

Dresden Station
Chapter 11 Change Summary
ODCM Revision 1.4, May 1998

<u>Page</u>	<u>Change Description</u>
11-i	Updated the revision number, date and file designator.
11-2	Added air sample location D-53 and a notation that D-06 will be deleted once D-53 operational status is established.
11-9	Added D-53 to Figure 11-1 and moved number designator for D-7. (Actual sample location for D-07 did not change.)

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DRESDEN

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CHAPTER 11

DRESDEN ANNEX INDEX

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CHAPTER 11
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM
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CHAPTER 11
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

The Radiological Environmental Monitoring Program for the environs around Dresden Station is given in Table 11-1.

Figures 11-1 and 11-2 show general sampling and monitoring locations.

Table 11-1
Radiological Environmental Monitoring Program

<u>Exposure Pathway and/or Sample</u>	<u>Sample or Monitoring Location⁶</u>	<u>Sampling or Collection Frequency</u>	<u>Type and Frequency of Analysis</u>
<p>1. <u>Airborne</u></p> <p><u>Radioiodine and Particulates</u></p>	<p>a. <u>Indicators-Near Field</u></p> <p>D-04, Collins Road, 0.9 mi W (1.4 km N) D-06, Will County Road, 1.4 mi SE* (2.2 km G) D-07, Clay Products, 2.0 mi S (3.2 km J) D-45, McKinley Woods Rd, 1.5 mi ENE (2.4 km D) D-53, Grundy County Road, 2.1 mi SSE* (3.2 km H)</p> <p>* D-06 will be deleted once operational status of D-53 has been established.</p> <p>b. <u>Indicators-Far Field</u></p> <p>D-08, Prairie Parks, 4.0 mi SW (6.4 km L) D-10, Goose Lake Village, 3.8 mi SSW (6.1 km K) D-13, Minooka, 4.5 mi N (7.2 km A) D-14, Channahon, 3.5 mi NE (5.6 km C)</p> <p>c. <u>Controls</u></p> <p>D-12, Lisbon, 10.0 mi NW (16.0 km Q)</p> <p>d. <u>Special⁸</u></p> <p>D-01, Onsite Station 1, 0.6 mi NW (1.0 km Q) D-02, Onsite Station 2, 0.3 mi NE (0.5 km C) D-03, Onsite Station 3, 0.4 mi S (0.6 km J)</p>	<p>Continuous sampler operation with particulate sample collection weekly, or more frequently if required by dust loading, and radioiodine canister collection biweekly.</p>	<p><u>Radioiodine Canisters:</u></p> <p>I-131 analysis biweekly on near field and control samples¹.</p> <p><u>Particulate Sampler⁷:</u></p> <p>Gross beta analysis following weekly filter change² and gamma isotopic analysis³ quarterly on composite filters by location on near field and control samples.¹</p>

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Table 11-1 (Cont'd)
Radiological Environmental Monitoring Program

Exposure Pathway and/or Sample	Sample or Monitoring Location ⁶	Sampling or Collection Frequency	Type and Frequency of Analysis
2. <u>Direct Radiation</u>	a. <u>Indicators-Inner Ring</u> D-101-1, 1.0 mi N (1.6 km A) D-101-2, 1.0 mi N (1.6 km A) D-102-1, 1.3 mi NNE (2.1 km B) D-102-2, 1.3 mi NNE (2.1 km B) D-103-1, 1.2 mi NE (1.9 km C) D-103-2, 1.2 mi NE (1.9 km C) D-104-1, 1.5 mi ENE (2.4 km D) D-104-2, 1.5 mi ENE (2.4 km D) D-105-1, 1.4 mi E (2.2 km E) D-105-2, 1.4 mi E (2.2 km E) D-106-1, 0.9 mi ESE (1.4 km F) D-106-2, 0.9 mi ESE (1.4 km F) D-107-1, 1.3 mi SE (2.1 km G) D-107-2, 1.3 mi SE (2.1 km G) D-108-1, 1.9 mi SSE (3.0 km H) D-108-2, 1.9 mi SSE (3.0 km H) D-109-1, 0.8 mi S (1.3 km J) D-109-2, 0.8 mi S (1.3 km J) D-110-3, 0.8 mi SSW (1.3 km K) D-110-4, 0.8 mi SSW (1.3 km K) D-111-1, 0.6 mi SW (1.0 km L) D-111-2, 0.6 mi SW (1.0 km L) D-112a-1, 0.8 mi WSW (1.3 km M) D-112a-2, 0.8 mi WSW (1.3 km M) D-113-1, 0.9 mi W (1.4 km N) D-113-2, 0.9 mi W (1.4 km N) D-114-1, 1.0 mi WNW (1.6 km P) D-114-2, 1.0 mi WNW (1.6 km P) D-115-1, 0.8 mi NW (1.3 km Q) D-115-2, 0.8 mi NW (1.3 km Q) D-116-1, 1.0 mi NNW (1.6 km R) D-116-2, 1.0 mi NNW (1.6 km R)	Quarterly	Gamma dose on each TLD quarterly.

