u>	<u>8.51E-09</u>	<u>7.30E-09</u>
<u>NNW</u>	<u>3.08E-07</u>	<u>1.55E-07</u>	<u>9.81E-08</u>	<u>5.44E-08</u>	<u>3.59E-08</u>	<u>2.60E-08</u>	<u>1.99E-08</u>	<u>1.59E-08</u>	<u>1.31E-08</u>	<u>1.10E-08</u>	<u>9.40E-09</u>
<u>N</u>	<u>9.06E-08</u>	<u>6.15E-08</u>	<u>1.66E-07</u>	<u>9.25E-08</u>	<u>6.11E-08</u>	<u>4.43E-08</u>	<u>3.41E-08</u>	<u>2.72E-08</u>	<u>2.24E-08</u>	<u>1.89E-08</u>	<u>1.62E-08</u>
<u>NNE</u>	<u>1.76E-07</u>	<u>1.18E-07</u>	<u>3.62E-07</u>	<u>2.02E-07</u>	<u>1.34E-07</u>	<u>9.74E-08</u>	<u>7.50E-08</u>	<u>6.01E-08</u>	<u>4.96E-08</u>	<u>4.18E-08</u>	<u>3.59E-08</u>
<u>NE</u>	<u>6.09E-07</u>	<u>3.04E-07</u>	<u>1.93E-07</u>	<u>1.07E-07</u>	<u>6.99E-08</u>	<u>5.05E-08</u>	<u>3.86E-08</u>	<u>3.08E-08</u>	<u>2.53E-08</u>	<u>2.12E-08</u>	<u>1.81E-08</u>
<u>ENE</u>	<u>2.28E-07</u>	<u>1.13E-07</u>	<u>7.11E-08</u>	<u>3.90E-08</u>	<u>2.55E-08</u>	<u>1.83E-08</u>	<u>1.40E-08</u>	<u>1.11E-08</u>	<u>9.08E-09</u>	<u>7.61E-09</u>	<u>6.49E-09</u>
<u>E</u>	<u>1.46E-07</u>	<u>7.18E-08</u>	<u>4.49E-08</u>	<u>2.44E-08</u>	<u>1.58E-08</u>	<u>1.13E-08</u>	<u>8.58E-09</u>	<u>6.78E-09</u>	<u>5.53E-09</u>	<u>4.62E-09</u>	<u>3.93E-09</u>
<u>ESE</u>	<u>1.03E-07</u>	<u>5.08E-08</u>	<u>3.19E-08</u>	<u>1.74E-08</u>	<u>1.14E-08</u>	<u>8.14E-09</u>	<u>6.20E-09</u>	<u>4.92E-09</u>	<u>4.02E-09</u>	<u>3.36E-09</u>	<u>2.86E-09</u>
<u>SE</u>	<u>1.11E-07</u>	<u>5.42E-08</u>	<u>3.37E-08</u>	<u>1.82E-08</u>	<u>1.17E-08</u>	<u>8.32E-09</u>	<u>6.29E-09</u>	<u>4.96E-09</u>	<u>4.04E-09</u>	<u>3.36E-09</u>	<u>2.85E-09</u>
<u>SSE</u>	<u>1.89E-07</u>	<u>9.35E-08</u>	<u>5.87E-08</u>	<u>3.21E-08</u>	<u>2.09E-08</u>	<u>1.50E-08</u>	<u>1.14E-08</u>	<u>9.03E-09</u>	<u>7.38E-09</u>	<u>6.17E-09</u>	<u>5.26E-09</u>

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TABLE 2.7-121 (Sheet 3 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR NO DECAY, DEPLETED  
FOR EACH 22.5° SECTOR AT THE SEGMENTS (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>0.5 - 1</u>	<u>1 - 2</u>	<u>2 - 3</u>	<u>3 - 4</u>	<u>4 - 5</u>	<u>5 - 10</u>	<u>10 - 20</u>	<u>20 - 30</u>	<u>30 - 40</u>	<u>40 - 50</u>
<u>S</u>	<u>9.87E-07</u>	<u>1.29E-06</u>	<u>1.28E-06</u>	<u>6.20E-07</u>	<u>3.74E-07</u>	<u>1.57E-07</u>	<u>5.14E-08</u>	<u>2.32E-08</u>	<u>1.38E-08</u>	<u>9.36E-09</u>
<u>SSW</u>	<u>1.36E-06</u>	<u>8.42E-07</u>	<u>5.14E-07</u>	<u>5.45E-07</u>	<u>6.96E-07</u>	<u>3.04E-07</u>	<u>9.99E-08</u>	<u>4.53E-08</u>	<u>2.70E-08</u>	<u>1.84E-08</u>
<u>SW</u>	<u>1.31E-06</u>	<u>8.04E-07</u>	<u>4.94E-07</u>	<u>3.33E-07</u>	<u>2.59E-07</u>	<u>2.82E-07</u>	<u>1.31E-07</u>	<u>6.03E-08</u>	<u>3.64E-08</u>	<u>2.50E-08</u>
<u>WSW</u>	<u>3.09E-07</u>	<u>2.23E-07</u>	<u>1.54E-07</u>	<u>1.11E-07</u>	<u>8.45E-08</u>	<u>1.49E-07</u>	<u>7.83E-08</u>	<u>3.69E-08</u>	<u>2.26E-08</u>	<u>1.57E-08</u>
<u>W</u>	<u>9.45E-08</u>	<u>6.84E-08</u>	<u>5.28E-08</u>	<u>4.25E-08</u>	<u>3.53E-08</u>	<u>8.83E-08</u>	<u>4.81E-08</u>	<u>2.28E-08</u>	<u>1.40E-08</u>	<u>9.71E-09</u>
<u>WNW</u>	<u>1.27E-07</u>	<u>8.15E-08</u>	<u>5.34E-08</u>	<u>1.34E-07</u>	<u>2.28E-07</u>	<u>9.90E-08</u>	<u>3.41E-08</u>	<u>1.60E-08</u>	<u>9.82E-09</u>	<u>6.79E-09</u>
<u>NW</u>	<u>2.57E-07</u>	<u>1.21E-07</u>	<u>6.80E-08</u>	<u>2.18E-07</u>	<u>2.84E-07</u>	<u>1.24E-07</u>	<u>4.26E-08</u>	<u>2.01E-08</u>	<u>1.23E-08</u>	<u>8.53E-09</u>
<u>NNW</u>	<u>3.64E-07</u>	<u>1.90E-07</u>	<u>1.12E-07</u>	<u>3.06E-07</u>	<u>3.78E-07</u>	<u>1.64E-07</u>	<u>5.59E-08</u>	<u>2.62E-08</u>	<u>1.60E-08</u>	<u>1.10E-08</u>
<u>N</u>	<u>6.03E-07</u>	<u>3.05E-07</u>	<u>1.83E-07</u>	<u>1.30E-07</u>	<u>1.01E-07</u>	<u>1.15E-07</u>	<u>9.49E-08</u>	<u>4.47E-08</u>	<u>2.74E-08</u>	<u>1.90E-08</u>
<u>NNE</u>	<u>1.28E-06</u>	<u>6.16E-07</u>	<u>3.65E-07</u>	<u>2.56E-07</u>	<u>1.97E-07</u>	<u>2.39E-07</u>	<u>2.07E-07</u>	<u>9.82E-08</u>	<u>6.03E-08</u>	<u>4.19E-08</u>
<u>NE</u>	<u>9.56E-07</u>	<u>4.89E-07</u>	<u>6.32E-07</u>	<u>1.07E-06</u>	<u>7.48E-07</u>	<u>3.22E-07</u>	<u>1.09E-07</u>	<u>5.09E-08</u>	<u>3.09E-08</u>	<u>2.13E-08</u>
<u>ENE</u>	<u>5.74E-07</u>	<u>8.44E-07</u>	<u>9.45E-07</u>	<u>4.61E-07</u>	<u>2.80E-07</u>	<u>1.20E-07</u>	<u>4.01E-08</u>	<u>1.85E-08</u>	<u>1.12E-08</u>	<u>7.63E-09</u>
<u>E</u>	<u>4.29E-07</u>	<u>7.06E-07</u>	<u>6.17E-07</u>	<u>2.99E-07</u>	<u>1.80E-07</u>	<u>7.64E-08</u>	<u>2.51E-08</u>	<u>1.14E-08</u>	<u>6.82E-09</u>	<u>4.63E-09</u>
<u>ESE</u>	<u>3.45E-07</u>	<u>7.43E-07</u>	<u>4.32E-07</u>	<u>2.10E-07</u>	<u>1.27E-07</u>	<u>5.40E-08</u>	<u>1.79E-08</u>	<u>8.22E-09</u>	<u>4.94E-09</u>	<u>3.37E-09</u>
<u>SE</u>	<u>3.75E-07</u>	<u>8.30E-07</u>	<u>4.75E-07</u>	<u>2.29E-07</u>	<u>1.37E-07</u>	<u>5.77E-08</u>	<u>1.88E-08</u>	<u>8.41E-09</u>	<u>4.99E-09</u>	<u>3.37E-09</u>
<u>SSE</u>	<u>5.89E-07</u>	<u>1.35E-06</u>	<u>7.94E-07</u>	<u>3.86E-07</u>	<u>2.33E-07</u>	<u>9.93E-08</u>	<u>3.30E-08</u>	<u>1.51E-08</u>	<u>9.07E-09</u>	<u>6.19E-09</u>

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4. Change COLA Part 3, ER Chapter 2, Section 2.7, by **replacing** Table 2.7-122, “Annual Average  $\gamma/Q$  (sec/m<sup>3</sup>) for 2.26 Day Decay, Undepleted, for Each 22.5° Sector at the Distances (miles) Shown at the Top,” as follows:

