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DIRECTOR OF NUC. REACTOR REGULATION
U. S. NUC. REGULATORY COMMISSION
MAIL STATION P1-137

June 8, 1992

WASHINGTON DC
20555

Attached are the recent revisions of the Offsite Dose Calculation Manual (ODCM) Quad Cities Station Annex Chapter 11.

Please complete the following manual update:

Remove

- Quad Cities Station Annex Chapter 11, p. 11-1, 11-6, 11-9, 11-10, 11-12 and 11-15

Revision O.C.
February, 1991

Insert

- Quad Cities Station Annex Chapter 11, p. 11-1, 11-6, 11-9, 11-7a, 11-12 and 11-15

Revision O.G.
May, 1992

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ADD9

QUAD CITIES ANNEX INDEX

PAGE REVISION

CHAPTER 11

11-i	0.G
11-ii	0.C
11-iii	0.C
11-vi	0.C
11-1	0
11-2	0.C
11-3	0.C
11-4	0.C
11-5	0.C
11-6	0.G
11-7	0.C
11-8	0.G
11-9	0.G
11-10	0.G
11-11	0.C
11-12	0.C
11-13	0.C
11-14	0.C
11-15	0.G

QUAD CITIES

3. Waterborne^g

- | | | | |
|--|--|--------------------------------------|----------------------------------|
| a. <u>Public Water</u> | Q-19 East Moline Water Works, 16.0 mi SSW (25.8 km K)
Q-20 Davenport Water Works, 18.0 mi SSW (29.0 km L) | Weekly collection composited monthly | Gamma isotopic analysis monthly |
| b. <u>Cooling Water</u> | Q-21 Intake Canal, 0.1 mi W (0.2 km N)
Q-22 Discharge Canal, 0.1 mi SW (0.2 km L) | Weekly | Gross beta analysis weekly |
| c. <u>Shoreline Sediments</u> ^g | Q-27 Albany, Upstream on Mississippi River, 5.5 mi NE (8.8 km C)
Q-28 Cordova, Downstream on Mississippi River, 3.3 mi SSW (5.3 km K) | Annually | Gamma isotopic analysis annually |

4. Ingestion^h

- | | | | |
|-----------------------------|--|--|---|
| a. <u>Milk</u> ⁱ | Q-18 Musal Dairy, 5.5 mi SW (8.9 km L)
Q-25 Donald Waite Dairy, 13.0 mi E (20.9 km E)
Q-26 Bill Stanley Dairy, 3.0 mi ENE (4.8 km D) | Weekly: May to October
Monthly: November to April | I-131 analysis on each sample |
| b. <u>Fish</u> ^j | Q-24 Pool #14 of Miss. River | Semiannually | Gamma isotopic on edible portions of each sample. |

5. Land Use Census

- | | | | |
|-------------------------|-----------------------------|--------------------------------|---|
| a. <u>Milch Animals</u> | 1. Site boundary to 2 miles | Annually during grazing season | Enumeration by a door-to-door or equivalent counting technique. |
|-------------------------|-----------------------------|--------------------------------|---|

TABLE 11-2

REPORTING LEVELS FOR RADIOACTIVITY
CONCENTRATIONS IN ENVIRONMENTAL SAMPLES

Reporting Levels

Analysis	Water (pCi/l)	Airborne Particulate or Gases (pCi/m ³)	Fish (pCi/Kg, wet)	Milk (pCi/l)	Food Products (pCi/Kg, wet)
H-3	2 x 10 ⁴ (a)				
Mn-54	1 x 10 ³		3 x 10 ⁴		
Fe-59	4 x 10 ²		1 x 10 ⁴		
Co-58	1 x 10 ³		3 x 10 ⁴		
Co-60	3 x 10 ²		1 x 10 ⁴		
Zn-65	3 x 10 ²		2 x 10 ⁴		
Zr-Nb-95	4 x 10 ² (b)				
I-131	2	0.9		3	1 x 10 ²
Cs-134	30	10	1 x 10 ³	60	1 x 10 ³
Cs-137	50	20	1 x 10 ³	70	2 x 10 ³
Ba-La-140	2 x 10 ² (b)			3 x 10 ²	

a) For drinking water samples. This is 40 CFR Part 141 value.

b) Total for parent and daughter.

TABLE 11-3

PRACTICAL LOWER LIMITS OF DETECTION (LLD)
FOR STANDARD ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM

<u>Sample Media</u>	<u>Analysis</u>	<u>LLD^{A,B}</u> <u>(4.66 Σ)</u>	<u>Units</u>
Airborne "Particulate"	Gross Beta +	0.01	pCi/m ³
	Gamma Isotopic	0.01	pCi/m ³
Airborne I-131	Iodine 131	0.10	pCi/m ³
Milk/Public Water	I-131	5 ^o	pCi/l
	Cs-134	10	pCi/l
	Cs-137	10 Δ	pCi/l
	Tritium	200	pCi/l
	Gross Beta +	5	pCi/l
	Gamma Isotopic	20	pCi/l/nuclide
Sediment	Gross Beta +	2	pCi/g dry
	Gamma Isotopic	0.2	pCi/g dry
Fish Tissue	I-131 Thyroid	0.1	pCi/g wet
	Cs-134, 137	0.1	pCi/g wet
	Gross Beta +	1.0	pCi/g wet
	Gamma Isotopic	0.2	pCi/g wet