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Radiological Environmental Monitoring Program

Exposure Pathway and/or Sample	Sample or Monitoring Location ⁶	Sampling or Collection Frequency	Type and Frequency of Analysis
2. Direct Radiation (Cont'd)	b. <u>Indicators</u> -Outer Ring D-201-1, 4.5 mi N (7.2 km A) D-201-2, 4.5 mi N (7.2 km A) D-202-1, 5.0 mi NNE (8.0 km B) D-202-2, 5.0 mi NNE (8.0 km B) D-203-1, 4.5 mi NE (7.2 km C) D-203-2, 4.5 mi NE (7.2 km C) D-204-1, 5.0 mi ENE (8.0 km D) D-204-2, 5.0 mi ENE (8.0 km D) D-205-1, 4.2 mi E (6.7 km E) D-205-2, 4.2 mi E (6.7 km E) D-206-1, 3.5 mi ESE (5.6 km F) D-206-2, 3.5 mi ESE (5.6 km F) D-207-1, 4.5 mi SE (7.2 km G) D-207-2, 4.5 mi SE (7.2 km G) D-208-1, 5.0 mi SSE (8.0 km H) D-208-2, 5.0 mi SSE (8.0 km H) D-209-1, 5.0 mi S (8.0 km J) D-209-2, 5.0 mi S (8.0 km J) D-210-1, 4.8 mi SSW (7.7 km K) D-210-2, 4.8 mi SSW (7.7 km K) D-211-1, 5.0 mi SW (8.0 km L) D-211-2, 5.0 mi SW (8.0 km L) D-212-3, 6.0 mi WSW (9.7 km M) D-212-4, 6.0 mi WSW (9.7 km M) D-213-1, 4.5 mi W (7.2 km N) D-213-2, 4.5 mi W (7.2 km N) D-214-1, 4.5 mi WNW (7.2 km P) D-214-2, 4.5 mi WNW (7.2 km P) D-215-1, 5.1 mi NW (8.2 km Q) D-215-2, 5.1 mi NW (8.2 km Q) D-216-1, 4.8 mi NNW (7.7 km R) D-216-2, 4.8 mi NNW (7.7 km R)		

Table 11-1 (Cont'd)
Radiological Environmental Monitoring Program

Exposure Pathway and/or Sample	Sample or Monitoring Location ⁶	Sampling or Collection Frequency	Type and Frequency of Analysis
2. Direct Radiation (Cont'd)	c. <u>Other</u> <u>Indicators</u> One at each of the airborne location given in part 1.a and 1.b. d. <u>Controls</u> One at each airborne control location given in part 1.c.		