TABLE 2.7-122 (Sheet 1 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR 2.26 DAY DECAY, UNDEPLETED  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>0.25</u>	<u>0.5</u>	<u>0.75</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>	<u>3.5</u>	<u>4</u>	<u>4.5</u>
<u>S</u>	<u>3.53E-06</u>	<u>1.38E-06</u>	<u>1.12E-06</u>	<u>8.43E-07</u>	<u>6.83E-07</u>	<u>2.01E-06</u>	<u>1.25E-06</u>	<u>8.55E-07</u>	<u>6.27E-07</u>	<u>4.83E-07</u>	<u>3.86E-07</u>
<u>SSW</u>	<u>4.82E-06</u>	<u>1.80E-06</u>	<u>1.51E-06</u>	<u>1.22E-06</u>	<u>8.96E-07</u>	<u>6.76E-07</u>	<u>5.26E-07</u>	<u>4.21E-07</u>	<u>3.47E-07</u>	<u>7.92E-07</u>	<u>6.91E-07</u>
<u>SW</u>	<u>4.86E-06</u>	<u>1.76E-06</u>	<u>1.45E-06</u>	<u>1.17E-06</u>	<u>8.57E-07</u>	<u>6.48E-07</u>	<u>5.06E-07</u>	<u>4.07E-07</u>	<u>3.36E-07</u>	<u>2.84E-07</u>	<u>2.44E-07</u>
<u>WSW</u>	<u>1.05E-06</u>	<u>3.92E-07</u>	<u>3.37E-07</u>	<u>2.90E-07</u>	<u>2.37E-07</u>	<u>1.91E-07</u>	<u>1.56E-07</u>	<u>1.30E-07</u>	<u>1.10E-07</u>	<u>9.48E-08</u>	<u>8.29E-08</u>
<u>W</u>	<u>3.26E-07</u>	<u>1.22E-07</u>	<u>1.04E-07</u>	<u>8.66E-08</u>	<u>7.10E-08</u>	<u>6.10E-08</u>	<u>5.32E-08</u>	<u>4.70E-08</u>	<u>4.18E-08</u>	<u>3.76E-08</u>	<u>3.41E-08</u>
<u>WNW</u>	<u>4.25E-07</u>	<u>1.64E-07</u>	<u>1.41E-07</u>	<u>1.15E-07</u>	<u>8.59E-08</u>	<u>6.72E-08</u>	<u>5.44E-08</u>	<u>4.54E-08</u>	<u>3.88E-08</u>	<u>2.66E-07</u>	<u>2.13E-07</u>
<u>NW</u>	<u>1.07E-06</u>	<u>3.94E-07</u>	<u>2.95E-07</u>	<u>2.05E-07</u>	<u>1.27E-07</u>	<u>9.11E-08</u>	<u>7.05E-08</u>	<u>5.72E-08</u>	<u>1.94E-07</u>	<u>3.32E-07</u>	<u>2.66E-07</u>
<u>NNW</u>	<u>1.31E-06</u>	<u>5.20E-07</u>	<u>4.15E-07</u>	<u>3.02E-07</u>	<u>1.99E-07</u>	<u>1.46E-07</u>	<u>1.15E-07</u>	<u>9.40E-08</u>	<u>2.89E-07</u>	<u>4.44E-07</u>	<u>3.55E-07</u>
<u>N</u>	<u>2.33E-06</u>	<u>9.02E-07</u>	<u>6.86E-07</u>	<u>4.87E-07</u>	<u>3.18E-07</u>	<u>2.37E-07</u>	<u>1.88E-07</u>	<u>1.55E-07</u>	<u>1.32E-07</u>	<u>1.14E-07</u>	<u>1.00E-07</u>
<u>NNE</u>	<u>5.79E-06</u>	<u>2.05E-06</u>	<u>1.45E-06</u>	<u>9.99E-07</u>	<u>6.46E-07</u>	<u>4.77E-07</u>	<u>3.76E-07</u>	<u>3.08E-07</u>	<u>2.60E-07</u>	<u>2.24E-07</u>	<u>1.96E-07</u>
<u>NE</u>	<u>4.12E-06</u>	<u>1.49E-06</u>	<u>1.08E-06</u>	<u>7.67E-07</u>	<u>5.15E-07</u>	<u>3.84E-07</u>	<u>3.01E-07</u>	<u>1.06E-06</u>	<u>1.17E-06</u>	<u>9.02E-07</u>	<u>7.23E-07</u>
<u>ENE</u>	<u>2.30E-06</u>	<u>8.80E-07</u>	<u>6.51E-07</u>	<u>4.57E-07</u>	<u>2.91E-07</u>	<u>1.46E-06</u>	<u>9.06E-07</u>	<u>6.24E-07</u>	<u>4.59E-07</u>	<u>3.55E-07</u>	<u>2.84E-07</u>
<u>E</u>	<u>1.49E-06</u>	<u>6.25E-07</u>	<u>4.84E-07</u>	<u>3.53E-07</u>	<u>6.08E-07</u>	<u>9.66E-07</u>	<u>5.99E-07</u>	<u>4.11E-07</u>	<u>3.02E-07</u>	<u>2.32E-07</u>	<u>1.86E-07</u>
<u>ESE</u>	<u>1.21E-06</u>	<u>5.15E-07</u>	<u>3.94E-07</u>	<u>2.73E-07</u>	<u>1.14E-06</u>	<u>6.78E-07</u>	<u>4.21E-07</u>	<u>2.89E-07</u>	<u>2.13E-07</u>	<u>1.64E-07</u>	<u>1.31E-07</u>
<u>SE</u>	<u>1.38E-06</u>	<u>5.35E-07</u>	<u>4.26E-07</u>	<u>3.15E-07</u>	<u>1.29E-06</u>	<u>7.53E-07</u>	<u>4.66E-07</u>	<u>3.20E-07</u>	<u>2.35E-07</u>	<u>1.81E-07</u>	<u>1.44E-07</u>
<u>SSE</u>	<u>2.25E-06</u>	<u>8.74E-07</u>	<u>6.71E-07</u>	<u>4.78E-07</u>	<u>2.07E-06</u>	<u>1.25E-06</u>	<u>7.73E-07</u>	<u>5.31E-07</u>	<u>3.91E-07</u>	<u>3.01E-07</u>	<u>2.41E-07</u>



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TABLE 2.7-122 (Sheet 2 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR 2.26 DAY DECAY, UNDEPLETED  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>5</u>	<u>7.5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>
<u>S</u>	<u>3.17E-07</u>	<u>1.57E-07</u>	<u>9.82E-08</u>	<u>5.29E-08</u>	<u>3.36E-08</u>	<u>2.34E-08</u>	<u>1.73E-08</u>	<u>1.32E-08</u>	<u>1.05E-08</u>	<u>8.45E-09</u>	<u>6.96E-09</u>
<u>SSW</u>	<u>5.67E-07</u>	<u>2.81E-07</u>	<u>1.76E-07</u>	<u>9.45E-08</u>	<u>6.01E-08</u>	<u>4.18E-08</u>	<u>3.09E-08</u>	<u>2.37E-08</u>	<u>1.87E-08</u>	<u>1.52E-08</u>	<u>1.25E-08</u>
<u>SW</u>	<u>2.51E-07</u>	<u>3.46E-07</u>	<u>2.17E-07</u>	<u>1.17E-07</u>	<u>7.46E-08</u>	<u>5.19E-08</u>	<u>3.82E-08</u>	<u>2.93E-08</u>	<u>2.31E-08</u>	<u>1.86E-08</u>	<u>1.53E-08</u>
<u>WSW</u>	<u>7.35E-08</u>	<u>1.96E-07</u>	<u>1.24E-07</u>	<u>6.71E-08</u>	<u>4.27E-08</u>	<u>2.97E-08</u>	<u>2.18E-08</u>	<u>1.66E-08</u>	<u>1.30E-08</u>	<u>1.05E-08</u>	<u>8.54E-09</u>
<u>W</u>	<u>3.11E-08</u>	<u>1.17E-07</u>	<u>7.34E-08</u>	<u>3.94E-08</u>	<u>2.48E-08</u>	<u>1.70E-08</u>	<u>1.23E-08</u>	<u>9.28E-09</u>	<u>7.19E-09</u>	<u>5.69E-09</u>	<u>4.58E-09</u>
<u>WNW</u>	<u>1.76E-07</u>	<u>8.81E-08</u>	<u>5.55E-08</u>	<u>2.99E-08</u>	<u>1.89E-08</u>	<u>1.30E-08</u>	<u>9.48E-09</u>	<u>7.17E-09</u>	<u>5.58E-09</u>	<u>4.44E-09</u>	<u>3.59E-09</u>
<u>NW</u>	<u>2.19E-07</u>	<u>1.10E-07</u>	<u>6.93E-08</u>	<u>3.73E-08</u>	<u>2.36E-08</u>	<u>1.62E-08</u>	<u>1.18E-08</u>	<u>8.91E-09</u>	<u>6.93E-09</u>	<u>5.50E-09</u>	<u>4.45E-09</u>
<u>NNW</u>	<u>2.92E-07</u>	<u>1.46E-07</u>	<u>9.18E-08</u>	<u>4.93E-08</u>	<u>3.11E-08</u>	<u>2.14E-08</u>	<u>1.56E-08</u>	<u>1.18E-08</u>	<u>9.18E-09</u>	<u>7.30E-09</u>	<u>5.92E-09</u>
<u>N</u>	<u>8.93E-08</u>	<u>5.83E-08</u>	<u>1.45E-07</u>	<u>7.82E-08</u>	<u>4.95E-08</u>	<u>3.42E-08</u>	<u>2.50E-08</u>	<u>1.90E-08</u>	<u>1.49E-08</u>	<u>1.19E-08</u>	<u>9.68E-09</u>
<u>NNE</u>	<u>1.74E-07</u>	<u>1.13E-07</u>	<u>3.15E-07</u>	<u>1.70E-07</u>	<u>1.08E-07</u>	<u>7.49E-08</u>	<u>5.48E-08</u>	<u>4.17E-08</u>	<u>3.27E-08</u>	<u>2.62E-08</u>	<u>2.13E-08</u>
<u>NE</u>	<u>5.96E-07</u>	<u>2.99E-07</u>	<u>1.89E-07</u>	<u>1.03E-07</u>	<u>6.55E-08</u>	<u>4.57E-08</u>	<u>3.38E-08</u>	<u>2.59E-08</u>	<u>2.04E-08</u>	<u>1.65E-08</u>	<u>1.36E-08</u>
<u>ENE</u>	<u>2.34E-07</u>	<u>1.17E-07</u>	<u>7.36E-08</u>	<u>3.98E-08</u>	<u>2.54E-08</u>	<u>1.77E-08</u>	<u>1.30E-08</u>	<u>9.97E-09</u>	<u>7.86E-09</u>	<u>6.34E-09</u>	<u>5.20E-09</u>
<u>E</u>	<u>1.52E-07</u>	<u>7.56E-08</u>	<u>4.74E-08</u>	<u>2.55E-08</u>	<u>1.62E-08</u>	<u>1.13E-08</u>	<u>8.28E-09</u>	<u>6.34E-09</u>	<u>5.00E-09</u>	<u>4.03E-09</u>	<u>3.31E-09</u>
<u>ESE</u>	<u>1.08E-07</u>	<u>5.37E-08</u>	<u>3.37E-08</u>	<u>1.82E-08</u>	<u>1.16E-08</u>	<u>8.06E-09</u>	<u>5.94E-09</u>	<u>4.54E-09</u>	<u>3.58E-09</u>	<u>2.89E-09</u>	<u>2.37E-09</u>
<u>SE</u>	<u>1.18E-07</u>	<u>5.88E-08</u>	<u>3.69E-08</u>	<u>2.00E-08</u>	<u>1.28E-08</u>	<u>9.01E-09</u>	<u>6.70E-09</u>	<u>5.18E-09</u>	<u>4.13E-09</u>	<u>3.37E-09</u>	<u>2.79E-09</u>
<u>SSE</u>	<u>1.98E-07</u>	<u>9.85E-08</u>	<u>6.19E-08</u>	<u>3.33E-08</u>	<u>2.12E-08</u>	<u>1.47E-08</u>	<u>1.08E-08</u>	<u>8.27E-09</u>	<u>6.50E-09</u>	<u>5.23E-09</u>	<u>4.29E-09</u>

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TABLE 2.7-122 (Sheet 3 of 3)

ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR 2.26 DAY DECAY, UNDEPLETED  
FOR EACH 22.5° SECTOR AT THE SEGMENTS (MILES) SHOWN AT THE TOP

