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TITLE: ACCIDENT ENVIRONMENTAL ASSESSMENT

TRANSMITTAL: LISTED BELOW ARE NEW/REVISED PROCEDURES WHICH MUST BE IMMEDIATELY INSERTED INTO OR DISCARDED FROM YOUR PROCEDURE MANUAL.

Action Required	Section or Description
REMOVE AND DESTROY	EI-10, R/9, ENTIRE PROCEDURE
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SIGN, DATE, AND RETURN THE ACKNOWLEDGEMENT FORM WITHIN 10 DAYS TO THE PALISADES PLANT DOCUMENT CONTROL.

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DATE

If applicable, REMOVE ALL travelers and marked up pages in front of this procedure.

A045

Procedure No EI-10
Revision 9
Effective Date 1/8/04

PALISADES NUCLEAR PLANT
EMERGENCY IMPLEMENTING PROCEDURE

TITLE: ACCIDENT ENVIRONMENTAL ASSESSMENT

Approved: JLFontaine / 1/6/04
Procedure Sponsor Date

New Procedure/Revision Summary:

Editorial to Revision 9

Specific Changes

TITLE: ACCIDENT ENVIRONMENTAL ASSESSMENT

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ATTACHMENTS

- Attachment 1, "Environmental Sampling Stations"
- Attachment 2, "Accident TLD Stations"
- Attachment 3, "Land Use Survey Data"
- Attachment 4, "Environmental Air Sample Collection"
- Attachment 5, "Environmental TLD Collection"
- Attachment 6, "Accident TLD Collection"
- Attachment 7, "Environmental Sample Data Sheet"
- Attachment 8, "Sample Packaging and Shipment"

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USER ALERT
INFORMATION USE PROCEDURE

The activities covered by this procedure may be performed from memory.

1.0 PERSONNEL RESPONSIBILITY

1.1 EMERGENCY OPERATIONS FACILITY (EOF) RADIATION PROTECTION (RP) SUPPORT GROUP |e

The EOF RP Support Group has the primary responsibility for organization and administration of initial Accident Environmental Assessment; coordinating efforts with state and local government agencies, primarily the Michigan Department of Environmental Quality, in monitoring and minimizing radiation exposure to humans and animals through ingestion pathways, and providing environmental damage assessment data. |e

1.2 TECHNICAL SUPPORT CENTER (TSC) RADIATION PROTECTION (RP) SUPPORT GROUP |e

Prior to EOF activation, the TSC RP Support Group has the responsibility, should it be deemed necessary, to initiate appropriate environmental collection. |e

1.3 OPERATIONAL SUPPORT CENTER (OSC) RADIATION PROTECTION (RP) SUPERVISOR |e

Prior to EOF activation, at the direction of the TSC RP Support Group, the RP Supervisor has the responsibility for organizing and directing the Offsite Monitoring Teams in implementing this procedure. |e

1.4 OFFSITE MONITORING TEAMS

The Offsite Monitoring Team technicians are responsible for initial collection and disposition of environmental samples and accident TLDs, at the direction of the OSC or EOF, when activated.

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2.0 PURPOSE

To provide guidelines for the implementation of an initial Accident Environmental Assessment Program.

3.0 REFERENCES

3.1 SOURCE DOCUMENTS

- 3.1.1 Palisades Administrative Procedure 7.08, "Big Rock Point and Palisades Radiological Environmental Monitoring Program"
- 3.1.2 Michigan Emergency Preparedness Plan
- 3.1.3 Van Buren County Emergency Operations Plan
- 3.1.4 Allegan County Emergency Operations Plan
- 3.1.5 Berrien County Emergency Operations Plan
- 3.1.6 State Department of Public Health, Radiological Health Division, "Radiological Emergency Response Procedures (RERP)"
- 3.1.7 Offsite Dose Calculation Manual - Appendix A
- 3.1.8 Site Emergency Plan, Section 7, "Emergency Facilities and Equipment"

3.2 REFERENCE DOCUMENTS

- 3.2.1 Emergency Implementing Procedure EI-9, "Offsite Radiological Monitoring"
- 3.2.2 Emergency Implementing Procedure EI-4.2, "Operational Support Center Activation"
- 3.2.3 Palisades Administrative Procedure 10.46, "Plant Records"
- 3.2.4 Palisades Administrative Procedure 10.41, "Procedure and Policy Processes"

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4.0 INITIAL CONDITIONS AND/OR REQUIREMENTS

4.1 Accident Environmental Assessment should be initiated as soon as possible following the termination of a release. Environmental sampling may commence prior to the conclusion of a release (ie, following a significant change in meteorological data or during a release spanning several days) upon request by the Site Emergency Director (SED), TSC RP Support Group, or the EOF RP Support Group.

4.2 Upon EOF activation, the OSC shall provide the EOF RP Support Group with complete information regarding initiated environmental sampling, in addition to other information involving the Offsite Monitoring Teams in accordance with Emergency Implementing Procedure EI-9, "Offsite Radiological Monitoring," and Emergency Implementing Procedure EI-4.2, "Operational Support Center Activation."

5.0 PROCEDURE

USER ALERT
INFORMATION USE PROCEDURE

The activities covered by this procedure may be performed from memory.

5.1 GENERAL INSTRUCTIONS

5.1.1 Using meteorological data inclusive from the onset of the release, determine all affected sectors from which environmental samples and accident TLDs shall be retrieved and the specific collection sites/stations. The affected sectors shall include all primary 22.5° sectors directly downwind plus the 22.5° sectors to each side of the primary sector.