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Table 11-1 (Cont'd)
Radiological Environmental Monitoring Program

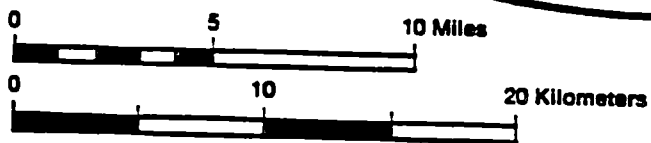
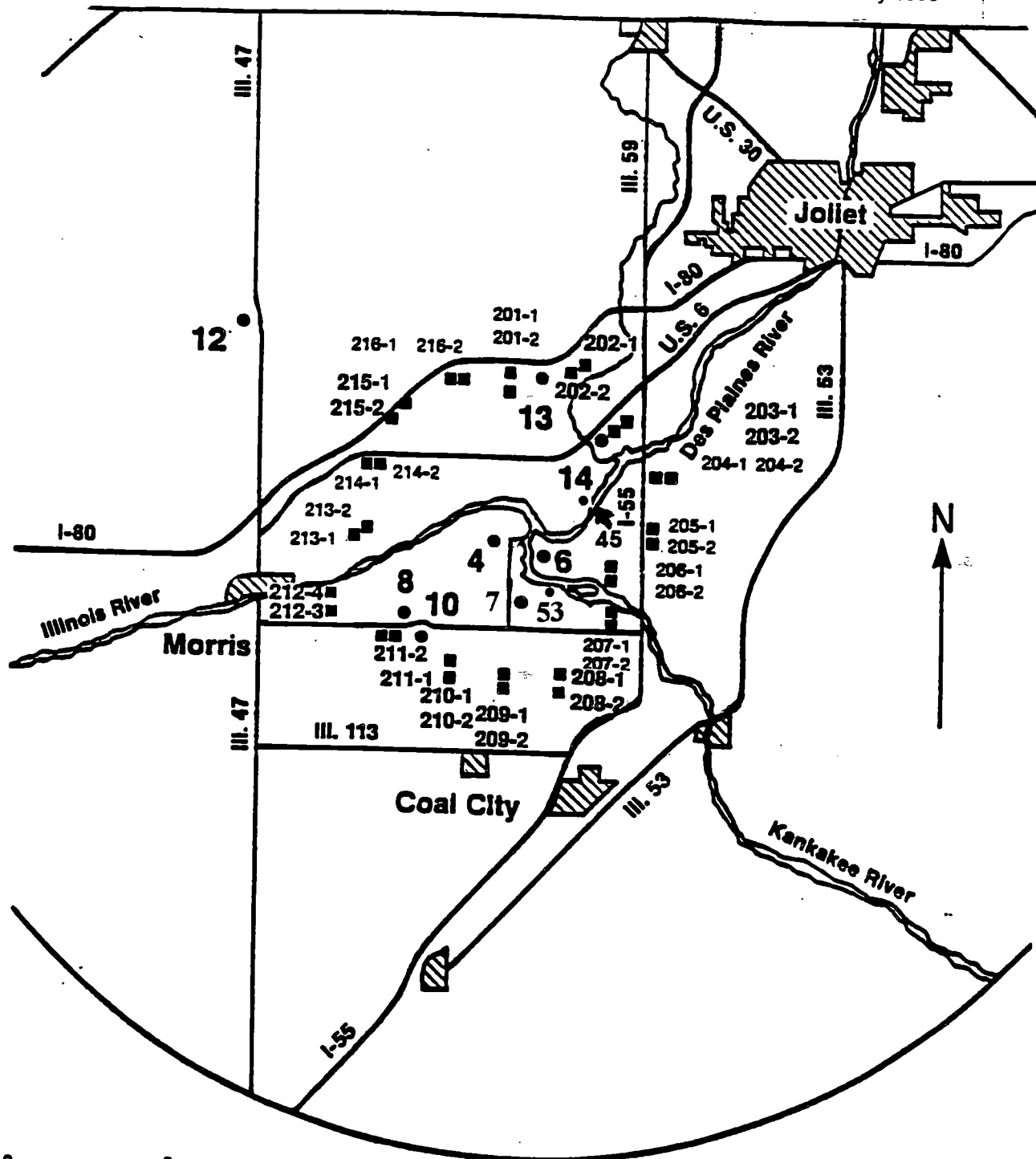
<u>Exposure Pathway and/or Sample</u>	<u>Sample or Monitoring Location</u> ⁶	<u>Sampling or Collection Frequency</u>	<u>Type and Frequency of Analysis</u>
3. <u>Waterborne</u>			
a. <u>Ground/Well</u>	a. <u>Indicators</u> D-23, Thorsen Well, 0.7 mi S (1.1 km J) D-35, Dresden Lock & Dam, 0.5 mi NW (0.8 km Q)	Quarterly	Gamma isotopic ³ and tritium analysis quarterly.
b. <u>Drinking Water</u>	There is no drinking water pathway within 6.2 mi downstream of station.		
c. <u>Surface Water</u>	a. <u>Indicator</u> D-51, Dresden Lock & Dam, 0.5 mi NW (0.8 km Q)	Weekly grab sample	Gross beta and gamma isotopic analysis ³ on monthly composite; tritium analysis on quarterly composite.
d. <u>Control</u>	a. <u>Control</u> D-52, DesPlaines River, 0.9 mi ESE (1.4 km F)	Weekly grab sample	Gross beta and gamma isotopic analysis ³ on monthly composite; tritium analysis on quarterly composite.
e. <u>Sediments</u>	a. <u>Indicator</u> D-27, Dresden Lock & Dam, 0.5 mi NW (0.8 km Q)	Semiannually	Gamma isotopic analysis ³ semiannually.

