

## 5.6 Program Modifications

In April of 1991, Donald Waite Dairy Farm was added to the program. The addition of this farm was not required by the ODCM but was added to ensure that the program has at least two milking stations.

It was determined by Station personnel in 1992 that the shoreline sediment sample was not being taken at the downstream location specified in the Offsite Dose Calculation Manual (ODCM) and required by Technical Specifications. Instead of taking the sample at Lock and Dam No. 14, Q-23, the sample was being taken upstream at Hanson's Boat Landing, Q-06. This sample had been collected at the wrong location for approximately 12 years.

It was determined by Station personnel in 1992 that the name in the ODCM for the fish sample location was wrong. The ODCM listed "Davenport Fish Market (Pool No. 14 of Mississippi River)" as the fish sample location. However, Davenport Fish Market had gone out of business in the mid 1970s. The fish were being purchased from a location in Camanche, Iowa. The fish were still being taken from the same location, Pool No. 14 of the Mississippi River, however the name of the location where the fish were purchased had not been updated.

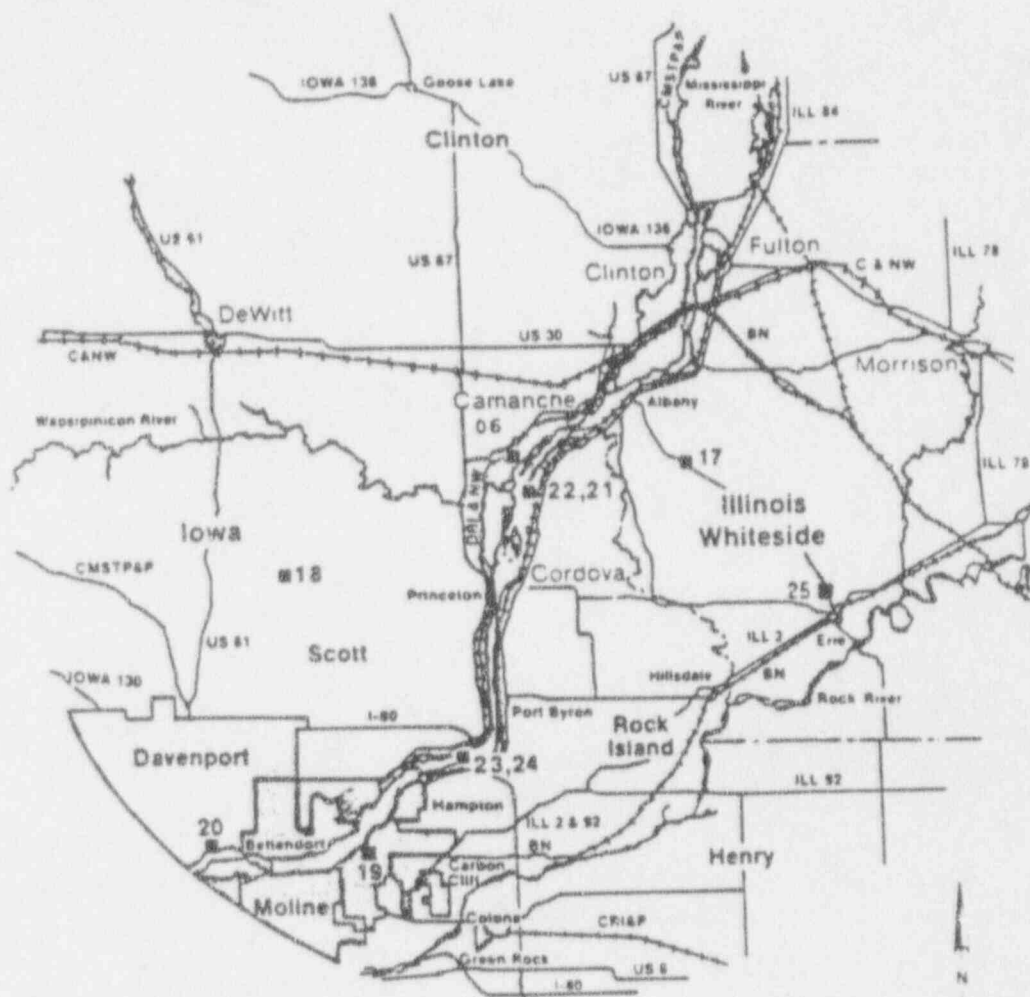
Corrective actions were taken to resolve these problems. The name for the fish sample location was changed to Mississippi River Pool #14 to more accurately reflect the sample location. A new sediment sample location was found 3.3 miles downstream of the plant in Cordova, IL (Q-28). A control sediment sample location was established 5.5 miles upstream of the plant in Albany, IL (Q-27). The ODCM was revised to reflect the proper names and locations.