5.1.2 Designate and brief the Offsite Monitoring Team(s) that will retrieve the samples in accordance with Emergency Implementing Procedure EI-9, "Offsite Radiological Monitoring," and this procedure.

5.1.3 The EOF shall be the collection site for all environmental samples and accident TLDs unless otherwise directed.

5.1.4 Ensure that clean sample containers are used to eliminate cross-contamination of samples. Following collection, ensure that the exterior of all sample containers are free of loose contamination.

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5.2 ENVIRONMENTAL AIR SAMPLE COLLECTION

- 5.2.1 The environmental air samples are regularly collected, shipped, and analyzed by a contractor lab on a weekly basis. See Attachment 1, "Environmental Sampling Stations," for the locations of environmental air samplers.
- 5.2.2 The environmental air samples may be collected and replaced for additional data upon request by the EOF RP Support Group in conjunction with the RETS/REMP Analyst or alternate for cumulative dose assessment due to inhalation following the termination of a release. The Environmental Supervisor or alternate is the site contact with the Environmental Contractor Lab. |e
- 5.2.3 Collection and replacement of environmental air samples are normally performed by Rad Safety Technicians under the direction of the RETS/REMP Analyst; however, should it be deemed necessary, the Offsite Monitoring Teams may also collect and replace environmental air samples. Replacement particulate filters and TEDA iodine cartridges are contained in the emergency kits.

NOTE: A ladder is needed to gain access to environmental air samplers for filter change out.

5.2.4 Collection/Replacement Procedure

- a. Proceed to the designated environmental air sample station via the predetermined safest route.
- b. Open the protective cover on the air sampler and record the integrated gas meter reading.
- c. Turn the air sampler motor off. Using gloves for contamination protection, disassemble the filter assembly.
- d. Using tweezers, carefully remove each filter and place them in separate plastic bags to prevent cross-contamination or loss of collected material.
- e. Clean out any residue or moisture buildup in filter holder before new replacement filters are installed.

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- f. Insert new filters and reassemble filter assembly. Turn air sampler motor on. Place hand over filter inlet to form a seal. While holding hand over filter inlet to form a seal, determine if air leakage is evident by checking the air meter needle for movement. If air leakage is evident, record the amount (in a fraction of a cfm) on the sample collection data sheet. Determine the cause for leakage and repair as soon as possible. Air station leakage shall be < 0.1 cfm. However, every effort shall be taken to minimize leakage toward zero.
- g. Record initial "Removed" data on Attachment 4, Page 1 of 2, record the same data in the "Installed" columns on Page 2 of 2. Record the net count rate or dose rate in the "Comments" column on Page 1 of 2 for all initial air samples. Page 1 of 2 is to be used for recording all data taken from all the initial air samples and Page 2 of 2 will be used for recording data from all additional air samples. Previous installation data and meter reading data can be obtained from the RETS/REMP Analyst.

NOTE: Perform Initial Field Analysis using a PRM-6 count rate meter with an HP-210 probe, or equivalent. For high level deposition samples, (ie, > 120 kcpm) use a β/γ calibrated dose rate meter to obtain open window readings.

- h. Initial Field Analysis (of filters removed from plastic bags).
 - 1. Determine the background count (or dose) rate.
 - (a) If the background count rate is too high (> 300 cpm), continue with analysis upon exiting high background area.
 - 2. Determine the gross count (or dose) rate by placing the HP-210 probe (or β/γ dose rate meter) adjacent to and approximately 1/2 inch from the upstream side of each filter.
 - 3. Subtract the background count (or dose) rate from the gross count (or dose) rate for the net count (or dose) rate of each filter.

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- i. Replace removed filters in plastic bags, label with location (station number, distance from Plant, sector), Gas Meter serial number, "removed" gas meter reading, technician name, a five-part identification code: PA (Palisades), station code (as listed on Attachment 1), sample type (AP for particulate, AI for iodine), date (six digits: month, day, year), and time, followed by the net count rate (cpm) or dose rate (mrem/hr).

Example: Station No 5, 3-1/2 miles ESE
Meter No 11092
Removed Reading: 111111
Joe Tech
PA-PR-AP-042285 - 1330
3000 ccpm

- j. Perform a contamination check on the sample containers. Report to the EOF via mobile radio.

5.3 ENVIRONMENTAL TLD COLLECTION

- 5.3.1 The Environmental TLD Stations each consist of three sets of TLDs; the packets labeled Monthly, Quarterly, or Annual to assure that the proper TLDs are replaced. See Attachment 1, "Environmental Sampling Stations," for the locations of Environmental TLDs.
- 5.3.2 The Environmental TLDs are regularly collected, shipped, and analyzed by a contractor. The replacement TLDs are sent direct from the laboratory to the local contracted employee for storage.
- 5.3.3 The Environmental TLDs may be collected and replaced for additional data upon request by the EOF RP Support Group in conjunction with the Environmental Supervisor or alternate. |e
- 5.3.4 Collection and replacement of Environmental TLDs shall normally be performed by the contracted employee; however, should it be deemed necessary, the Offsite Monitoring Teams may assist the contracted employee in collecting and replacing the Environmental TLDs or in providing radiological coverage for the contracted employee in contaminated zones.

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- 5.3.5 Ensure that the TLDs are free of loose contamination to prevent inaccurate readings upon analysis and the unnecessary spread of contamination.
- 5.3.6 Record data requested on Attachment 5, "Environmental TLD Collection." Report to the EOF via mobile radio.