Table 11-1 (Cont'd)
Radiological Environmental Monitoring Program

Exposure Pathway and/or Sample	Sample or Monitoring Location ⁶	Sampling or Collection Frequency	Type and Frequency of Analysis
<p>4. <u>Ingestion</u></p> <p>a. <u>Milk</u></p> <p>b. <u>Fish</u>⁵</p> <p>c. <u>Food Products</u></p>	<p>a. <u>Indicators</u></p> <p>There are no dairies within 6.2 miles of the station.</p> <p>b. <u>Control</u></p> <p>D-25, Vince Biros Farm, 11.5 mi SW (18.5 km L)</p> <p>a. <u>Indicator</u></p> <p>D-28, Dresden Pool of Illinois River, 0.5 mi NW (0.8 km Q)</p> <p>b. <u>Control</u></p> <p>D-46, DesPlaines River upstream of discharge, 0.9 mi E (1.4 km E)</p> <p>a. <u>Indicators</u></p> <p>Two samples from each of the four major quadrants within 6.2 miles of the station.</p> <p>Sample locations for food products may vary based on availability and therefore are not required to be identified here but shall be taken, if available.</p> <p>b. <u>Controls</u></p> <p>Two samples within 9.3 to 18.6 miles of the station.</p>	<p>Biweekly: May through October; Monthly: November through April</p> <p>Two times annually</p> <p>Annually</p>	<p>Gamma isotopic⁽³⁾ and I-131 analysis⁽⁴⁾ on each sample.</p> <p>Gamma isotopic analysis³ on edible portions of each</p> <p>Gamma isotopic analysis³ each sample.</p>

Table 11-1 (Cont'd)
Radiological Environmental Monitoring Program

- ¹ 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 Radiation Protection Director.
- ² Airborne particulate sample filters shall be analyzed for gross beta radioactivity 24 hours or more after sampling to allow for radon and thoron daughter decay. If gross beta activity in air particulate samples is greater than 10 times the yearly mean of control samples, gamma isotopic analysis shall be performed on the individual samples.
- ³ Gamma isotopic analysis means the identification and quantification of gamma emitting radionuclides that may be attributable to the effluents from the station.
- ⁴ I-131 analysis means the analytical separation and counting procedure are specific for this radionuclide.
- ⁵ The fish monitoring locations are not identified exactly on the map. The points, D-28 and D-46, represent the general area where the samples are taken.
- ⁶ Distances provided for sampling/monitor locations are approximate.
- ⁷ The analysis requirements listed are for the REMP-required samples only. The special samples require only quarterly gamma isotopic analyses on the composite filters.
- ⁸ These sampling locations do not constitute REMP samples, but are special samples required per Section 11.5.1.10 of the UFSAR. They may be discontinued pending revision of the aforementioned section.