Long term corrective actions were implemented to prevent a recurrence of the above problems. These corrective actions are:

1. Revision of the administrative procedure governing environmental monitoring to require the following:
  - a. The cognizant station radiological environmental monitoring program (REMP) individual will verify all sampling location changes and determine acceptability.
  - b. The cognizant station REMP individual will physically accompany vendor to new locations to verify proper location.
  - c. The cognizant station REMP individual will initiate ODCM revisions for new sampling locations.
  - d. New sampling locations will have a unique identification number.
  - e. Sufficient and appropriate detail shall be included in the Annual Environmental Report about deviations and actions to prevent recurrence.

FIGURE 5.0-3

MILK, FISH, WATER, AND SEDIMENT  
SAMPLE LOCATIONS



Q-06	Hanson's Boat Landing (Dock)
Q-17	Dornbush Dairy
Q-18	Musal Dairy
Q-19	East Moline Water Works
Q-20	Davenport Water Works
Q-21	Intake Canal
Q-22	Discharge Canal
Q-23	Lock & Dam #14 (Mississippi River)
Q-24	Mississippi River Pool #14
Q-25	Waite Dairy

TABLE 5.0-1

Quad Cities Station  
Radiological Environmental Monitoring  
Locations

	Air Sampling	TLD	Cooling Water	Fish	Lake Water	Milk	Public Water	Rabbits	Sediments	Surface Water	Vegetables	Ground/Well Water
Q-01 Onsite No. 1	0	0	.	.	.	.	.	.	.	.	.	.
Q-02 Onsite No. 2	0	0	.	.	.	.	.	.	.	.	.	.
Q-03 Onsite No. 3	0	0	.	.	.	.	.	.	.	.	.	.
Q-04 Nitrin	0	0	.	.	.	.	.	.	.	.	.	.
Q-05 Saddle Club Dairy	0	0	.	.	.	.	.	.	0	.	.	.
Q-06* Hanson's Boat Landing (Dock)	0	0	.	.	.	.	.	.	.	.	.	.
Q-07 Clinton	0	0	.	.	.	.	.	.	.	.	.	.
Q-08 Sikkema Farm	0	0	.	.	.	.	.	.	.	.	.	.
Q-09 Erie	0	0	.	.	.	.	.	.	.	.	.	.
Q-10 Hillsdale	0	0	.	.	.	.	.	.	.	.	.	.
Q-11 Port Byron	0	0	.	.	.	.	.	.	.	.	.	.
Q-12 Bettendorf	0	0	.	.	.	.	.	.	.	.	.	.
Q-13 Princeton	0	0	.	.	.	.	.	.	.	.	.	.
Q-14 Utica Ridge Road	0	0	.	.	.	.	.	.	.	.	.	.
Q-15 DeWitt	0	0	.	.	.	.	.	.	.	.	.	.
Q-16 Low Moor	0	0	.	.	.	.	.	.	.	.	.	.
Q-17 Dornbush Dairy	.	.	.	.	.	0	.	.	.	.	.	.
Q-18 Musal Dairy	.	.	.	.	.	0	.	.	.	.	.	.
Q-19 East Moline Water Works	.	.	.	.	.	.	0	.	.	.	.	.
Q-20 Davenport Water Works	.	.	.	.	.	.	0	.	.	.	.	.
Q-21 Intake Canal	.	.	0	.	.	.	.	.	.	.	.	.
Q-22 Discharge Canal	.	.	0	.	.	.	.	.	0	.	.	.
Q-23* Lock and Dam No. 14	.	.	.	.	0	.	.	.	.	.	.	.
Q-24 Mississippi River Pool #14	.	.	.	.	.	0	.	.	.	.	.	.
Q-25 Waite Dairy	.	.	.	.	.	.	.	.	.	.	.	.

CENSUS  
Dairy  
Residence  
Livestock

\* The ODCM/ Technical Specifications required downstream sediment sample (Q-23) was incorrectly sampled from an upstream location (Q-06).

TABLE 5.0-2 (continued)

## QUAD CITIES STATION

## RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SAMPLING LOCATIONS

4. PUBLIC WATER SUPPLY

<u>Site Code<sup>a</sup></u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction (°)</u>
Q-19	East Moline Water Works	16.0	206
Q-20 (C)	Davenport Water Works	18.0	219

5. COOLING WATER

<u>Site Code<sup>a</sup></u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction (°)</u>
Q-21 (C)	Inlet	At Station	
Q-22	Discharge		

6. FISH

<u>Site Code<sup>a</sup></u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction (°)</u>
Q-24	Mississippi River Pool #14	15.0	200

7. SHORELINE SEDIMENTS

<u>Site Code<sup>a</sup></u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction (°)</u>
Q-23 <sup>b</sup>	Lock and Dam No. 14	15.0	210
Q-06 <sup>b</sup>	Hanson's Boat Landing	1.8	340

<sup>a</sup> Control (reference) locations are denoted by a "C" after site code. All other locations are indicators.