5.4 ACCIDENT TLD COLLECTION

- 5.4.1 Analysis of Accident TLDs is the primary means for cumulative dose assessment in affected sectors following accidents involving the release of radioactive material in support of offsite dose calculations and offsite radiological monitoring data.
- 5.4.2 The Accident TLD Stations each consist of three TLDs, held in open brackets, attached to utility or siren poles. See Attachment 2, "Accident TLD Stations," for the locations of Accident TLDs.
- 5.4.3 One TLD at each designated station should, at the direction of the EOF, be replaced daily (ie, on the first day, TLD 1 will be replaced by TLD 4, on the second day, TLD 2 will be replaced by TLD 5, etc). Replacement Accident TLDs are stored in the EOF emergency kit.
- 5.4.4 Collection/Replacement Procedure**
- a. Obtain the specified replacement TLDs for each designated station from the EOF emergency kit.
 - b. Proceed to the designated Accident TLD Station via the predetermined safest route.

NOTE: Accident TLD removal requires a Company Standard Lock key.

- c. Remove the appropriate TLD, insert the replacement TLD, and secure the holder.
- d. Ensure that the TLDs are free of loose contamination to prevent inaccurate readings upon analysis and the unnecessary spread of contamination.
- e. Place in a plastic bag and label with location (station number, sector, R1 or R2) TLD number, date, time collected, and technician name.
- f. Record the data requested on Attachment 6, "Accident TLD Collection." Report to the EOF via mobile radio.

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5.5 SNOW, SOIL, GRASS, AND VEGETATION COLLECTION.

- 5.5.1 Select undisturbed, unobstructed, open areas to be sampled from each location requested. Consider the sampling guidelines for the various sample types discussed in Steps 5.5.7 through 5.5.10. | e
- 5.5.2 Take radiation readings three inches and three feet above the surface of the selected area before and after sampling. There should be a significant drop in the 3-inch readings taken after sampling using a shielded probe. If not, collect further sample to a depth sufficient to reduce the dose rate. | e
- 5.5.3 If possible, collect a sufficiently large sample to obtain a count rate of 200 cpm over background.
- 5.5.4 Collect and pack samples in large plastic bags. Double bag to prevent leakage.
- 5.5.5 For each type of environmental sample, measure the area sampled and the depth sampled. | e
- 5.5.6 Complete Attachment 7 and label the sample with the information recorded in Attachment 7, Section 1. | e
- 5.5.7 Snow Sampling** | e
- a. Snow samples are dependent upon several weather-related variables, including:
1. Rate of snowfall during and since release.
 2. Temperatures during and since snowfall of interest occurred.
 3. Wind speed and direction.
 4. Sunshine, rain, or other weather conditions occurring following snowfall and release.

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- b. **Sampling techniques for various types of snow layers:**
1. **Stable layer of snow present at time of release, no further snowfall:** Collect top inch of snow layer in a sufficient area to obtain a representative sample.
 2. **Falling snow during release:** Collect snow to depth of previous crust layer, using radiation readings as an aid to proper depth.
 3. **Drifting snow:** Collect two samples; one from the areas of highest radiation readings (snowdrift) and second from general, nondrifted area.
 4. **Snow deposition fixed in an ice layer due to melting and refreezing or freezing rain:** Collect top two inches of snow/ice layer.
 5. **Melting, slushy snow:** Select the area where the radiation readings are the highest for sampling. Collect wet snow to a stable layer or the ground.
 6. **Snowfall after release:** Sweep loose snow away to layer of interest; sample top inch of this previous stable layer.

5.5.8 Soil Sampling, Nongrassy Area

- a. **As with snow sampling, soil samples are dependent upon weather-related variables also, including:**
1. **Temperature - frozen, thawed, or thawing soil.**
 2. **Rainfall - soil wetness, rain puddles.**
 3. **Wind speed and direction.**

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- b. Sampling techniques for various soil layers:
 - 1. Dry, thawed layer: Collect top 1/2-inch of soil in a sufficient area to obtain a representative sample.
 - 2. Frozen soil: Scrape top 1/4-inch to 1/2-inch of soil for sample.
 - 3. Thawing, wet soil: Collect soil to depth necessary to reduce dose rates.
 - 4. Wet soil, following rainfall: Collect two samples, one from areas of highest radiation readings (around puddles, low collection points) and second from washed off areas.
 - 5. Blowing soil: Collect two samples, one from area of highest radiation reading and second from general area. Perform smear survey of areas where blowing soil may have settled.

5.5.9 Grass Sampling

- a. Clip grass in a sample area as close to the roots as possible without including dirt in the sample. Collect enough grass clippings to obtain a representative sample.
- b. Collect the top 1/2-inch of the sod layer beneath the clipped grass area as the second sample.

5.5.10 Representative Vegetation Sampling

- a. Choose vegetation to be sampled based on ingestion possibilities by humans and animals, including crops in season and animal forage, and on deposition surface area (ie, large leafy vegetation is better than small).
- b. Utilize Attachment 1, "Environmental Sampling Stations," and Attachment 3, "Land Use Survey Data," in determining the collection sites in affected sectors.
- c. Estimate what percentage of the sample area was covered with the vegetation (ie, a three square foot sample area, 75% of which was vegetation).
- d. Do not mix vegetation samples together. Samples need to be homogenous.

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5.6 MILK SAMPLING | e

5.6.1 Utilizing Attachment 1, "Environmental Sampling Stations," and Attachment 3, "Land Use Survey Data," determine the dairy herds from which to obtain milk samples in the affected sectors.

NOTE: The owner will be paid for the milk samples by the Environmental Contractor.