SECTOR	0.5 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 10	10 - 20	20 - 30	30 - 40	40 - 50
<u>S</u>	<u>1.05E-06</u>	<u>1.31E-06</u>	<u>1.29E-06</u>	<u>6.37E-07</u>	<u>3.89E-07</u>	<u>1.66E-07</u>	<u>5.44E-08</u>	<u>2.37E-08</u>	<u>1.33E-08</u>	<u>8.49E-09</u>
<u>SSW</u>	<u>1.45E-06</u>	<u>8.70E-07</u>	<u>5.24E-07</u>	<u>5.38E-07</u>	<u>6.75E-07</u>	<u>2.98E-07</u>	<u>9.73E-08</u>	<u>4.23E-08</u>	<u>2.39E-08</u>	<u>1.52E-08</u>
<u>SW</u>	<u>1.39E-06</u>	<u>8.33E-07</u>	<u>5.04E-07</u>	<u>3.37E-07</u>	<u>2.59E-07</u>	<u>2.68E-07</u>	<u>1.21E-07</u>	<u>5.25E-08</u>	<u>2.95E-08</u>	<u>1.87E-08</u>
<u>WSW</u>	<u>3.28E-07</u>	<u>2.29E-07</u>	<u>1.55E-07</u>	<u>1.10E-07</u>	<u>8.29E-08</u>	<u>1.37E-07</u>	<u>6.89E-08</u>	<u>3.00E-08</u>	<u>1.67E-08</u>	<u>1.05E-08</u>
<u>W</u>	<u>1.00E-07</u>	<u>7.00E-08</u>	<u>5.28E-08</u>	<u>4.17E-08</u>	<u>3.40E-08</u>	<u>7.84E-08</u>	<u>4.05E-08</u>	<u>1.72E-08</u>	<u>9.35E-09</u>	<u>5.72E-09</u>
<u>WNW</u>	<u>1.35E-07</u>	<u>8.40E-08</u>	<u>5.42E-08</u>	<u>1.27E-07</u>	<u>2.15E-07</u>	<u>9.31E-08</u>	<u>3.07E-08</u>	<u>1.32E-08</u>	<u>7.22E-09</u>	<u>4.46E-09</u>
<u>NW</u>	<u>2.77E-07</u>	<u>1.28E-07</u>	<u>7.07E-08</u>	<u>2.08E-07</u>	<u>2.68E-07</u>	<u>1.16E-07</u>	<u>3.83E-08</u>	<u>1.64E-08</u>	<u>8.98E-09</u>	<u>5.53E-09</u>
<u>NNW</u>	<u>3.88E-07</u>	<u>1.98E-07</u>	<u>1.15E-07</u>	<u>2.92E-07</u>	<u>3.58E-07</u>	<u>1.55E-07</u>	<u>5.07E-08</u>	<u>2.17E-08</u>	<u>1.19E-08</u>	<u>7.35E-09</u>
<u>N</u>	<u>6.46E-07</u>	<u>3.20E-07</u>	<u>1.88E-07</u>	<u>1.32E-07</u>	<u>1.00E-07</u>	<u>1.04E-07</u>	<u>8.04E-08</u>	<u>3.46E-08</u>	<u>1.92E-08</u>	<u>1.20E-08</u>
<u>NNE</u>	<u>1.38E-06</u>	<u>6.49E-07</u>	<u>3.76E-07</u>	<u>2.60E-07</u>	<u>1.96E-07</u>	<u>2.16E-07</u>	<u>1.75E-07</u>	<u>7.57E-08</u>	<u>4.20E-08</u>	<u>2.63E-08</u>
<u>NE</u>	<u>1.03E-06</u>	<u>5.13E-07</u>	<u>6.26E-07</u>	<u>1.04E-06</u>	<u>7.29E-07</u>	<u>3.16E-07</u>	<u>1.05E-07</u>	<u>4.62E-08</u>	<u>2.61E-08</u>	<u>1.66E-08</u>
<u>ENE</u>	<u>6.16E-07</u>	<u>8.46E-07</u>	<u>9.40E-07</u>	<u>4.67E-07</u>	<u>2.86E-07</u>	<u>1.24E-07</u>	<u>4.09E-08</u>	<u>1.79E-08</u>	<u>1.00E-08</u>	<u>6.37E-09</u>
<u>E</u>	<u>4.57E-07</u>	<u>7.10E-07</u>	<u>6.22E-07</u>	<u>3.06E-07</u>	<u>1.87E-07</u>	<u>8.01E-08</u>	<u>2.62E-08</u>	<u>1.14E-08</u>	<u>6.38E-09</u>	<u>4.05E-09</u>
<u>ESE</u>	<u>3.67E-07</u>	<u>7.44E-07</u>	<u>4.37E-07</u>	<u>2.16E-07</u>	<u>1.32E-07</u>	<u>5.68E-08</u>	<u>1.87E-08</u>	<u>8.15E-09</u>	<u>4.58E-09</u>	<u>2.90E-09</u>
<u>SE</u>	<u>4.01E-07</u>	<u>8.35E-07</u>	<u>4.84E-07</u>	<u>2.38E-07</u>	<u>1.46E-07</u>	<u>6.23E-08</u>	<u>2.06E-08</u>	<u>9.10E-09</u>	<u>5.22E-09</u>	<u>3.38E-09</u>
<u>SSE</u>	<u>6.30E-07</u>	<u>1.35E-06</u>	<u>8.02E-07</u>	<u>3.97E-07</u>	<u>2.43E-07</u>	<u>1.04E-07</u>	<u>3.43E-08</u>	<u>1.49E-08</u>	<u>8.32E-09</u>	<u>5.26E-09</u>

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5. Change COLA Part 3, ER Chapter 2, Section 2.7, by **replacing** Table 2.7-123, “Annual Average  $\gamma/Q$  (sec/m<sup>3</sup>) for 8.00 Day Decay, Undepleted, for Each 22.5° Sector at the Distances (miles) Shown at the Top,” as follows:

TABLE 2.7-123 (Sheet 1 of 3)  
ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR 8.00 DAY DECAY, DEPLETED  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>0.25</u>	<u>0.5</u>	<u>0.75</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>	<u>3.5</u>	<u>4</u>	<u>4.5</u>
<u>S</u>	<u>3.30E-06</u>	<u>1.28E-06</u>	<u>1.04E-06</u>	<u>7.99E-07</u>	<u>6.60E-07</u>	<u>2.00E-06</u>	<u>1.22E-06</u>	<u>8.28E-07</u>	<u>6.02E-07</u>	<u>4.59E-07</u>	<u>3.64E-07</u>
<u>SSW</u>	<u>4.49E-06</u>	<u>1.66E-06</u>	<u>1.41E-06</u>	<u>1.16E-06</u>	<u>8.67E-07</u>	<u>6.58E-07</u>	<u>5.13E-07</u>	<u>4.12E-07</u>	<u>3.40E-07</u>	<u>8.07E-07</u>	<u>7.01E-07</u>
<u>SW</u>	<u>4.53E-06</u>	<u>1.62E-06</u>	<u>1.36E-06</u>	<u>1.11E-06</u>	<u>8.28E-07</u>	<u>6.30E-07</u>	<u>4.93E-07</u>	<u>3.98E-07</u>	<u>3.30E-07</u>	<u>2.80E-07</u>	<u>2.41E-07</u>
<u>WSW</u>	<u>9.82E-07</u>	<u>3.61E-07</u>	<u>3.16E-07</u>	<u>2.78E-07</u>	<u>2.31E-07</u>	<u>1.88E-07</u>	<u>1.54E-07</u>	<u>1.29E-07</u>	<u>1.10E-07</u>	<u>9.48E-08</u>	<u>8.33E-08</u>
<u>W</u>	<u>3.04E-07</u>	<u>1.13E-07</u>	<u>9.77E-08</u>	<u>8.28E-08</u>	<u>6.92E-08</u>	<u>6.00E-08</u>	<u>5.28E-08</u>	<u>4.70E-08</u>	<u>4.22E-08</u>	<u>3.81E-08</u>	<u>3.48E-08</u>
<u>WNW</u>	<u>3.97E-07</u>	<u>1.52E-07</u>	<u>1.33E-07</u>	<u>1.10E-07</u>	<u>8.33E-08</u>	<u>6.55E-08</u>	<u>5.33E-08</u>	<u>4.47E-08</u>	<u>3.83E-08</u>	<u>2.77E-07</u>	<u>2.21E-07</u>
<u>NW</u>	<u>9.96E-07</u>	<u>3.62E-07</u>	<u>2.73E-07</u>	<u>1.91E-07</u>	<u>1.20E-07</u>	<u>8.68E-08</u>	<u>6.75E-08</u>	<u>5.51E-08</u>	<u>1.99E-07</u>	<u>3.45E-07</u>	<u>2.75E-07</u>
<u>NNW</u>	<u>1.22E-06</u>	<u>4.81E-07</u>	<u>3.88E-07</u>	<u>2.86E-07</u>	<u>1.90E-07</u>	<u>1.41E-07</u>	<u>1.11E-07</u>	<u>9.16E-08</u>	<u>2.97E-07</u>	<u>4.60E-07</u>	<u>3.67E-07</u>
<u>N</u>	<u>2.17E-06</u>	<u>8.34E-07</u>	<u>6.39E-07</u>	<u>4.59E-07</u>	<u>3.04E-07</u>	<u>2.28E-07</u>	<u>1.82E-07</u>	<u>1.51E-07</u>	<u>1.29E-07</u>	<u>1.12E-07</u>	<u>9.95E-08</u>
<u>NNE</u>	<u>5.40E-06</u>	<u>1.89E-06</u>	<u>1.34E-06</u>	<u>9.32E-07</u>	<u>6.12E-07</u>	<u>4.57E-07</u>	<u>3.63E-07</u>	<u>2.99E-07</u>	<u>2.54E-07</u>	<u>2.20E-07</u>	<u>1.94E-07</u>
<u>NE</u>	<u>3.84E-06</u>	<u>1.37E-06</u>	<u>9.96E-07</u>	<u>7.19E-07</u>	<u>4.91E-07</u>	<u>3.70E-07</u>	<u>2.92E-07</u>	<u>1.08E-06</u>	<u>1.19E-06</u>	<u>9.13E-07</u>	<u>7.27E-07</u>
<u>ENE</u>	<u>2.15E-06</u>	<u>8.13E-07</u>	<u>6.05E-07</u>	<u>4.30E-07</u>	<u>2.78E-07</u>	<u>1.46E-06</u>	<u>8.99E-07</u>	<u>6.12E-07</u>	<u>4.47E-07</u>	<u>3.42E-07</u>	<u>2.72E-07</u>
<u>E</u>	<u>1.40E-06</u>	<u>5.81E-07</u>	<u>4.53E-07</u>	<u>3.35E-07</u>	<u>6.01E-07</u>	<u>9.61E-07</u>	<u>5.87E-07</u>	<u>3.98E-07</u>	<u>2.90E-07</u>	<u>2.21E-07</u>	<u>1.76E-07</u>
<u>ESE</u>	<u>1.13E-06</u>	<u>4.80E-07</u>	<u>3.69E-07</u>	<u>2.59E-07</u>	<u>1.15E-06</u>	<u>6.71E-07</u>	<u>4.11E-07</u>	<u>2.79E-07</u>	<u>2.03E-07</u>	<u>1.56E-07</u>	<u>1.23E-07</u>
<u>SE</u>	<u>1.29E-06</u>	<u>4.94E-07</u>	<u>3.97E-07</u>	<u>2.98E-07</u>	<u>1.29E-06</u>	<u>7.42E-07</u>	<u>4.52E-07</u>	<u>3.06E-07</u>	<u>2.22E-07</u>	<u>1.70E-07</u>	<u>1.34E-07</u>
<u>SSE</u>	<u>2.10E-06</u>	<u>8.08E-07</u>	<u>6.25E-07</u>	<u>4.51E-07</u>	<u>2.08E-06</u>	<u>1.23E-06</u>	<u>7.55E-07</u>	<u>5.13E-07</u>	<u>3.74E-07</u>	<u>2.86E-07</u>	<u>2.27E-07</u>

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TABLE 2.7-123 (Sheet 2 of 3)

ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR 8.00 DAY DECAY, DEPLETED  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