<sup>b</sup> The ODCM/ Technical Specifications required downstream sediment sample (Q-23) was incorrectly sampled from an upstream location (Q-06).

TABLE 5.0-2 (continued)

## QUAD CITIES STATION

## RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SAMPLE COLLECTION AND ANALYSES

Sample Media	Code <sup>a</sup>	Location Site	Collection Frequency	Type of Analysis	Frequency of Analysis	Remarks
5. Milk	Q-17 (C) Q-18 Q-25	Dornbush Dairy Musal Farm Waite Dairy Farm	Weekly: May through October	I-131	Weekly: May through October	On all samples. LLD: 0.5 pCi/L while on pasture.
			Monthly: November through April	I-131	Monthly: November through April	On all samples. LLD: 5.0 pCi/L while not on pasture
6. Public Water	Q-19	East Moline Water Works	Weekly	Gamma Isot.	Monthly	On monthly composite from each location.
	Q-20 (C)	Davenport Water Works				
7. Cooling Water	Q-21 (C) Q-22	Inlet Canal Discharge Canal	Weekly	Gross beta	Weekly	On notification samples will be provided by station personnel.
8. Fish	Q-24	Mississippi River Pool #14	Semi- annually	Gamma Isot	Semi- annually	On edible portions only; at least two species.
9. Shoreline Sediments	Q-23 <sup>b</sup>	Lock and Dam No. 14	Annually	Gamma Isot	Annually	
10. Dairy Census	a. Site boundary to 2 miles		--	a. Enumeration by a door- to-door or equivalent counting technique.	Annually	During grazing season.

<sup>a</sup> Control (reference) locations are denoted by a "C" in this column. All other locations are indicators.

<sup>b</sup> The ODCM/ Technical Specifications required downstream sediment sample (Q-23) was incorrectly sampled from an upstream location (Q-06).

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265  
 Location of Facility Rock Island, Illinois Reporting Period 3rd Quarter 1991  
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean <sup>a</sup> Range	Location with Highest Quarterly Mean		Control Locations Mean <sup>a</sup> Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m <sup>3</sup> )	Gross Beta 78	0.01	0.020 (78/78) (0.010-0.035)	Q-06, Hanson's Boat Landings 1.8 mi @ 340°	0.022 (13/13) (0.016-0.035)	None	0
	Gamma Spec. 6	0.01	<LLD	-	-	None	0
Airborne Iodine (pCi/m <sup>3</sup> )	I-131 42	0.10	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 16	3.0	16.0(6/6) (14.4-17.1)	Q-11, Port Byron 8.0 mi @ 170°	19.4(1/1)	16.5(10/10) (13.1-19.4)	0
Milk (pCi/L)	I-131 39	5.0	<LLD	-	-	<LLD	0
Cooling Water (pCi/L)	Gross Beta 28	1.0	4.7 (14/14) (3.1-6.9)	Q-21, Inlet at Station	4.8 (14/14) (3.6-7.0)	4.8 (14/14) (3.6-7.0)	0
Public Water (pCi/L)	Gamma Spec. 6						
	Cs-134	10.0	<LLD	-	-	None	0
	Cs-137	10.0	<LLD	-	-	None	0
	Other Gammas	20.0	<LLD	-	-	None	0
Shoreline Sediments (pCi/g dry)	Gamma Spec. 1						
	Cs-134	0.1	None	-	-	<LLD	0
	Cs-137	0.1	None	Q-06, Hanson's Boat Landing 1.8 mi @ 340°	0.13 (1/1)	0.13 (1/1)	0
	Other Gammas	0.15	None	-	-	<LLD	0

<sup>a</sup> Mean and range based on detectable measurements only. Fractions indicated in parentheses.

## QUAD CITIES

### 2.0 LISTING OF MISSED SAMPLES

Sample Type	Location	Expected Collection Date	Reason
Shoreline Sediment	Q-23	July, 1991	This sample was incorrectly sampled from an upstream location (Q-06, Hanson's Boat Landing)
<u>Air Sampling Variances</u> <sup>1</sup>			
AP + I	Q-4	01-10-91	Low Sample Volume.
AP	Q-5	04-05-91	Filter light.
AP + I	Q-8	04-27-91	Meter (timer) Malfunction.
AP + I	Q-13	05-10-91	Low Sample Volume.
AP + I	Q-14	05-10-91	Low Sample Volume.
AP	Q-15	07-12-91	Low Sample Volume.
AP + I	Q-2	10-12-91	Low Sample Volume.
AP	Q-16	10-18-91	Low Sample Volume.

<sup>1</sup> = Air Sampling Variances are samples which have not been missed but indicate unusual sample results or factors which contribute to sample anomalies.

AP = Air Particulate (Filter)

I = Iodine (Cartridge)