5.6.2 A two-gallon grab sample should be obtained from each selected location. Two clean, one-gallon containers should be left with the owner and retrieved following regular milking time. A second sample from recently stored milk may be appropriate as well.

5.6.3 Add approximately 40gm of Sodium Bisulfite to each one-gallon container of milk and thoroughly mix. The Sodium Bisulfite can either be in prepared packets or "scooped" with a volumetric measure from its container. The Sodium Bisulfite is located in the EOF Emergency Kit.

5.6.4 Complete Attachment 7 and label the sample with the information recorded in Attachment 7, Section 1. | e

5.7 WATER SAMPLING

5.7.1 Well Water

- a. Well water may be sampled at the three locations regularly sampled on Attachment 1, "Environmental Sampling Stations," as well as from privately owned wells with the owner's permission.
- b. Turn water supply on or pump, allowing water to run for approximately one minute, prior to collecting sample.
- c. Fill two clean one-gallon containers. | e
- d. Complete Attachment 7 and label the sample with the information recorded in Attachment 7, Section 1. | e

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5.7.2 Lake Water

- a. Collect two, one-gallon samples each, at the shore to the north and south of the Plant and at the release point, if possible.
- b. Collect two, one-gallon samples each, of "untreated" water and "treated" water from the South Haven Municipal Water Treatment Plant.
- c. Complete Attachment 7 and label the sample with the information recorded in Attachment 7, Section 1.

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5.7.3 Drainage Water

- a. Collect, if possible, two one-gallon containers of water from drainage ditches in each affected sector.
- b. Water may also be collected from rivers, streams, and inland lakes in the affected sectors.
- c. Complete Attachment 7 and label the sample with the information recorded in Attachment 7, Section 1.

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5.8 Package and ship samples per Attachment 8, "Sample Packaging and Shipment."

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6.0 ATTACHMENTS AND RECORDS

6.1 ATTACHMENTS

6.1.1 Attachment 1, "Environmental Sampling Stations"

6.1.2 Attachment 2, "Accident TLD Stations"

6.1.3 Attachment 3, "Land Use Survey Data"

6.1.4 Attachment 4, "Environmental Air Sample Collection"

6.1.5 Attachment 5, "Environmental TLD Collection"

6.1.6 Attachment 6, "Accident TLD Collection"

6.1.7 Attachment 7, "Environmental Sample Data Sheet"

6.1.8 Attachment 8, "Sample Packaging and Shipment"

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6.2 RECORDS

Records generated by this procedure shall be filed in accordance with Palisades Administrative Procedure 10.46, "Plant Records." Refer to the record matrix attached to AP 10.46 for information needed to complete Record Indexing Form (Form 104).

7.0 SPECIAL REVIEWS

The scope of this procedure does not include activities that require a 50.59 review per Palisades Administrative Procedure 10.41, "Procedure and Policy Processes." Therefore, changes to this procedure do not require a 50.59 review. | e

Revisions to this procedure require a "Site Emergency Plan Effectiveness Review" per Palisades Administrative Procedure 1.08, "Accident Environmental Assessment." | e

ENVIRONMENTAL SAMPLING STATIONS

Station	Code	Location	Sample									
			Air Particulates	Air Iodine	Lake Water	Well Water	Milk	Crops	Sedi- ment	TLD	Fish	
21	ST	Perimeter of Palisades									X	
22	JS	Jerry Sarno 36197 M-140 Hwy Covert, MI 3-1/2 miles SE										X
23	SN25	Emergency Siren 25 3 miles ENE										X
24	SN22	Emergency Siren 22 4-1/2 miles E										X
25	SH	South Haven, MI 5-1/2 miles NNE			X						X	
26	AK	Allen Karr 31110 68th St Covert, MI 5.75 miles ESE						X				
27	KK	Kenneth Kemp Rt 4, Box 32 South Haven, MI 8 miles NE						X				

ENVIRONMENTAL SAMPLING STATIONS

Station	Code	Location	Sample								
			Air Particulates	Air Iodine	Lake Water	Well Water	Milk	Crops	Sedi- ment	TLD	Fish
28	DC	Denny Carpenter 64015 M-43 Bangor, MI 7.25 miles E					X				
29	WS	William Shine 60364 M-43 West Bangor, MI 10 miles E					X				
30	STN	1/2 mile N of discharge							X		
31	STS	1/2 mile S of discharge							X		
32	LP	Ludington Pumped Storage			X	X			X		X
33-38	ST	Perimeter of Palisades								X	
39	ST	Plant Site Wells # 7 or #9 (Warehouse)				X					
40	ST	Plant Site Wells #11, 12, 13 (Outage Building)				X					
41	ST	Plant Site Monitoring Well #14				X					