SECTOR	5	7.5	10	15	20	25	30	35	40	45	50
S	<a href="#">2.97E-07</a>	<a href="#">1.44E-07</a>	<a href="#">8.87E-08</a>	<a href="#">4.70E-08</a>	<a href="#">2.98E-08</a>	<a href="#">2.08E-08</a>	<a href="#">1.54E-08</a>	<a href="#">1.19E-08</a>	<a href="#">9.52E-09</a>	<a href="#">7.77E-09</a>	<a href="#">6.47E-09</a>
SSW	<a href="#">5.72E-07</a>	<a href="#">2.78E-07</a>	<a href="#">1.72E-07</a>	<a href="#">9.14E-08</a>	<a href="#">5.80E-08</a>	<a href="#">4.06E-08</a>	<a href="#">3.02E-08</a>	<a href="#">2.34E-08</a>	<a href="#">1.87E-08</a>	<a href="#">1.53E-08</a>	<a href="#">1.28E-08</a>
SW	<a href="#">2.51E-07</a>	<a href="#">3.56E-07</a>	<a href="#">2.22E-07</a>	<a href="#">1.19E-07</a>	<a href="#">7.62E-08</a>	<a href="#">5.36E-08</a>	<a href="#">4.00E-08</a>	<a href="#">3.11E-08</a>	<a href="#">2.50E-08</a>	<a href="#">2.05E-08</a>	<a href="#">1.71E-08</a>
WSW	<a href="#">7.41E-08</a>	<a href="#">2.08E-07</a>	<a href="#">1.31E-07</a>	<a href="#">7.10E-08</a>	<a href="#">4.58E-08</a>	<a href="#">3.24E-08</a>	<a href="#">2.43E-08</a>	<a href="#">1.90E-08</a>	<a href="#">1.53E-08</a>	<a href="#">1.26E-08</a>	<a href="#">1.05E-08</a>
W	<a href="#">3.19E-08</a>	<a href="#">1.26E-07</a>	<a href="#">7.93E-08</a>	<a href="#">4.31E-08</a>	<a href="#">2.78E-08</a>	<a href="#">1.96E-08</a>	<a href="#">1.47E-08</a>	<a href="#">1.14E-08</a>	<a href="#">9.18E-09</a>	<a href="#">7.53E-09</a>	<a href="#">6.29E-09</a>
WNW	<a href="#">1.81E-07</a>	<a href="#">9.00E-08</a>	<a href="#">5.65E-08</a>	<a href="#">3.07E-08</a>	<a href="#">1.97E-08</a>	<a href="#">1.39E-08</a>	<a href="#">1.04E-08</a>	<a href="#">8.10E-09</a>	<a href="#">6.50E-09</a>	<a href="#">5.33E-09</a>	<a href="#">4.45E-09</a>
NW	<a href="#">2.26E-07</a>	<a href="#">1.12E-07</a>	<a href="#">7.05E-08</a>	<a href="#">3.83E-08</a>	<a href="#">2.47E-08</a>	<a href="#">1.74E-08</a>	<a href="#">1.30E-08</a>	<a href="#">1.01E-08</a>	<a href="#">8.12E-09</a>	<a href="#">6.65E-09</a>	<a href="#">5.55E-09</a>
NNW	<a href="#">3.00E-07</a>	<a href="#">1.49E-07</a>	<a href="#">9.30E-08</a>	<a href="#">5.03E-08</a>	<a href="#">3.23E-08</a>	<a href="#">2.27E-08</a>	<a href="#">1.70E-08</a>	<a href="#">1.32E-08</a>	<a href="#">1.06E-08</a>	<a href="#">8.65E-09</a>	<a href="#">7.21E-09</a>
N	<a href="#">8.91E-08</a>	<a href="#">5.98E-08</a>	<a href="#">1.58E-07</a>	<a href="#">8.58E-08</a>	<a href="#">5.52E-08</a>	<a href="#">3.90E-08</a>	<a href="#">2.93E-08</a>	<a href="#">2.28E-08</a>	<a href="#">1.83E-08</a>	<a href="#">1.51E-08</a>	<a href="#">1.26E-08</a>
NNE	<a href="#">1.73E-07</a>	<a href="#">1.15E-07</a>	<a href="#">3.44E-07</a>	<a href="#">1.87E-07</a>	<a href="#">1.21E-07</a>	<a href="#">8.57E-08</a>	<a href="#">6.44E-08</a>	<a href="#">5.03E-08</a>	<a href="#">4.05E-08</a>	<a href="#">3.33E-08</a>	<a href="#">2.79E-08</a>
NE	<a href="#">5.96E-07</a>	<a href="#">2.94E-07</a>	<a href="#">1.84E-07</a>	<a href="#">9.95E-08</a>	<a href="#">6.39E-08</a>	<a href="#">4.51E-08</a>	<a href="#">3.37E-08</a>	<a href="#">2.63E-08</a>	<a href="#">2.11E-08</a>	<a href="#">1.73E-08</a>	<a href="#">1.45E-08</a>
ENE	<a href="#">2.23E-07</a>	<a href="#">1.09E-07</a>	<a href="#">6.80E-08</a>	<a href="#">3.65E-08</a>	<a href="#">2.33E-08</a>	<a href="#">1.64E-08</a>	<a href="#">1.22E-08</a>	<a href="#">9.47E-09</a>	<a href="#">7.58E-09</a>	<a href="#">6.21E-09</a>	<a href="#">5.17E-09</a>
E	<a href="#">1.43E-07</a>	<a href="#">6.96E-08</a>	<a href="#">4.31E-08</a>	<a href="#">2.29E-08</a>	<a href="#">1.45E-08</a>	<a href="#">1.02E-08</a>	<a href="#">7.54E-09</a>	<a href="#">5.83E-09</a>	<a href="#">4.66E-09</a>	<a href="#">3.80E-09</a>	<a href="#">3.17E-09</a>
ESE	<a href="#">1.01E-07</a>	<a href="#">4.92E-08</a>	<a href="#">3.06E-08</a>	<a href="#">1.63E-08</a>	<a href="#">1.04E-08</a>	<a href="#">7.29E-09</a>	<a href="#">5.42E-09</a>	<a href="#">4.21E-09</a>	<a href="#">3.36E-09</a>	<a href="#">2.75E-09</a>	<a href="#">2.29E-09</a>
SE	<a href="#">1.09E-07</a>	<a href="#">5.29E-08</a>	<a href="#">3.26E-08</a>	<a href="#">1.73E-08</a>	<a href="#">1.09E-08</a>	<a href="#">7.64E-09</a>	<a href="#">5.68E-09</a>	<a href="#">4.40E-09</a>	<a href="#">3.52E-09</a>	<a href="#">2.88E-09</a>	<a href="#">2.40E-09</a>
SSE	<a href="#">1.85E-07</a>	<a href="#">9.05E-08</a>	<a href="#">5.62E-08</a>	<a href="#">3.00E-08</a>	<a href="#">1.91E-08</a>	<a href="#">1.34E-08</a>	<a href="#">9.93E-09</a>	<a href="#">7.70E-09</a>	<a href="#">6.15E-09</a>	<a href="#">5.03E-09</a>	<a href="#">4.19E-09</a>

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TABLE 2.7-123 (Sheet 3 of 3)

ANNUAL AVERAGE  $\gamma/Q$  (sec/m<sup>3</sup>) FOR 8.00 DAY DECAY, DEPLETED  
FOR EACH 22.5° SECTOR AT THE SEGMENTS (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>0.5 - 1</u>	<u>1 - 2</u>	<u>2 - 3</u>	<u>3 - 4</u>	<u>4 - 5</u>	<u>5 - 10</u>	<u>10 - 20</u>	<u>20 - 30</u>	<u>30 - 40</u>	<u>40 - 50</u>
<u>S</u>	<u>9.86E-07</u>	<u>1.29E-06</u>	<u>1.27E-06</u>	<u>6.12E-07</u>	<u>3.67E-07</u>	<u>1.53E-07</u>	<u>4.86E-08</u>	<u>2.10E-08</u>	<u>1.20E-08</u>	<u>7.81E-09</u>
<u>SSW</u>	<u>1.36E-06</u>	<u>8.40E-07</u>	<u>5.11E-07</u>	<u>5.39E-07</u>	<u>6.84E-07</u>	<u>2.96E-07</u>	<u>9.44E-08</u>	<u>4.11E-08</u>	<u>2.36E-08</u>	<u>1.54E-08</u>
<u>SW</u>	<u>1.30E-06</u>	<u>8.02E-07</u>	<u>4.92E-07</u>	<u>3.30E-07</u>	<u>2.56E-07</u>	<u>2.73E-07</u>	<u>1.23E-07</u>	<u>5.42E-08</u>	<u>3.13E-08</u>	<u>2.06E-08</u>
<u>WSW</u>	<u>3.09E-07</u>	<u>2.22E-07</u>	<u>1.53E-07</u>	<u>1.09E-07</u>	<u>8.33E-08</u>	<u>1.44E-07</u>	<u>7.30E-08</u>	<u>3.27E-08</u>	<u>1.91E-08</u>	<u>1.26E-08</u>
<u>W</u>	<u>9.44E-08</u>	<u>6.81E-08</u>	<u>5.24E-08</u>	<u>4.20E-08</u>	<u>3.47E-08</u>	<u>8.43E-08</u>	<u>4.43E-08</u>	<u>1.98E-08</u>	<u>1.15E-08</u>	<u>7.56E-09</u>
<u>WNW</u>	<u>1.27E-07</u>	<u>8.13E-08</u>	<u>5.31E-08</u>	<u>1.31E-07</u>	<u>2.23E-07</u>	<u>9.54E-08</u>	<u>3.15E-08</u>	<u>1.41E-08</u>	<u>8.15E-09</u>	<u>5.35E-09</u>
<u>NW</u>	<u>2.57E-07</u>	<u>1.21E-07</u>	<u>6.77E-08</u>	<u>2.14E-07</u>	<u>2.78E-07</u>	<u>1.19E-07</u>	<u>3.94E-08</u>	<u>1.76E-08</u>	<u>1.02E-08</u>	<u>6.68E-09</u>
<u>NNW</u>	<u>3.63E-07</u>	<u>1.89E-07</u>	<u>1.11E-07</u>	<u>3.00E-07</u>	<u>3.70E-07</u>	<u>1.58E-07</u>	<u>5.18E-08</u>	<u>2.30E-08</u>	<u>1.33E-08</u>	<u>8.69E-09</u>
<u>N</u>	<u>6.02E-07</u>	<u>3.05E-07</u>	<u>1.82E-07</u>	<u>1.29E-07</u>	<u>9.95E-08</u>	<u>1.10E-07</u>	<u>8.83E-08</u>	<u>3.95E-08</u>	<u>2.30E-08</u>	<u>1.51E-08</u>
<u>NNE</u>	<u>1.28E-06</u>	<u>6.14E-07</u>	<u>3.63E-07</u>	<u>2.54E-07</u>	<u>1.94E-07</u>	<u>2.30E-07</u>	<u>1.93E-07</u>	<u>8.66E-08</u>	<u>5.06E-08</u>	<u>3.34E-08</u>
<u>NE</u>	<u>9.56E-07</u>	<u>4.88E-07</u>	<u>6.27E-07</u>	<u>1.05E-06</u>	<u>7.34E-07</u>	<u>3.12E-07</u>	<u>1.03E-07</u>	<u>4.56E-08</u>	<u>2.64E-08</u>	<u>1.74E-08</u>
<u>ENE</u>	<u>5.73E-07</u>	<u>8.38E-07</u>	<u>9.35E-07</u>	<u>4.54E-07</u>	<u>2.75E-07</u>	<u>1.16E-07</u>	<u>3.76E-08</u>	<u>1.66E-08</u>	<u>9.53E-09</u>	<u>6.23E-09</u>
<u>E</u>	<u>4.29E-07</u>	<u>7.02E-07</u>	<u>6.11E-07</u>	<u>2.95E-07</u>	<u>1.77E-07</u>	<u>7.42E-08</u>	<u>2.37E-08</u>	<u>1.03E-08</u>	<u>5.87E-09</u>	<u>3.82E-09</u>
<u>ESE</u>	<u>3.45E-07</u>	<u>7.39E-07</u>	<u>4.28E-07</u>	<u>2.07E-07</u>	<u>1.25E-07</u>	<u>5.24E-08</u>	<u>1.69E-08</u>	<u>7.37E-09</u>	<u>4.23E-09</u>	<u>2.76E-09</u>
<u>SE</u>	<u>3.74E-07</u>	<u>8.26E-07</u>	<u>4.71E-07</u>	<u>2.26E-07</u>	<u>1.36E-07</u>	<u>5.64E-08</u>	<u>1.79E-08</u>	<u>7.74E-09</u>	<u>4.43E-09</u>	<u>2.89E-09</u>
<u>SSE</u>	<u>5.89E-07</u>	<u>1.34E-06</u>	<u>7.86E-07</u>	<u>3.80E-07</u>	<u>2.29E-07</u>	<u>9.63E-08</u>	<u>3.10E-08</u>	<u>1.35E-08</u>	<u>7.75E-09</u>	<u>5.05E-09</u>

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6. Change COLA Part 3, ER Chapter 2, Section 2.7, by **replacing** Table 2.7-124, “Annual Average D/Q ( $m^{-2}$ ), for Each 22.5° Sector at the Distances (miles) Shown at the Top,” as follows:

TABLE 2.7-124 (Sheet 1 of 3)  
ANNUAL AVERAGE D/Q ( $m^{-2}$ )  
FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>0.25</u>	<u>0.5</u>	<u>0.75</u>	<u>1</u>	<u>1.5</u>	<u>2</u>	<u>2.5</u>	<u>3</u>	<u>3.5</u>	<u>4</u>	<u>4.5</u>
<u>S</u>	<u>3.73E-08</u>	<u>1.66E-08</u>	<u>1.07E-08</u>	<u>6.10E-09</u>	<u>2.83E-09</u>	<u>3.44E-09</u>	<u>2.03E-09</u>	<u>1.33E-09</u>	<u>9.33E-10</u>	<u>6.92E-10</u>	<u>5.33E-10</u>
<u>SSW</u>	<u>3.50E-08</u>	<u>1.59E-08</u>	<u>1.06E-08</u>	<u>6.27E-09</u>	<u>2.82E-09</u>	<u>1.59E-09</u>	<u>1.01E-09</u>	<u>7.03E-10</u>	<u>5.14E-10</u>	<u>9.80E-10</u>	<u>8.66E-10</u>
<u>SW</u>	<u>3.50E-08</u>	<u>1.56E-08</u>	<u>1.04E-08</u>	<u>6.09E-09</u>	<u>2.72E-09</u>	<u>1.52E-09</u>	<u>9.65E-10</u>	<u>6.66E-10</u>	<u>4.86E-10</u>	<u>3.69E-10</u>	<u>2.89E-10</u>
<u>WSW</u>	<u>7.02E-09</u>	<u>3.24E-09</u>	<u>2.23E-09</u>	<u>1.36E-09</u>	<u>6.29E-10</u>	<u>3.60E-10</u>	<u>2.33E-10</u>	<u>1.62E-10</u>	<u>1.19E-10</u>	<u>9.11E-11</u>	<u>7.15E-11</u>
<u>W</u>	<u>2.36E-09</u>	<u>1.12E-09</u>	<u>7.77E-10</u>	<u>4.70E-10</u>	<u>2.15E-10</u>	<u>1.22E-10</u>	<u>7.79E-11</u>	<u>5.40E-11</u>	<u>3.96E-11</u>	<u>3.01E-11</u>	<u>2.36E-11</u>
<u>WNW</u>	<u>3.58E-09</u>	<u>1.68E-09</u>	<u>1.15E-09</u>	<u>6.88E-10</u>	<u>3.13E-10</u>	<u>1.78E-10</u>	<u>1.14E-10</u>	<u>7.92E-11</u>	<u>5.80E-11</u>	<u>1.49E-10</u>	<u>1.15E-10</u>
<u>NW</u>	<u>1.10E-08</u>	<u>4.51E-09</u>	<u>2.77E-09</u>	<u>1.53E-09</u>	<u>6.43E-10</u>	<u>3.48E-10</u>	<u>2.17E-10</u>	<u>1.47E-10</u>	<u>1.33E-10</u>	<u>2.15E-10</u>	<u>1.65E-10</u>
<u>NNW</u>	<u>1.36E-08</u>	<u>6.09E-09</u>	<u>3.83E-09</u>	<u>2.14E-09</u>	<u>9.14E-10</u>	<u>4.98E-10</u>	<u>3.12E-10</u>	<u>2.13E-10</u>	<u>1.94E-10</u>	<u>3.18E-10</u>	<u>2.45E-10</u>
<u>N</u>	<u>2.46E-08</u>	<u>1.09E-08</u>	<u>6.77E-09</u>	<u>3.72E-09</u>	<u>1.56E-09</u>	<u>8.36E-10</u>	<u>5.18E-10</u>	<u>3.52E-10</u>	<u>2.54E-10</u>	<u>1.92E-10</u>	<u>1.50E-10</u>
<u>NNE</u>	<u>5.51E-08</u>	<u>2.24E-08</u>	<u>1.32E-08</u>	<u>6.97E-09</u>	<u>2.82E-09</u>	<u>1.49E-09</u>	<u>9.15E-10</u>	<u>6.17E-10</u>	<u>4.44E-10</u>	<u>3.34E-10</u>	<u>2.60E-10</u>
<u>NE</u>	<u>4.23E-08</u>	<u>1.73E-08</u>	<u>1.03E-08</u>	<u>5.49E-09</u>	<u>2.25E-09</u>	<u>1.19E-09</u>	<u>7.36E-10</u>	<u>6.12E-10</u>	<u>1.08E-09</u>	<u>8.03E-10</u>	<u>6.19E-10</u>
<u>ENE</u>	<u>2.81E-08</u>	<u>1.16E-08</u>	<u>6.90E-09</u>	<u>3.70E-09</u>	<u>1.52E-09</u>	<u>1.98E-09</u>	<u>1.17E-09</u>	<u>7.64E-10</u>	<u>5.38E-10</u>	<u>3.98E-10</u>	<u>3.07E-10</u>
<u>E</u>	<u>1.93E-08</u>	<u>8.64E-09</u>	<u>5.21E-09</u>	<u>2.85E-09</u>	<u>1.55E-09</u>	<u>1.53E-09</u>	<u>8.98E-10</u>	<u>5.88E-10</u>	<u>4.14E-10</u>	<u>3.07E-10</u>	<u>2.36E-10</u>
<u>ESE</u>	<u>1.65E-08</u>	<u>7.46E-09</u>	<u>4.52E-09</u>	<u>2.47E-09</u>	<u>2.25E-09</u>	<u>1.15E-09</u>	<u>6.77E-10</u>	<u>4.43E-10</u>	<u>3.12E-10</u>	<u>2.31E-10</u>	<u>1.78E-10</u>
<u>SE</u>	<u>1.44E-08</u>	<u>6.27E-09</u>	<u>4.04E-09</u>	<u>2.31E-09</u>	<u>2.49E-09</u>	<u>1.30E-09</u>	<u>7.65E-10</u>	<u>5.01E-10</u>	<u>3.53E-10</u>	<u>2.61E-10</u>	<u>2.01E-10</u>
<u>SSE</u>	<u>2.79E-08</u>	<u>1.21E-08</u>	<u>7.55E-09</u>	<u>4.20E-09</u>	<u>3.75E-09</u>	<u>1.96E-09</u>	<u>1.16E-09</u>	<u>7.57E-10</u>	<u>5.32E-10</u>	<u>3.95E-10</u>	<u>3.04E-10</u>

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TABLE 2.7-124 (Sheet 2 of 3)ANNUAL AVERAGE D/Q (m<sup>-2</sup>)FOR EACH 22.5° SECTOR AT THE DISTANCES (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>5</u>	<u>7.5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>
<u>S</u>	<u>4.24E-10</u>	<u>1.88E-10</u>	<u>1.14E-10</u>	<u>5.76E-11</u>	<u>3.49E-11</u>	<u>2.34E-11</u>	<u>1.68E-11</u>	<u>1.26E-11</u>	<u>9.78E-12</u>	<u>7.81E-12</u>	<u>6.38E-12</u>
<u>SSW</u>	<u>6.89E-10</u>	<u>3.06E-10</u>	<u>1.85E-10</u>	<u>9.37E-11</u>	<u>5.67E-11</u>	<u>3.80E-11</u>	<u>2.72E-11</u>	<u>2.05E-11</u>	<u>1.59E-11</u>	<u>1.27E-11</u>	<u>1.04E-11</u>
<u>SW</u>	<u>2.46E-10</u>	<u>3.19E-10</u>	<u>1.93E-10</u>	<u>9.77E-11</u>	<u>5.91E-11</u>	<u>3.96E-11</u>	<u>2.84E-11</u>	<u>2.13E-11</u>	<u>1.66E-11</u>	<u>1.32E-11</u>	<u>1.08E-11</u>
<u>WSW</u>	<u>5.74E-11</u>	<u>1.06E-10</u>	<u>6.43E-11</u>	<u>3.25E-11</u>	<u>1.97E-11</u>	<u>1.32E-11</u>	<u>9.44E-12</u>	<u>7.09E-12</u>	<u>5.51E-12</u>	<u>4.40E-12</u>	<u>3.60E-12</u>
<u>W</u>	<u>1.90E-11</u>	<u>4.31E-11</u>	<u>2.61E-11</u>	<u>1.32E-11</u>	<u>7.98E-12</u>	<u>5.35E-12</u>	<u>3.83E-12</u>	<u>2.88E-12</u>	<u>2.24E-12</u>	<u>1.79E-12</u>	<u>1.46E-12</u>
<u>WNW</u>	<u>9.13E-11</u>	<u>4.06E-11</u>	<u>2.46E-11</u>	<u>1.24E-11</u>	<u>7.52E-12</u>	<u>5.04E-12</u>	<u>3.61E-12</u>	<u>2.71E-12</u>	<u>2.11E-12</u>	<u>1.69E-12</u>	<u>1.38E-12</u>
<u>NW</u>	<u>1.31E-10</u>	<u>5.84E-11</u>	<u>3.54E-11</u>	<u>1.79E-11</u>	<u>1.08E-11</u>	<u>7.25E-12</u>	<u>5.20E-12</u>	<u>3.90E-12</u>	<u>3.04E-12</u>	<u>2.42E-12</u>	<u>1.98E-12</u>
<u>NNW</u>	<u>1.95E-10</u>	<u>8.65E-11</u>	<u>5.24E-11</u>	<u>2.65E-11</u>	<u>1.60E-11</u>	<u>1.08E-11</u>	<u>7.70E-12</u>	<u>5.78E-12</u>	<u>4.50E-12</u>	<u>3.59E-12</u>	<u>2.93E-12</u>
<u>N</u>	<u>1.20E-10</u>	<u>5.46E-11</u>	<u>9.38E-11</u>	<u>4.74E-11</u>	<u>2.87E-11</u>	<u>1.92E-11</u>	<u>1.38E-11</u>	<u>1.04E-11</u>	<u>8.05E-12</u>	<u>6.43E-12</u>	<u>5.25E-12</u>
<u>NNE</u>	<u>2.08E-10</u>	<u>9.42E-11</u>	<u>1.95E-10</u>	<u>9.84E-11</u>	<u>5.95E-11</u>	<u>3.99E-11</u>	<u>2.86E-11</u>	<u>2.15E-11</u>	<u>1.67E-11</u>	<u>1.33E-11</u>	<u>1.09E-11</u>
<u>NE</u>	<u>4.92E-10</u>	<u>2.18E-10</u>	<u>1.32E-10</u>	<u>6.69E-11</u>	<u>4.05E-11</u>	<u>2.71E-11</u>	<u>1.95E-11</u>	<u>1.46E-11</u>	<u>1.14E-11</u>	<u>9.07E-12</u>	<u>7.40E-12</u>
<u>ENE</u>	<u>2.44E-10</u>	<u>1.08E-10</u>	<u>6.56E-11</u>	<u>3.32E-11</u>	<u>2.01E-11</u>	<u>1.35E-11</u>	<u>9.65E-12</u>	<u>7.24E-12</u>	<u>5.63E-12</u>	<u>4.50E-12</u>	<u>3.67E-12</u>
<u>E</u>	<u>1.88E-10</u>	<u>8.34E-11</u>	<u>5.05E-11</u>	<u>2.55E-11</u>	<u>1.55E-11</u>	<u>1.04E-11</u>	<u>7.42E-12</u>	<u>5.57E-12</u>	<u>4.33E-12</u>	<u>3.46E-12</u>	<u>2.83E-12</u>
<u>ESE</u>	<u>1.42E-10</u>	<u>6.28E-11</u>	<u>3.81E-11</u>	<u>1.92E-11</u>	<u>1.16E-11</u>	<u>7.81E-12</u>	<u>5.60E-12</u>	<u>4.20E-12</u>	<u>3.27E-12</u>	<u>2.61E-12</u>	<u>2.13E-12</u>
<u>SE</u>	<u>1.60E-10</u>	<u>7.10E-11</u>	<u>4.30E-11</u>	<u>2.18E-11</u>	<u>1.32E-11</u>	<u>8.83E-12</u>	<u>6.33E-12</u>	<u>4.75E-12</u>	<u>3.69E-12</u>	<u>2.95E-12</u>	<u>2.41E-12</u>
<u>SSE</u>	<u>2.42E-10</u>	<u>1.07E-10</u>	<u>6.50E-11</u>	<u>3.29E-11</u>	<u>1.99E-11</u>	<u>1.33E-11</u>	<u>9.55E-12</u>	<u>7.17E-12</u>	<u>5.58E-12</u>	<u>4.46E-12</u>	<u>3.64E-12</u>

TVA Letter Dated: August 11, 2008

Responses to Environmental Report Requests for Additional Information – Radiological/Fuel Cycle/Waste Systems

TABLE 2.7-124 (Sheet 3 of 3)ANNUAL AVERAGE D/Q (m<sup>-2</sup>)FOR EACH 22.5° SECTOR AT THE SEGMENTS (MILES) SHOWN AT THE TOP