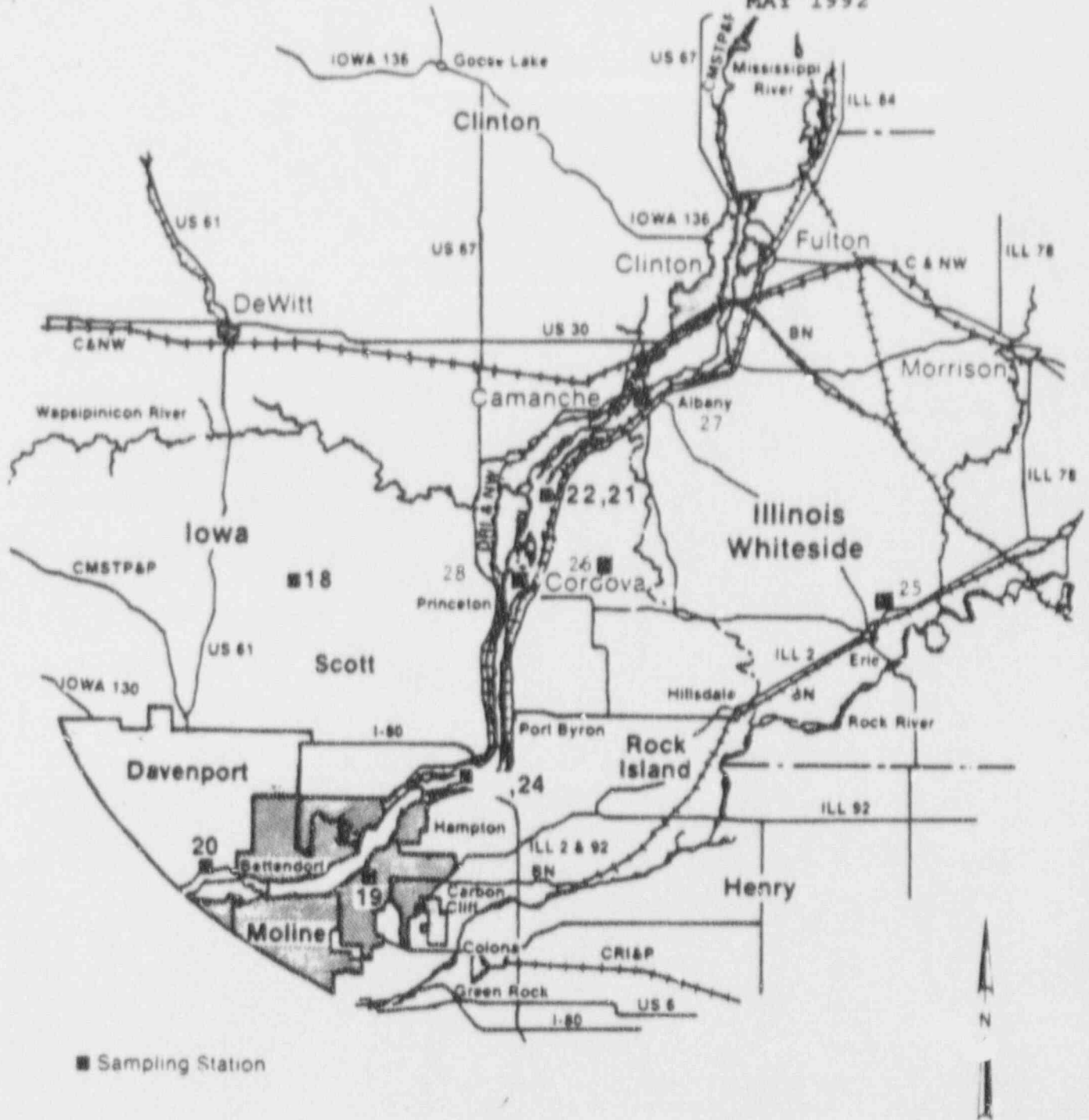
^o 0.5 pCi/l on milk samples collected during the pasture season.

+ Referenced to Cs-137

Δ 5.0 pCi/l on milk samples

Table 11-1 (Cont'd)

<u>Exposure Pathway and/or Sample</u>	<u>Sampling or Monitoring Locations^a</u>	<u>Sampling or Collection Frequency</u>	<u>Type and Frequency of Analysis</u>
b. <u>Nearest Resident</u>	In all 16 sectors up to 5 miles.	Annually	
^a See Table D-16 of Appendix D for definitions of sector codes used with kilometer distances.			
^b See Figure 11-1.			
^c Biweekly means every two weeks.			
^d A gamma isotopic analysis shall be performed wherever the gross beta concentration in a sample exceeds by five times (5x) the average concentration of the preceding calendar quarter for the sample location.			
^e Far field samples are analyzed when near field results are inconsistent with previous measurements and radioactivity is confirmed as having its origin in airborne effluents released from the station or at the discretion of the Emergency Preparedness Director.			
^f See Figure 11-2.			
^g Upstream shoreline sediment monitoring location is not required, serves as control only.			
^h See Figure 11-3.			
ⁱ Milk samples are required from two monitoring locations only. Three dairies are listed to ensure the minimum criteria.			
^j The fish monitoring location is not identified exactly on the map, the point, Q-24, represents the area of the station discharge, Pool #14.			



**OFFSITE DOSE CALCULATION MANUAL
QUAD-CITIES STATION**

FIGURE 11-3

**MILK, FISH, WATER, AND SEDIMENT
SAMPLE LOCATIONS**