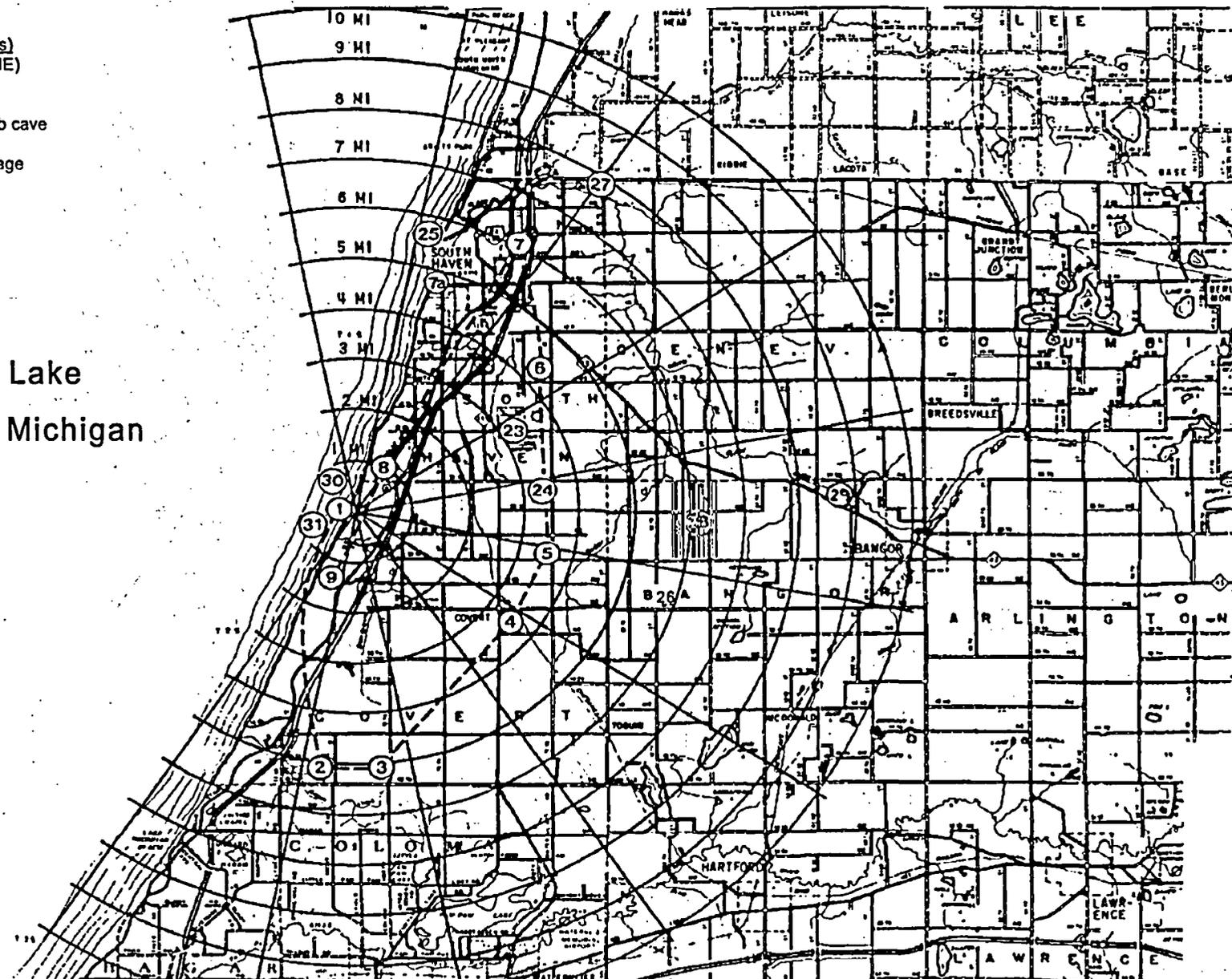
ENVIRONMENTAL SAMPLING STATIONS

Station	Code	Location	Sample								
			Air Particulates	Air Iodine	Lake Water	Well Water	Milk	Crops	Sedi- ment	TLD	Fish
42	ST	Plant Site Monitoring Well #15				X					
43	ST	Plant Site Monitoring Well #16				X					

ENVIRONMENTAL SAMPLING STATIONS

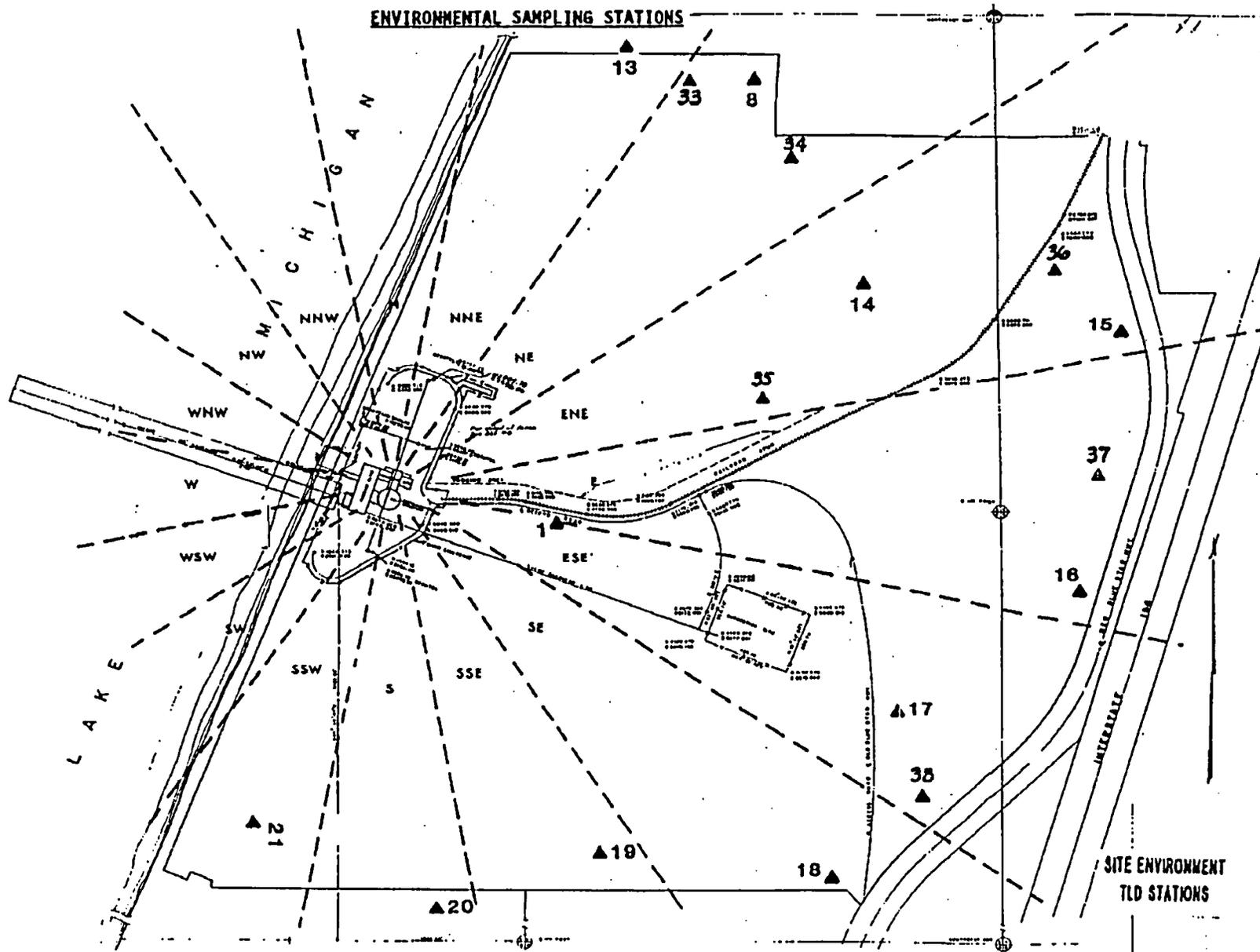
Not Shown (Control Locations)