<u>SECTOR</u>	<u>.5-1</u>	<u>1-2</u>	<u>2-3</u>	<u>3-4</u>	<u>4-5</u>	<u>5-10</u>	<u>10-20</u>	<u>20-30</u>	<u>30-40</u>	<u>40-50</u>
<u>S</u>	<u>9.97E-09</u>	<u>3.83E-09</u>	<u>2.12E-09</u>	<u>9.54E-10</u>	<u>5.40E-10</u>	<u>2.08E-10</u>	<u>6.00E-11</u>	<u>2.38E-11</u>	<u>1.27E-11</u>	<u>7.86E-12</u>
<u>SSW</u>	<u>9.87E-09</u>	<u>3.04E-09</u>	<u>1.04E-09</u>	<u>7.45E-10</u>	<u>8.34E-10</u>	<u>3.37E-10</u>	<u>9.76E-11</u>	<u>3.87E-11</u>	<u>2.07E-11</u>	<u>1.28E-11</u>
<u>SW</u>	<u>9.64E-09</u>	<u>2.93E-09</u>	<u>9.92E-10</u>	<u>4.93E-10</u>	<u>2.97E-10</u>	<u>2.47E-10</u>	<u>1.02E-10</u>	<u>4.03E-11</u>	<u>2.15E-11</u>	<u>1.33E-11</u>
<u>WSW</u>	<u>2.07E-09</u>	<u>6.72E-10</u>	<u>2.39E-10</u>	<u>1.21E-10</u>	<u>7.21E-11</u>	<u>7.67E-11</u>	<u>3.38E-11</u>	<u>1.34E-11</u>	<u>7.16E-12</u>	<u>4.43E-12</u>
<u>W</u>	<u>7.16E-10</u>	<u>2.30E-10</u>	<u>8.00E-11</u>	<u>4.01E-11</u>	<u>2.38E-11</u>	<u>3.02E-11</u>	<u>1.37E-11</u>	<u>5.44E-12</u>	<u>2.91E-12</u>	<u>1.80E-12</u>
<u>WNW</u>	<u>1.06E-09</u>	<u>3.36E-10</u>	<u>1.17E-10</u>	<u>9.88E-11</u>	<u>1.16E-10</u>	<u>4.48E-11</u>	<u>1.30E-11</u>	<u>5.13E-12</u>	<u>2.74E-12</u>	<u>1.70E-12</u>
<u>NW</u>	<u>2.61E-09</u>	<u>7.09E-10</u>	<u>2.24E-10</u>	<u>1.68E-10</u>	<u>1.67E-10</u>	<u>6.44E-11</u>	<u>1.86E-11</u>	<u>7.38E-12</u>	<u>3.94E-12</u>	<u>2.44E-12</u>
<u>NNW</u>	<u>3.58E-09</u>	<u>1.00E-09</u>	<u>3.22E-10</u>	<u>2.47E-10</u>	<u>2.48E-10</u>	<u>9.54E-11</u>	<u>2.76E-11</u>	<u>1.09E-11</u>	<u>5.84E-12</u>	<u>3.62E-12</u>
<u>N</u>	<u>6.33E-09</u>	<u>1.72E-09</u>	<u>5.36E-10</u>	<u>2.58E-10</u>	<u>1.51E-10</u>	<u>8.66E-11</u>	<u>4.94E-11</u>	<u>1.96E-11</u>	<u>1.05E-11</u>	<u>6.47E-12</u>
<u>NNE</u>	<u>1.25E-08</u>	<u>3.15E-09</u>	<u>9.50E-10</u>	<u>4.51E-10</u>	<u>2.63E-10</u>	<u>1.64E-10</u>	<u>1.03E-10</u>	<u>4.06E-11</u>	<u>2.17E-11</u>	<u>1.34E-11</u>
<u>NE</u>	<u>9.71E-09</u>	<u>2.50E-09</u>	<u>8.08E-10</u>	<u>8.42E-10</u>	<u>6.26E-10</u>	<u>2.41E-10</u>	<u>6.97E-11</u>	<u>2.76E-11</u>	<u>1.48E-11</u>	<u>9.13E-12</u>
<u>ENE</u>	<u>6.53E-09</u>	<u>2.21E-09</u>	<u>1.22E-09</u>	<u>5.49E-10</u>	<u>3.11E-10</u>	<u>1.20E-10</u>	<u>3.46E-11</u>	<u>1.37E-11</u>	<u>7.32E-12</u>	<u>4.53E-12</u>
<u>E</u>	<u>4.92E-09</u>	<u>1.83E-09</u>	<u>9.41E-10</u>	<u>4.23E-10</u>	<u>2.39E-10</u>	<u>9.19E-11</u>	<u>2.66E-11</u>	<u>1.05E-11</u>	<u>5.63E-12</u>	<u>3.48E-12</u>
<u>ESE</u>	<u>4.26E-09</u>	<u>1.81E-09</u>	<u>7.09E-10</u>	<u>3.19E-10</u>	<u>1.80E-10</u>	<u>6.93E-11</u>	<u>2.01E-11</u>	<u>7.95E-12</u>	<u>4.24E-12</u>	<u>2.63E-12</u>
<u>SE</u>	<u>3.76E-09</u>	<u>1.92E-09</u>	<u>8.02E-10</u>	<u>3.60E-10</u>	<u>2.04E-10</u>	<u>7.83E-11</u>	<u>2.27E-11</u>	<u>8.98E-12</u>	<u>4.80E-12</u>	<u>2.97E-12</u>
<u>SSE</u>	<u>7.06E-09</u>	<u>3.06E-09</u>	<u>1.21E-09</u>	<u>5.44E-10</u>	<u>3.08E-10</u>	<u>1.18E-10</u>	<u>3.42E-11</u>	<u>1.36E-11</u>	<u>7.25E-12</u>	<u>4.49E-12</u>



Responses to Environmental Report Requests for Additional Information – Radiological/Fuel Cycle/Waste Systems

7. Change COLA Part 3, ER Chapter 2, Section 2.7, by **replacing** Table 2.7-125, “ $\chi/Q$  and D/Q Values for No Decay, Decay, Depleted and Undepleted, at Each Receptor Location,” as follows:

TABLE 2.7-125 (Sheet 1 of 2)  
 $\chi/Q$  AND D/Q VALUES FOR NO DECAY, DECAY, DEPLETED AND UNDEPLETED, AT EACH RECEPTOR LOCATION

Receptor	Sector	Distance		X/Q (sec/m <sup>3</sup> )	X/Q (sec/m <sup>3</sup> )	X/Q (sec/m <sup>3</sup> )	D/Q (m <sup>-2</sup> )
		(miles)	(meters)	No Decay Undepleted	2.26 Day Decay Undepleted	8.00 Day Decay Depleted	
EAB	S	0.71	1145	1.10E-06	1.10E-06	1.10E-06	1.10E-08
EAB	SSW	1.03	1660	1.20E-06	1.20E-06	1.10E-06	5.90E-09
EAB	SW	0.78	1249	1.40E-06	1.40E-06	1.30E-06	9.80E-09
EAB	WSW	0.73	1177	3.40E-07	3.40E-07	3.10E-07	2.30E-09
EAB	W	0.59	949	1.10E-07	1.10E-07	1.00E-07	9.60E-10
EAB	WNW	0.53	855	1.60E-07	1.60E-07	1.40E-07	1.60E-09
EAB	NW	0.53	855	3.70E-07	3.70E-07	3.40E-07	4.20E-09
EAB	NNW	0.54	866	4.90E-07	4.90E-07	4.50E-07	5.60E-09
EAB	N	0.58	935	7.90E-07	7.90E-07	7.30E-07	9.10E-09
EAB	NNE	0.77	1244	1.40E-06	1.40E-06	1.30E-06	1.20E-08
EAB	NE	1.1	1769	7.00E-07	7.00E-07	6.60E-07	4.50E-09
EAB	ENE	0.78	1250	6.30E-07	6.20E-07	5.80E-07	6.40E-09
EAB	E	0.59	947	5.50E-07	5.50E-07	5.10E-07	7.10E-09
EAB	ESE	0.58	927	4.60E-07	4.60E-07	4.30E-07	6.30E-09
EAB	SE	0.58	927	4.80E-07	4.80E-07	4.40E-07	5.40E-09
EAB	SSE	0.58	932	7.70E-07	7.70E-07	7.10E-07	1.00E-08
GARDEN	S	4.91	7900	3.50E-07	3.30E-07	3.10E-07	4.40E-10
GARDEN	SSW	3.75	6039	4.00E-07	3.90E-07	3.80E-07	4.80E-10
GARDEN	SW	1.13	1817	1.10E-06	1.10E-06	1.00E-06	4.80E-09
GARDEN	WSW	1.11	1780	2.80E-07	2.80E-07	2.70E-07	1.10E-09
GARDEN	W	1.13	1813	8.20E-08	8.20E-08	7.80E-08	3.70E-10
GARDEN	WNW	0.75	1213	1.40E-07	1.40E-07	1.30E-07	1.10E-09
GARDEN	NW	0.68	1095	3.10E-07	3.10E-07	2.90E-07	3.10E-09
GARDEN	NNW	1.14	1831	2.70E-07	2.60E-07	2.50E-07	1.60E-09
GARDEN	N	1.47	2368	3.30E-07	3.20E-07	3.10E-07	1.60E-09
GARDEN	NNE	1.4	2246	7.00E-07	7.00E-07	6.60E-07	3.30E-09
GARDEN	NE	3.78	6079	1.10E-06	1.00E-06	1.00E-06	9.10E-10
GARDEN	ENE	3.48	5600	4.90E-07	4.60E-07	4.50E-07	5.40E-10
GARDEN	E	2.43	3911	6.60E-07	6.40E-07	6.20E-07	9.60E-10
GARDEN	ESE	2.76	4444	3.60E-07	3.40E-07	3.30E-07	5.40E-10
GARDEN	SE	2.38	3830	5.30E-07	5.20E-07	5.00E-07	8.60E-10
COW	SW	2.43	3907	5.30E-07	5.20E-07	5.10E-07	1.00E-09
COW	WSW	4.6	7409	8.50E-08	8.10E-08	8.10E-08	6.80E-11
COW	W	1.53	2457	7.10E-08	7.00E-08	6.90E-08	2.10E-10
COW	WNW	0.8	1286	1.40E-07	1.30E-07	1.30E-07	1.00E-09

Responses to Environmental Report Requests for Additional Information – Radiological/Fuel  
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Receptor	Sector	Distance		X/Q (sec/m <sup>3</sup> )	X/Q (sec/m <sup>3</sup> )	X/Q (sec/m <sup>3</sup> )	D/Q (m <sup>-2</sup> )
		(miles)	(meters)	No Decay Undepleted	2.26 Day Decay Undepleted	8.00 Day Decay Depleted	
COW	NW	0.78	1250	2.80E-07	2.80E-07	2.60E-07	2.60E-09
COW	NNW	1.36	2186	2.20E-07	2.20E-07	2.10E-07	1.10E-09
COW	N	2.89	4646	1.70E-07	1.60E-07	1.60E-07	3.80E-10
COW	NNE	2.25	3622	4.30E-07	4.20E-07	4.00E-07	1.20E-09
COW	NE	4.3	6914	8.40E-07	7.90E-07	8.00E-07	6.90E-10
COW	ENE	3.88	6243	4.00E-07	3.80E-07	3.60E-07	4.30E-10
COW	E	2.35	3783	7.00E-07	6.80E-07	6.70E-07	1.00E-09
COW	ESE	3.79	6103	1.90E-07	1.80E-07	1.70E-07	2.60E-10
COW	SE	2.22	3568	6.20E-07	6.00E-07	5.90E-07	1.00E-09
GOAT	NW	2.37	3809	7.60E-08	7.50E-08	7.20E-08	2.40E-10
GOAT	NNE	2.61	4193	3.70E-07	3.60E-07	3.50E-07	8.40E-10
GOAT	NE	4.78	7686	7.00E-07	6.50E-07	6.50E-07	5.40E-10
GOAT	E	2.35	3785	7.00E-07	6.80E-07	6.70E-07	1.00E-09
GOAT	ESE	4.32	6958	1.50E-07	1.40E-07	1.30E-07	1.90E-10
GOAT	SE	4.47	7197	1.50E-07	1.50E-07	1.40E-07	2.00E-10
HOUSE	S	4.74	7634	3.70E-07	3.50E-07	3.30E-07	4.70E-10
HOUSE	SSW	3.51	5656	3.50E-07	3.40E-07	3.40E-07	5.10E-10
HOUSE	SW	1.81	2907	7.30E-07	7.20E-07	7.00E-07	1.90E-09
HOUSE	WSW	2.55	4101	1.60E-07	1.50E-07	1.50E-07	2.20E-10
HOUSE	W	1.44	2324	7.30E-08	7.20E-08	7.00E-08	2.30E-10
HOUSE	WNW	0.74	1187	1.40E-07	1.40E-07	1.30E-07	1.20E-09
HOUSE	NW	0.69	1113	3.10E-07	3.10E-07	2.80E-07	3.10E-09
HOUSE	NNW	0.7	1124	4.30E-07	4.20E-07	4.00E-07	4.20E-09
HOUSE	N	0.9	1454	5.50E-07	5.50E-07	5.10E-07	4.60E-09
HOUSE	NNE	1.19	1908	8.30E-07	8.30E-07	7.80E-07	4.80E-09
HOUSE	NE	4.42	7111	8.00E-07	7.50E-07	7.50E-07	6.40E-10
HOUSE	ENE	3.52	5667	4.80E-07	4.50E-07	4.40E-07	5.30E-10
HOUSE	E	2.16	3478	8.40E-07	8.20E-07	8.10E-07	1.30E-09
HOUSE	ESE	2.09	3363	6.40E-07	6.20E-07	6.10E-07	1.00E-09
HOUSE	SE	1.94	3120	8.20E-07	8.10E-07	8.00E-07	1.40E-09
HOUSE	SSE	4.82	7758	2.30E-07	2.10E-07	2.00E-07	2.60E-10