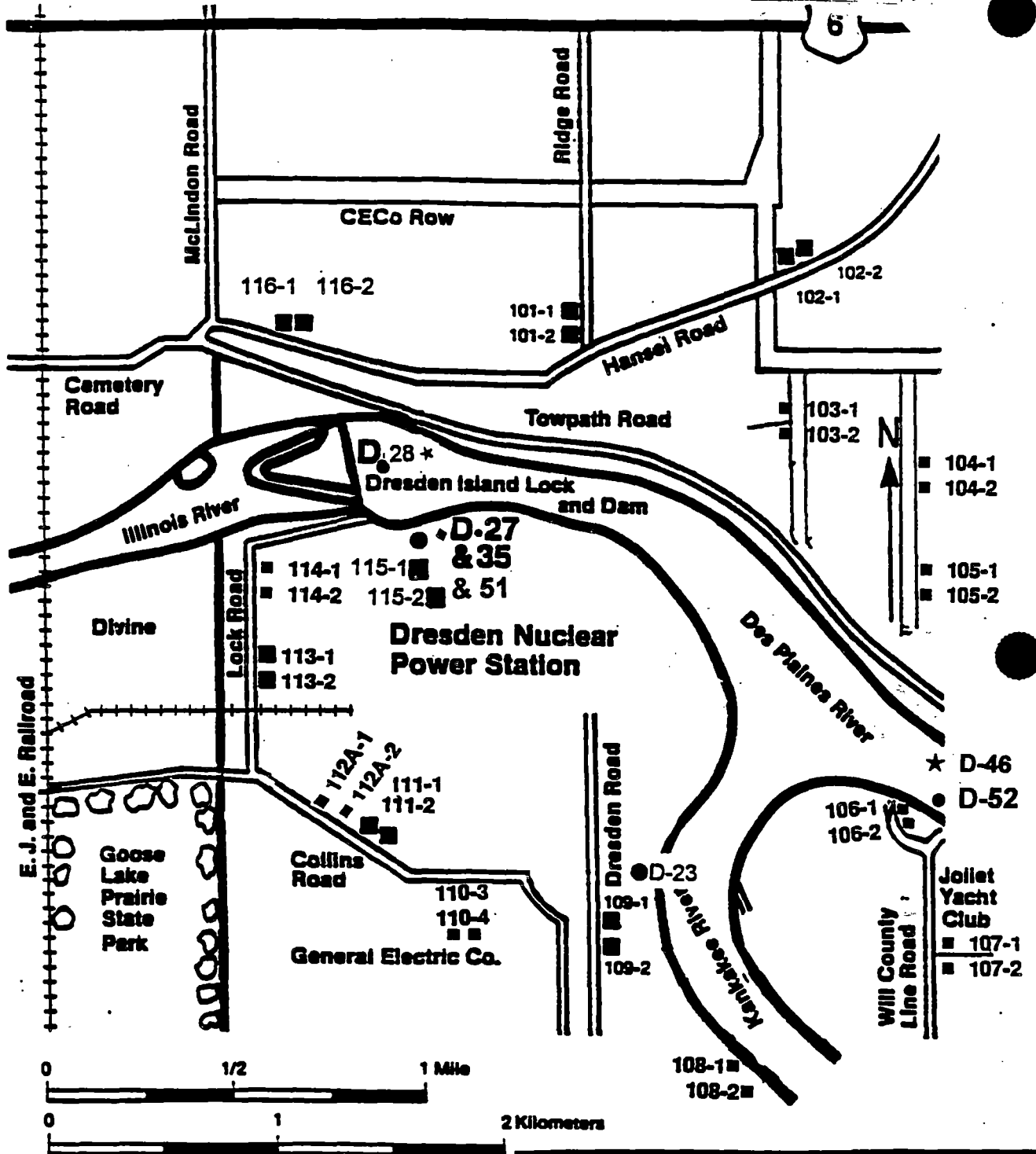


- Air Sampling Location
- TLD Location

**OFFSITE DOSE CALCULATION MANUAL
DRESDEN STATION UNITS 1, 2, & 3**

FIGURE 11-1

**FIXED AIR SAMPLING AND TLD SITES AND
OUTER RING TLD LOCATIONS**



**OFFSITE DOSE CALCULATION MANUAL
DRESDEN STATION UNITS 1, 2, & 3**

FIGURE 11-2

**INNER RING TLD LOCATIONS AND
NEAR STATION WATER SAMPLE LOCATIONS**