- 10 Grand Rapids (55 mi NNE)
- 11 Kalamazoo (35 mi SSE)
- 12 Dowagiac (30 mi SSE)
- 22 Control TLD placed in Pb cave at location 4
- 32 Ludington Pumped Storage



Lake
Michigan

ENVIRONMENTAL SAMPLING STATIONS



ACCIDENT TLD STATIONS

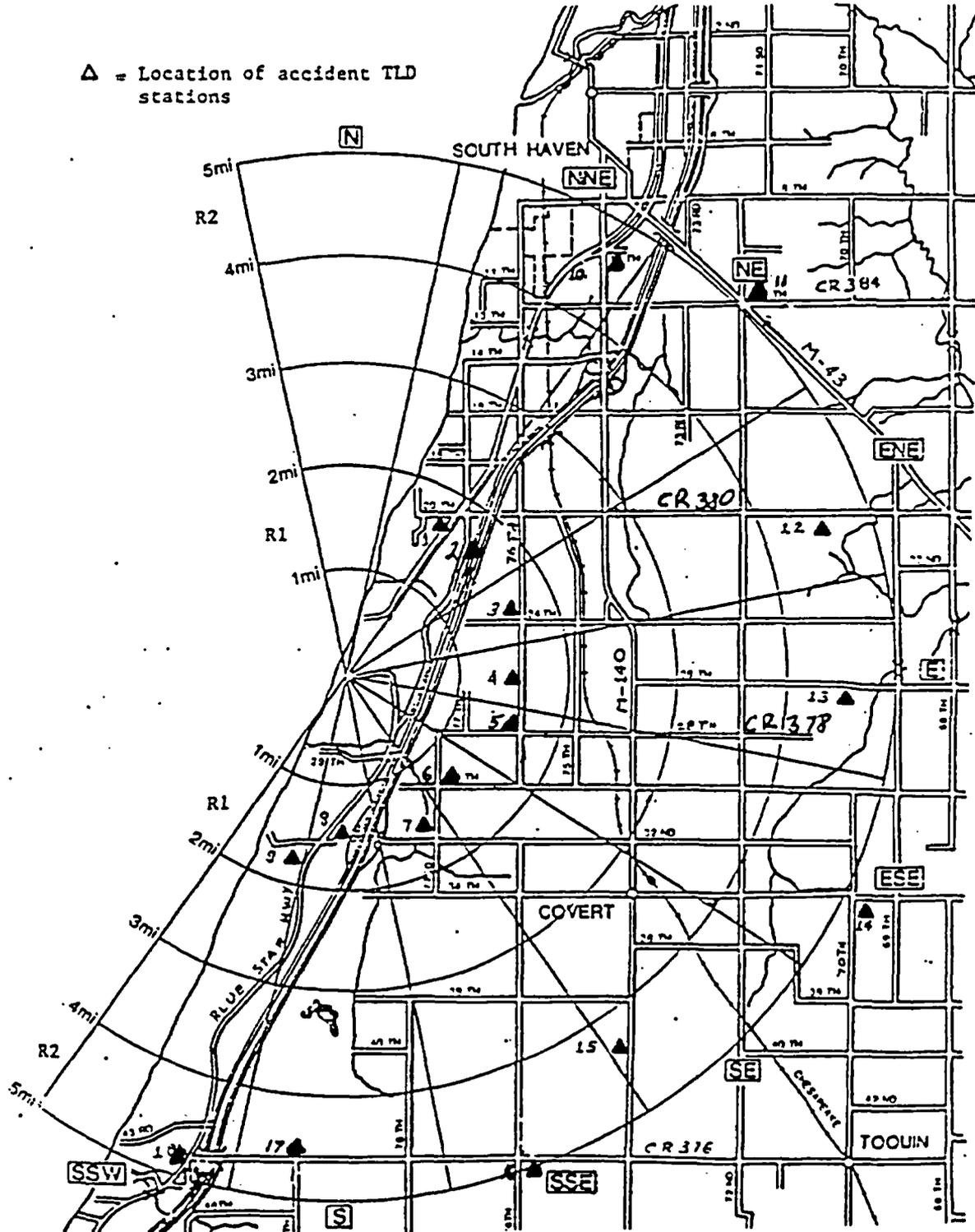
R1 - 1-2 Mile Ring

1. Utility pole on south side of road near southwest corner of 20th Ave (CR 380) and Oak Rd.
2. Metal post on east side of Blue Star Hwy, approximately 1.75 miles north of Plant access road, planted on top of the west end of expressway culvert on the west side of expressway.
3. Utility pole on southwest corner of 76th St and 24th Ave.
4. Utility pole on west side of 76th St - 0.5 miles south of 24th Ave, at the edge of a blueberry patch.
5. Utility pole on northwest corner of 76th St and 28th Ave.
6. Utility pole on the northeast corner of 77.5th St and 30th Ave.
7. Utility pole on northwest corner of 77.5th St and 32nd Ave.
8. Utility pole on northeast corner of 32nd Ave and Blue Star Hwy.
9. Beneath environmental air sampler - approximately 0.25 miles west of Blue Star Hwy on 32nd Ave.

R2 - 4-5 Mile Ring

10. Utility pole on northwest corner of Blue Star Hwy and M-140, in front of Econo Lodge parking lot.
11. Utility pole on southeast corner of M-43 and CR 384.
12. Utility pole on south side of 20th Ave - 0.5 miles west of 69th St.
13. Utility pole on north side of 26th Ave - 0.5 miles west of 69th St.
14. Utility pole on southeast corner of 70th St and 34th Ave.
15. Utility pole on west side of M-140 - 0.5 miles south of 40th Ave, across from house number 42009.
16. Siren pole on the southeast corner of CR 376 (44th Ave) and 76th St.
17. Utility pole on north corner of CR 376 (44th Ave) and 80th St.