Responses to Environmental Report Requests for Additional Information – Radiological/Fuel Cycle/Waste Systems

8. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-3, “Gaseous Pathway Consumption Factors,” as follows:

TABLE 5.4-3  
GASEOUS PATHWAY CONSUMPTION FACTORS

Maximum Individual Consumption Factors <sup>(a)</sup>

<u>Age Group</u>	<u>Vegetables (kg/yr)</u>	<u>Leafy Vegetables (kg/yr)</u>	<u>Milk (L/yr)</u>	<u>Meat (kg/yr)</u>
<u>Adult</u>	<u>520</u>	<u>64</u>	<u>310</u>	<u>110</u>
<u>Teen</u>	<u>630</u>	<u>42</u>	<u>400</u>	<u>65</u>
<u>Child</u>	<u>520</u>	<u>26</u>	<u>330</u>	<u>41</u>
<u>Infant</u>	<u>0</u>	<u>0</u>	<u>330</u>	<u>0</u>

Average Consumption Factors <sup>(a)</sup>

<u>Age Group</u>	<u>Vegetables (kg/yr)</u>	<u>Leafy Vegetables (kg/yr)</u>	<u>Milk (L/yr)</u>	<u>Meat (kg/yr)</u>
<u>Adult</u>	<u>190</u>	<u>30</u>	<u>110</u>	<u>95</u>
<u>Teen</u>	<u>240</u>	<u>20</u>	<u>200</u>	<u>59</u>
<u>Child</u>	<u>200</u>	<u>10</u>	<u>170</u>	<u>37</u>

- a) Consumption factors from USNRC Regulatory Guide 1.109, Tables E-4 and E-5 and NUREG/CR-4653, the GASPAR II – Technical Reference and User Guide, Table 2.16.

9. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-4, “Population Distribution,” as follows:

TABLE 5.4-4  
POPULATION DISTRIBUTION

<u>Direction</u>	<u>DISTANCE (miles)</u>									
	<u>0-1</u>	<u>1-2</u>	<u>2-3</u>	<u>3-4</u>	<u>4-5</u>	<u>5-10</u>	<u>10-20</u>	<u>20-30</u>	<u>30-40</u>	<u>40-50</u>
<u>N</u>	<u>5</u>	<u>58</u>	<u>77</u>	<u>52</u>	<u>21</u>	<u>266</u>	<u>574</u>	<u>4,765</u>	<u>9,177</u>	<u>6,981</u>
<u>NNE</u>	<u>0</u>	<u>47</u>	<u>117</u>	<u>173</u>	<u>183</u>	<u>825</u>	<u>6,419</u>	<u>7,783</u>	<u>8,151</u>	<u>11,697</u>
<u>NE</u>	<u>0</u>	<u>30</u>	<u>33</u>	<u>17</u>	<u>28</u>	<u>254</u>	<u>6,887</u>	<u>9,524</u>	<u>29,319</u>	<u>91,976</u>
<u>ENE</u>	<u>0</u>	<u>3</u>	<u>9</u>	<u>16</u>	<u>26</u>	<u>214</u>	<u>5,902</u>	<u>16,297</u>	<u>79,290</u>	<u>250,397</u>
<u>E</u>	<u>0</u>	<u>5</u>	<u>25</u>	<u>77</u>	<u>175</u>	<u>1,463</u>	<u>4,264</u>	<u>8,575</u>	<u>13,575</u>	<u>17,399</u>
<u>ESE</u>	<u>0</u>	<u>5</u>	<u>20</u>	<u>97</u>	<u>302</u>	<u>1,566</u>	<u>5,218</u>	<u>12,458</u>	<u>18,212</u>	<u>13,543</u>
<u>SE</u>	<u>0</u>	<u>4</u>	<u>11</u>	<u>20</u>	<u>34</u>	<u>1,301</u>	<u>10,948</u>	<u>10,537</u>	<u>8,973</u>	<u>19,181</u>
<u>SSE</u>	<u>0</u>	<u>4</u>	<u>9</u>	<u>19</u>	<u>44</u>	<u>866</u>	<u>11,572</u>	<u>12,556</u>	<u>10,824</u>	<u>15,461</u>
<u>S</u>	<u>0</u>	<u>1</u>	<u>4</u>	<u>29</u>	<u>103</u>	<u>2,103</u>	<u>6,340</u>	<u>9,632</u>	<u>19,713</u>	<u>47,054</u>
<u>SSW</u>	<u>0</u>	<u>0</u>	<u>10</u>	<u>191</u>	<u>723</u>	<u>861</u>	<u>3,529</u>	<u>19,894</u>	<u>38,054</u>	<u>34,127</u>
<u>SW</u>	<u>0</u>	<u>3</u>	<u>51</u>	<u>160</u>	<u>337</u>	<u>5,524</u>	<u>5,964</u>	<u>12,583</u>	<u>21,301</u>	<u>29,876</u>
<u>WSW</u>	<u>0</u>	<u>24</u>	<u>94</u>	<u>293</u>	<u>737</u>	<u>13,759</u>	<u>2,920</u>	<u>9,515</u>	<u>16,780</u>	<u>16,889</u>
<u>W</u>	<u>5</u>	<u>51</u>	<u>135</u>	<u>207</u>	<u>198</u>	<u>707</u>	<u>2,088</u>	<u>40,264</u>	<u>111,023</u>	<u>187,497</u>
<u>WNW</u>	<u>20</u>	<u>75</u>	<u>157</u>	<u>242</u>	<u>284</u>	<u>447</u>	<u>1,397</u>	<u>8,045</u>	<u>20,143</u>	<u>34,014</u>
<u>NW</u>	<u>13</u>	<u>56</u>	<u>58</u>	<u>32</u>	<u>27</u>	<u>198</u>	<u>1,056</u>	<u>3,273</u>	<u>7,893</u>	<u>15,181</u>
<u>NNW</u>	<u>12</u>	<u>58</u>	<u>57</u>	<u>22</u>	<u>12</u>	<u>257</u>	<u>368</u>	<u>6,910</u>	<u>20,169</u>	<u>37,006</u>

Notes:

2027 population distribution

Responses to Environmental Report Requests for Additional Information – Radiological/Fuel Cycle/Waste Systems

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10. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-5, “Commodity Production,” as follows:

TABLE 5.4-5  
COMMODITY PRODUCTION

<u>Commodity</u>	<u>Value</u>
<u>Milk Production (L/yr)</u>	<u>61,128,558</u>
<u>Meat Production (kg/yr)</u>	<u>20,644,713</u>
<u>Vegetable Production (kg/yr)</u>	<u>144,009,482</u>

Notes:

A uniform distribution is assumed instead of using distribution data by compass direction and distance.

11. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-6, “GASPAR Input Data,” as follows:

TABLE 5.4-6  
GASPAR INPUT DATA

<u>Parameter</u>	<u>Value</u>
<u>Distance (in mi) from site to the northeast corner of the U.S.</u>	<u>1262</u>
<u>Fraction of year leafy vegetables are grown <sup>(a)</sup></u>	<u>0.42</u>
<u>Fraction of year milk cows are on pasture <sup>(a)</sup></u>	<u>0.67</u>
<u>Fraction of individual’s vegetable intake from own garden <sup>(b)</sup></u>	<u>0.76</u>
<u>Fraction of milk-cow feed intake from pasture while on pasture <sup>(b)</sup></u>	<u>1</u>
<u>Average relative humidity over the growing season <sup>(c)</sup></u>	<u>75.6%</u>
<u>Average temperature over growing season <sup>(c)</sup></u>	<u>71.7 °F</u>
<u>Fraction of year milk goats are on pasture <sup>(a)</sup></u>	<u>0.75</u>
<u>Fraction of milk goat feed intake from pasture while on pasture <sup>(b)</sup></u>	<u>1</u>
<u>Fraction of year beef cattle are on pasture <sup>(a)</sup></u>	<u>0.67</u>
<u>Fraction of beef-cattle feed intake from pasture while on pasture <sup>(b)</sup></u>	<u>1</u>
<u>Nearest Garden <sup>(d)</sup></u>	<u>SW, 1817 m</u>
<u>Nearest Site Boundary <sup>(e)</sup></u>	<u>NNE, 1244 m</u>
<u>Maximum Point of Concentration <sup>(f)</sup></u>	<u>S, 2800 m</u>
<u>Production data</u>	<u>Table 5.4.5</u>
<u>Source term multiplier</u>	<u>1</u>
<u>Source-term data</u>	<u>DCD Table 11.3-3</u>
<u>Meteorological data</u>	<u>Tables 2.7-120 to 2.7-125</u>

- a) Estimated based on Figure 2.2 of the GASPAR II Technical Reference and User Guide
- b) Conservative GASPAR II default value.
- c) Using a conservative growing season of May through October, the average relative humidity and temperature were determined based on historical data from Huntsville, AL and Scottsboro, AL, respectively.
- d) “Nearest” refers to the receptor location at which the highest radiation dose to an individual from the applicable pathways has been estimated. The nearest garden results in the highest  $\gamma/Q$  and D/Q values of the offsite receptor locations identified in Table 2.7-119. For conservatism, all dose pathways, with the exception of doses due to immersion in the plume, are evaluated at the nearest garden.
- e) “Nearest” refers to that site boundary location at which the highest radiation doses due to gaseous effluents have been estimated to occur.
- f) “Maximum Point of Concentration” refers to the location beyond the site boundary with the highest  $\gamma/Q$  values and is not associated with the location of any particular receptor or the site boundary. The maximum point of concentration is a “peak”  $\gamma/Q$  value within three miles of the site created as a result of aerodynamic downwash due to terrain effects and recirculation. No peaks occur beyond the locations of the nearest receptors given in Table 2.7-119 within 3 miles of the site.
- g) There were no revisions to the GASPAR II block data module.

TVA Letter Dated: August 11, 2008

Responses to Environmental Report Requests for Additional Information – Radiological/Fuel Cycle/Waste Systems

12. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-10, “Annual Dose to a Maximally Exposed Individual from Gaseous Effluents (per unit),” as follows:

TABLE 5.4-10 (Sheet 1 of 2)  
ANNUAL DOSE TO A MAXIMALLY EXPOSED INDIVIDUAL FROM GASEOUS EFFLUENTS (PER UNIT)