18. Utility pole west of CR 376 and Blue Star Hwy intersection.

ACCIDENT TLD STATIONS



LAND USE SURVEY DATA

TABLE I

Distance to the nearest residence, garden, beef cattle, dairy cow, and goat in each sector.

<u>SECTOR</u>	<u>RESIDENCE</u>	<u>GARDEN</u>	<u>BEEF CATTLE</u>	<u>DAIRY COW</u>	<u>GOAT</u>
NNE	1.1 mi	1.7 mi	> 5 mi	> 5 mi	> 5 mi
NE	1.2 mi	1.2 mi	> 5 mi	> 5 mi	> 5 mi
ENE	1.3 mi	1.6 mi	4.0 mi	> 5 mi	1.8 mi
E	1.0 mi	2.1 mi	> 5 mi	> 5 mi	3.5 mi
ESE	1.0 mi	*1.0 mi	> 5 mi	> 5 mi	> 5 mi
SE	1.0 mi	*1.0 mi	2.2 mi	4.3 mi	> 5 mi
SSE	0.7 mi	1.6 mi	> 5 mi	> 5 mi	> 5 mi
S	0.5 mi	4.0 mi	> 5 mi	> 5 mi	4.7 mi
SSW	0.7 mi	> 5 mi	> 5 mi	> 5 mi	> 5 mi

*NOTE: Garden and Farm bisected by ESE/SE boundary line.

LAND USE SURVEY DATA

TABLE II
VERIFICATION OF NEAREST ITEMS

<u>Sector and Road</u>	<u>Location Description</u>	<u>Item</u>	<u>Number/Comment</u>
NNE Ruggles Rd	State Park Manager	Residence	1
NNE 20 th	0.1 mile South of Ruggles Rd south side of road)	Garden	1
NNE 20 th	0.1 mile South of Ruggles Rd sw corner of 20 th & O fire lane	Garden	1
NE Blue Star Hwy	L. Swetay, Route 3, Box 133 (East side of highway)	Residence Garden	1 1
NE M-43	M-43, N side of road, between 12 th & 16 th (approximately 0.3 mile outside the 5 mile limit)	Goats	20
ENE 24 th Ave	Trailer-West 24 th Avenue, dead end at sand dune	Residence	1
ENE 24 th	SE corner of 76 th street and 24 th Avenue	Garden	1
ENE 72 nd	72nd St, 0.3 miles N of 20 th East side of road	Cattle	12-Beef
ENE 72 nd	72 nd St, NW corner of 26 th and 72 nd	Goat Garden	2 1
E 77 th	77 th St, Dead end of 77 th St near 28th Ave intersection	Residence	1
E 72 nd	C. Mims, 26200 72 nd St intersection of 72nd & 26 th Ave NW corner	Goats Garden	2 1
E 75 th	27723 75 th , 0.1 mile North of 28 th (East side of road)	Garden	1

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LAND USE SURVEY DATA

TABLE II
VERIFICATION OF NEAREST ITEMS

<u>Sector and Road</u>	<u>Location Description</u>	<u>Item</u>	<u>Number/Comment</u>
ESE 77 ½ St	O. Ashley, 28008 77 ½ Northwest corner of 77 ½ & 28 th Ave intersection	Residence	1
ESE 69 th	A. Karr, 69 th St 0.5 mile North of 69 th St and 30 th Avenue intersection	Cattle	60-Dairy Cow
SE/ESE 28 th	77550 28 th Avenue	Residence Garden	1 1
SE 36 th	72401 36 th Avenue, 0.2 mile West from 72 nd , South side of road	Cattle Goat	8-Beef, 4 Dairy 1
SE 76 th	76 th Street, 0.3 mi N of 34 th (east side of road)	Cattle	15-Beef
SSE	80119 29 th Avenue	Residence	1
SSE 77 ½	77 ½ St, 0.3 mile North of 32 nd Ave (west side of 77 ½ St)	Garden	1
S 29 th Ave	Palisades Park, 0.5 mile West of 29 th Ave and Blue Star Hwy intersection (North side of 29 th)	Residence	1
S CR 376	79911 46 th Street (CR 376), at 80 th St intersection	Goat	2
S 78 th	78 th , 0.5 mi North of CR 376 west side of road	Garden	1
SSW 29 th	29 th Ave, at dead end of Palisades Park	Residence	1

e

ENVIRONMENTAL AIR SAMPLE COLLECTION

	INSTALLED (MO/DA/YR)	REMOVED (MO/DA/YR)	REMOVED TIME	INITIAL SAMPLES		METER SERIAL NO	COMMENTS
				GAS METER READING INSTALLED (Ft ³)	REMOVED (Ft ³)	CAL DUE DATE	
1ST							
2TH							
3HS							
4JS							
5PR							
6RB							
7SD							
8SP							
9TP							
10GR							
11KZ							
12DG							

TEST PERFORMED BY: _____ DATE: _____

REVIEWED BY: _____ DATE: _____

ENVIRONMENTAL AIR SAMPLE COLLECTION

	INSTALLED (MO/DA/YR)	REMOVED (MO/DA/YR)	REMOVED TIME	REPLACEMENT SAMPLES		METER SERIAL NO	COMMENTS
				GAS METER READING INSTALLED (Ft ³)	REMOVED (Ft ³)	CAL DUE DATE	
1ST							
2TH							
3HS							
4JS							
5PR							
6RB							
7SD							
8SP							
9TP							
10GR							
11KZ							
12DG							

TEST PERFORMED BY: _____ DATE: _____

REVIEWED BY: _____ DATE: _____

ENVIRONMENTAL TLD COLLECTION

Station-Code	Installed		Collected		Remarks
	Date	Time	Date	Time	
1-ST					
2-TH					
3-HS					
4-JS					
5-PR					
6-RB					
7a-SN35					
8-SP					
9-TP					
10-GR					
11-KZ					
12-DG					
13-ST					
14-ST					
15-ST					
16-ST					
17-ST					
18-ST					
19-ST					
20-ST					
21-ST					
22-JS					
23-SN25					
24-SN22					
33-ST					
34-ST					
35-ST					
36-ST					
37-ST					
38-ST					

ACCIDENT TLD COLLECTION

Station Number	Collected TLD No	Installed TLD No	Date	Time	Technician	Remarks
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						

ENVIRONMENTAL SAMPLE DATA SHEET

Section 1 - Container Label Data (Complete for all Samples)		
Date:	Time:	Technician:
Sector:	Distance From Plant:	Contact Reading (ccpm or mrem/h):
Number of Containers:	Smear Results on Outside of Container(s):	
Other Location or Descriptive Information:		

Section 2 - Deposition Samples (Complete Sections 1, 2, and 4)		
Sample Type:	Sample Radiological Data	
Soil	Dose Rate BEFORE Sampling: 3 in=	3 ft=
Grass	Dose Rate AFTER Sampling: 3 in=	3ft=
Snow	Area Sampled: sq ft	Depth Sampled: in
Vegetation	Other:	

Section 3 - Miscellaneous Samples (Complete Sections 1, 3, and 4)	
Sample Type:	Remarks:
Milk	
Well Water	
Lake Water	
Drainage Water	
Other:	

Section 4 - Other Notes
(Include any additional information that may be useful in the sample evaluation, such as location details or address, precipitation, sampling techniques or difficulties, etc)

SAMPLE PACKAGING AND SHIPMENT

1. Label samples clearly. |e
2. Seal all liquid sample containers with tape to prevent leakage.
3. Ship liquid samples separately from air particulate and air iodine samples and TLDs.
4. Use sufficient packing material (ie, crumpled newspaper) to avoid possible sample container damage during shipment.
5. Package air filters in glassine or plastic envelopes.
6. For TLD shipments, make sure that laboratory contractor's own TLD data sheet is enclosed with package.
7. Ship milk samples as soon as possible. Be sure to add a sufficient amount of sodium bisulfite (40 grams) as preservative to each sample. Sodium bisulfite is a preservative and is stored in the emergency kit at the Emergency Offsite Facility (EOF).
8. Send samples to the following address:

Teledyne Isotopes Midwest Laboratory
Att: Laboratory Manager
700 Landwehr Road
Northbrook, IL 60062
9. Ship all samples to the laboratory contractor with minimal delay after collection so as to avoid elevated analytical levels of detection.

NOTE: Do not place paper labels inside containers.

10. Each sample shall be clearly identified prior to packaging for shipment.
11. The plant name shall be written on sample container using the following identification:

Palisades

PAL

SAMPLE PACKAGING AND SHIPMENT

12. The sample media type can either be written out or abbreviated on container using the below listed sample identification codes:
- a. Routine Samples:
 - Air Particulates AP
 - Air Iodine AI
 - Well Water WW
 - Lake Water LW
 - Milk MK
 - Drinking Water Raw DW-RAW
 - Drinking Water Treated DW-TREATED
 - b. Special Sample:
 - Vegetation VE
13. The sample location (where collected), sample media type, and date of collection shall be indicated on the sample container(s). The sample shall agree with the data description given on the "Sample Data Collection Form(s)."