<u>Dose Rate (mrem/yr)</u>								
<u>Adult</u>	<u>Organ</u>							
<u>Pathway</u>	<u>Whole Body</u>	<u>GI-Tract</u>	<u>Bone</u>	<u>Liver</u>	<u>Kidney</u>	<u>Thyroid</u>	<u>Lung</u>	<u>Skin</u>
<u>Plume</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.72E-01</u>	<u>9.57E-01</u>
<u>Ground</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.93E-02</u>
<u>Vegetable</u>	<u>6.17E-02</u>	<u>6.34E-02</u>	<u>3.60E-01</u>	<u>6.18E-02</u>	<u>5.77E-02</u>	<u>8.66E-01</u>	<u>5.15E-02</u>	<u>5.06E-02</u>
<u>Meat</u>	<u>1.93E-02</u>	<u>2.39E-02</u>	<u>8.80E-02</u>	<u>1.94E-02</u>	<u>1.89E-02</u>	<u>4.87E-02</u>	<u>1.85E-02</u>	<u>1.84E-02</u>
<u>Goat Milk</u>	<u>4.26E-02</u>	<u>2.69E-02</u>	<u>1.24E-01</u>	<u>4.96E-02</u>	<u>3.81E-02</u>	<u>1.17E+00</u>	<u>2.72E-02</u>	<u>2.48E-02</u>
<u>Inhalation</u>	<u>9.04E-03</u>	<u>9.15E-03</u>	<u>1.42E-03</u>	<u>9.25E-03</u>	<u>9.41E-03</u>	<u>8.50E-02</u>	<u>1.18E-02</u>	<u>8.77E-03</u>
<u>Total</u>	<u>3.33E-01</u>	<u>3.23E-01</u>	<u>7.73E-01</u>	<u>3.40E-01</u>	<u>3.24E-01</u>	<u>2.37E+00</u>	<u>3.23E-01</u>	<u>1.11E+00</u>
<u>Teen</u>	<u>Organ</u>							
<u>Pathway</u>	<u>Whole Body</u>	<u>GI-Tract</u>	<u>Bone</u>	<u>Liver</u>	<u>Kidney</u>	<u>Thyroid</u>	<u>Lung</u>	<u>Skin</u>
<u>Plume</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.58E-01</u>	<u>1.72E-01</u>	<u>9.57E-01</u>
<u>Ground</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.20E-02</u>	<u>4.93E-02</u>
<u>Vegetable</u>	<u>9.35E-02</u>	<u>9.55E-02</u>	<u>5.63E-01</u>	<u>9.86E-02</u>	<u>9.20E-02</u>	<u>1.19E+00</u>	<u>8.27E-02</u>	<u>8.10E-02</u>
<u>Meat</u>	<u>1.57E-02</u>	<u>1.83E-02</u>	<u>7.40E-02</u>	<u>1.60E-02</u>	<u>1.56E-02</u>	<u>3.71E-02</u>	<u>1.53E-02</u>	<u>1.52E-02</u>
<u>Goat Milk</u>	<u>6.11E-02</u>	<u>4.52E-02</u>	<u>2.24E-01</u>	<u>8.58E-02</u>	<u>6.57E-02</u>	<u>1.86E+00</u>	<u>4.72E-02</u>	<u>4.25E-02</u>
<u>Inhalation</u>	<u>9.15E-03</u>	<u>9.24E-03</u>	<u>1.73E-03</u>	<u>9.50E-03</u>	<u>9.73E-03</u>	<u>1.06E-01</u>	<u>1.34E-02</u>	<u>8.85E-03</u>
<u>Total</u>	<u>3.79E-01</u>	<u>3.68E-01</u>	<u>1.06E+00</u>	<u>4.10E-01</u>	<u>3.83E-01</u>	<u>3.39E+00</u>	<u>3.73E-01</u>	<u>1.15E+00</u>

TVA Letter Dated: August 11, 2008

Responses to Environmental Report Requests for Additional Information – Radiological/Fuel Cycle/Waste Systems

TABLE 5.4-10 (Sheet 2 of 2)

ANNUAL DOSE TO A MAXIMALLY EXPOSED INDIVIDUAL FROM GASEOUS EFFLUENTS (PER UNIT)

Dose Rate (mrem/yr)

<b>Child</b>	<b>Organ</b>							
Pathway	Whole Body	GI-Tract	Bone	Liver	Kidney	Thyroid	Lung	Skin
Plume	1.58E-01	1.58E-01	1.58E-01	1.58E-01	1.58E-01	1.58E-01	1.72E-01	9.57E-01
Ground	4.20E-02	4.20E-02	4.20E-02	4.20E-02	4.20E-02	4.20E-02	4.20E-02	4.93E-02
Vegetable	2.07E-01	1.99E-01	1.30E+00	2.18E-01	2.07E-01	2.33E+00	1.91E-01	1.89E-01
Meat	2.86E-02	2.98E-02	1.39E-01	2.91E-02	2.86E-02	6.12E-02	2.82E-02	2.81E-02
Goat Milk	1.16E-01	9.96E-02	5.39E-01	1.70E-01	1.35E-01	3.71E+00	1.04E-01	9.74E-02
Inhalation	8.10E-03	7.99E-03	2.09E-03	8.45E-03	8.64E-03	1.24E-01	1.16E-02	7.81E-03
Total	5.60E-01	5.36E-01	2.18E+00	6.26E-01	5.79E-01	6.43E+00	5.49E-01	1.33E+00
<b>Infant</b>								
Pathway	Whole Body	GI-Tract	Bone	Liver	Kidney	Thyroid	Lung	Skin
Plume	1.58E-01	1.58E-01	1.58E-01	1.58E-01	1.58E-01	1.58E-01	1.72E-01	9.57E-01
Ground	4.20E-02	4.20E-02	4.20E-02	4.20E-02	4.20E-02	4.20E-02	4.20E-02	4.93E-02
Vegetable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Meat	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Goat Milk	2.19E-01	1.98E-01	9.98E-01	3.41E-01	2.59E-01	8.96E+00	2.09E-01	1.96E-01
Inhalation	4.68E-03	4.56E-03	1.05E-03	5.05E-03	5.03E-03	1.11E-01	7.10E-03	4.49E-03
Total	4.24E-01	4.03E-01	1.20E+00	5.46E-01	4.64E-01	9.27E+00	4.30E-01	1.21E+00

## Notes:

- (a) The doses via the plume pathway correspond to the maximum point of concentration, 2800 m south of the site. Other pathways are conservatively evaluated at the nearest garden as defined in Table 5.4-6.



13. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-11, “Comparison of Maximum Individual Dose to 10 CFR Part 50, Appendix I Objectives – Gaseous Pathway (per unit),” as follows:

TABLE 5.4-11  
COMPARISON OF MAXIMUM INDIVIDUAL DOSE TO 10 CFR PART 50,  
APPENDIX I OBJECTIVES – GASEOUS PATHWAY  
(PER UNIT)

<u>Radionuclide Releases/ Type of Dose</u>	<u>Point of Evaluation</u>	<u>Calculated Dose</u>	<u>Design Objective <sup>(a)</sup></u>
<u>Noble Gas Releases</u>			
<u>Gamma air dose</u>	<u>Maximum Point of Concentration <sup>(b)</sup></u>	<u>2.65E-01 mrad</u>	<u>10 mrad</u>
<u>Beta air dose</u>	<u>Maximum Point of Concentration <sup>(b)</sup></u>	<u>1.39E+00 mrad</u>	<u>20 mrad</u>
<u>Total body dose</u>	<u>Maximum Point of Concentration <sup>(b)</sup></u>	<u>1.58E-01 mrem</u>	<u>5 mrem</u>
<u>Skin dose</u>	<u>Maximum Point of Concentration <sup>(b)</sup></u>	<u>9.57E-01 mrem</u>	<u>15 mrem</u>
<u>Iodine and Particulate Releases</u>			
<u>Organ dose (infant, thyroid) <sup>(d)</sup></u>	<u>Nearest Garden <sup>(c)</sup></u>	<u>9.11E+00 mrem</u>	<u>15 mrem</u>

- a) Source 10 CFR Part 50, Appendix I.
- b) “Maximum Point of Concentration” refers to the location with the highest  $\gamma/Q$  values and is not associated with the location of any particular receptor or the site boundary. The maximum point of concentration is a “peak”  $\gamma/Q$  value within three miles of the site created as a result of aerodynamic downwash due to terrain effects and recirculation. No peaks occur beyond the locations of the nearest receptors given in Table 2.7-119 within 3 miles of the site.
- c) The “Nearest Garden” is the offsite receptor location at which the highest radiation dose to an individual has been estimated. The nearest garden results in the highest  $\gamma/Q$  and D/Q values of the offsite receptor locations identified in Table 2.7-119. For conservatism, all dose pathways, with the exception of doses due to immersion in the plume, are evaluated at the nearest garden.
- d) The maximum organ dose includes the doses due to radioiodines and particulates only. All other doses provided in this table are due to noble gases only.

14. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-12, “Comparison of Maximum Individual Dose to 40 CFR Part 190 Limit – Gaseous Pathway,” as follows:

TABLE 5.4-12  
COMPARISON OF MAXIMUM INDIVIDUAL DOSE TO 40 CFR PART 190 LIMIT –  
GASEOUS PATHWAY

<u>Type of Dose (Annual)</u>	<u>Dose Limit <sup>(a)</sup></u>	<u>Calculated Dose <sup>(b), (c)</sup></u>
<u>Whole body dose equivalent</u>	<u>25 mrem</u>	<u>1.12 mrem</u>
<u>Dose to thyroid</u>	<u>75 mrem</u>	<u>18.5 mrem</u>
<u>Dose to skin</u>	<u>25 mrem</u>	<u>4.36 mrem</u>

- a) Source 40 CFR Part 190.  
b) The calculated dose includes the plume dose evaluated at the Maximum Point of Concentration and all other gaseous dose pathways evaluated at the Nearest Garden.  
c) Total for two units.

15. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-16, “Dose to Biota from Liquid and Gaseous Effluents,” as follows:

TABLE 5.4-16  
DOSE TO BIOTA FROM LIQUID AND GASEOUS EFFLUENTS

<u>Organism</u>	<u>Liquid Effluents <sup>(a)</sup></u>		<u>Gaseous Effluents</u>	
	<u>Internal Dose (mrad/yr)</u>	<u>External Dose (mrad/yr)</u>	<u>Internal Dose <sup>(b)</sup> (mrad/yr)</u>	<u>External Dose <sup>(c)</sup> (mrad/yr)</u>
<u>Fish</u>	<u>1.06</u>	<u>1.09</u>	<u>N/A</u>	<u>N/A</u>
<u>Invertebrate</u>	<u>3.24</u>	<u>2.18</u>	<u>N/A</u>	<u>N/A</u>
<u>Algae</u>	<u>1.42E+01</u>	<u>4.96E-03</u>	<u>N/A</u>	<u>N/A</u>
<u>Muskrat</u>	<u>6.22</u>	<u>0.72</u>	<u>1.19E-02</u>	<u>1.24</u>
<u>Raccoon</u>	<u>2.28</u>	<u>0.54</u>	<u>1.19E-02</u>	<u>0.90</u>
<u>Heron</u>	<u>3.38E+01</u>	<u>0.72</u>	<u>1.19E-02</u>	<u>0.87</u>
<u>Duck</u>	<u>5.42</u>	<u>1.09</u>	<u>1.19E-02</u>	<u>1.13</u>

- a) Based on conservative dilution factor of 1.

- b) Whole Body inhalation dose for infant at the site boundary as a surrogate for biota dose.
- c) Whole Body dose due to ground and plume exposure at the site boundary. Ground exposure increased by a ratio of the height used in GASPAR for dose due to ground deposition (1 meter) to the approximate height of the biota. This adjustment accounts for ground proximity.
- d) Total for two units.

16. Change COLA Part 3, ER Chapter 5, Section 5.4, by **replacing** Table 5.4-17, “Comparison of Maximum Site Individual Dose to 40 CFR Part 190 Limits,” as follows:

TABLE 5.4-17  
COMPARISON OF MAXIMUM SITE INDIVIDUAL DOSE TO 40 CFR PART 190 LIMITS

<u>Type of Dose (Annual)</u>	<u>Dose Per Unit (mrem)<sup>(a)</sup></u>	<u>Total Site Dose (mrem)<sup>(b)</sup></u>	<u>Dose Limit (mrem)<sup>(c)</sup></u>
<u>Whole body dose equivalent</u>	<u>0.77</u>	<u>1.53</u>	<u>25</u>
<u>Dose to thyroid</u>	<u>9.30</u>	<u>18.6</u>	<u>75</u>
<u>Dose to max organ<sup>(d)</sup></u>	<u>2.45</u>	<u>4.89</u>	<u>25</u>

- a) Includes gaseous and liquid effluent pathways and direct radiation sources. Direct radiation has been shown to be negligible per Subsection 5.4.2.3
- b) Includes gaseous and liquid effluent pathways and direct radiation sources for all units at the site. Direct radiation has been shown to be negligible per Subsection 5.4.2.3.
- c) Source 40 CFR Part 190.
- d) Conservatively includes the maximum dose to any organ due to liquid effluents and the maximum dose to any organ due to gaseous effluents, which do not necessarily apply to the same organ.

**ATTACHMENT:**

The following data are provided as Attachment 5.4.1-1A to this enclosure:

- 5.4.1-1A. Tennessee Valley Authority, XOQDOQ and GASPAR II Input and Output Decks, July 2008. (Electronic format - CD-ROM)

ATTACHMENT 5.4.1-1A  
TENNESSEE VALLEY AUTHORITY  
XOQDOQ AND GASPAR II INPUT AND OUTPUT DECKS (CD-ROM)  
JULY 2008

**Tennessee Valley Authority**

**XOQDOQ and GASPAR II Input and  
Output Decks  
(Electronic format – CD-ROM)**

**July 2008**