NIAGARA MOHAWK POWER CORPORATION

ANNUAL ENVIRONMENTAL OPERATING REPORT

January 1, 1996 - December 31, 1996

for

NINE MILE POINT NUCLEAR STATION UNIT 2

Facility Operating License NPF-69
Docket Number 50-410

ANNUAL ENVIRONMENTAL OPERATING REPORT

The Environmental Protection Plan (EPP), as contained in Section 5.4.1 of Appendix B of the Operating License for the Nine Mile Point Nuclear Station Unit 2, requires that an Annual Environmental Operating Report be submitted to the Nuclear Regulatory Commission prior to May 1 of each year. The following addresses the requirements found in Section 5.4.1 of the Environmental Protection Plan for the submittal of the Annual Environmental Operating Report:

1. Provide summaries and analyses of the results of the environmental protection activities required by Section 4.2 (if any) of the Environmental Protection Plan, including a comparison with related preoperational studies, operational controls (as appropriate), previous non-radiological environmental monitoring reports, and an assessment of the observed impacts of plant operation on the environment. If harmful effects or evidence of trends toward irreversible damage to the environment are observed, a detailed analysis of the data and a proposed course of mitigating action shall be provided.

   Section 4.2 of the Environmental Protection Plan denotes three areas of monitoring:

   - Section 4.2.1 (aquatic monitoring) has no specific monitoring requirements although it is noted that the Nuclear Regulatory Commission will rely on the decisions made by the State of New York under the authority of the Clean Water Act for any requirements. Aquatic monitoring is specified in the station's State Pollutant Discharge Elimination System Permit (SPDES Permit). The SPDES Permit requires a limited Aquatic Monitoring Program (referred to as a Biological Monitoring Program) during certain periods of the five year permit, however, there were no Biological Monitoring Requirements specified for the year 1996.

   - Section 4.2.2 (terrestrial monitoring) and Section 4.2.3 (noise monitoring) of the Environmental Protection Plan do not contain any monitoring requirements.

2. Provide a list of Environmental Protection Plan noncompliance and corrective actions.

   A review of the Environmental Protection Plan requirements showed that there was one noncompliance with the Environmental Protection Plan during 1996. The noncompliance was related to the requirements in Section 5.4.2, Nonroutine Reports. According to Section 5.4.2, events reportable under this subsection which also require reports to other agencies shall be reported in accordance with those reporting requirements in lieu of the requirements of this subsection. The Nuclear Regulatory Commission shall be provided with a copy of such report at the same time it is submitted to the other agency.

Contrary to this requirement of Section 5.4.2, NMPC did not provide the Nuclear Regulatory Commission a copy of the 60 day Oil Spill Notification Report submitted to the USEPA on May 17, 1996. Corrective actions for this noncompliance include the additional submittal of a copy of the 60 day Oil Spill Notification Report with this annual report as Attachment A. Actions required to prevent reoccurrence of this noncompliance will be implemented in accordance with NMPC's Deviation Event Reporting process.

3. Provide a list of all changes in station design or operation, or of any tests or experiments which involve a potentially significant unreviewed environmental question (non-radiological).

A review of 1996 showed that there were three changes in station design/operation that involved a potentially significant unreviewed environmental question (non-radiological). In all three instances, an environmental evaluation was performed and the changes did not create an unreviewed environmental question. A brief description of the change is included below:

Change Number 1:

An addition to the Unit 2 facility was implemented as part of Modification N2-96-004, Alternate Decay Heat Removal. The subject modification provides an additional method to remove decay heat from the spent fuel pool during refueling outages. The system functions by using cooled city water (secondary loop), to remove heat from the spent fuel pool water via redundant heat exchangers located in the reactor building. The warm city water is then pumped outside to redundant cooling towers where it is cooled via force air fans and eventually returned to the reactor building to close the loop. The cooling towers require a portion of the city water to be discharged to the storm sewers to maintain adequate water chemistry. The station's SPDES Permit (NY000-1015) was modified on September 28, 1996 to allow for the new effluent. An environmental evaluation was performed as part of the 10CFR50.59 Safety Evaluation 96-061, and concluded that no unreviewed environmental question resulted from this change.

Change Number 2:

A change at Unit 2 to install a permanent service water treatment system to control biofouling was implemented as a part of Modification N2-94-007, Service Water Chemical Injection. The subject modification provides a method to inject an oxidizing biocide into the service water intake and a neutralizing agent into the service water prior to discharge to Lake Ontario. This modification utilized existing permanent plant equipment and a new skid mounted injection pumping system. This change was deemed necessary to control biofouling in the service water lines throughout the plant.

The station's SPDES permit was modified on September 28, 1996 to allow for this water treatment system effluent. An environmental evaluation was performed as part of 10CFR50.59 Safety Evaluation 96-070, and concluded no unreviewed environmental question resulted from this change.

Change Number 3:

An extensive chemical cleaning evolution for the Unit 2 service water system was implemented as a part of Modification N2-95-104, Service Water Chemical Cleaning. The subject modification provided a method to remove scale, rust and sediment from the service water piping by using a multi-step chemical cleaning process. The cleaning was performed during the fifth refueling outage. Approval from the New York State Department of Environmental Protection was obtained prior to the cleaning evolution. An environmental evaluation was performed as part of 10CFR50.59 Safety Evaluation 96-084 and concluded no unreviewed environmental question resulted from this change.

4. List all non-routine reports that were submitted during 1996 in accordance with Section 5.4.2 of the Environmental Protection Plan.

During 1996, there were no non-routine reports submitted to the Commission. However, as indicated in Section 3 of this report, a copy of the 60 day Oil Spill Notification Report, submitted to the USEPA on May 17, 1996, is enclosed as Attachment A.

ATTACHMENT A

FILE COPY

(40)

NIAGARA MOHAWK

NINE MILE POINT NUCLEAR STATION/P.O. BOX 63, LYCOMING, NEW YORK 13093/TELEPHONE (315) 343-2110

May 17, 1996
NMP1L 1074

Mr. Mike Hodanish
U. S. Environmental Protection Agency, Region 2
Response and Prevention Branch
Building 209, MS211
2890 Woodbridge Avenue
Edison, NJ 08837

Dear Mr. Hodanish:

This special report is being submitted to the U. S. Environmental Protection Agency and the New York State Department of Environmental Conservation as per the requirements in 10CFR112.4, Amendment of SPCC Plans by Regional Administrator, for two spill events, reportable under section 311(b)(5) of the Federal Water Pollution Control Act occurring within any twelve-month period.

This report satisfies the 60 day notification requirement, however, it is being submitted late. Upon our request, you granted a one week extension to submit this report as per a telephone conversation on Friday, May 10, 1996, with Mr. Carey Merritt. Also, you will find as Attachment 1 a copy of the Unit 1 Oil Spill Prevention Control and Countermeasure Plan.

Any questions or concerns should be directed at Mr. Carey M. Merritt, Supervisor Environmental Protection at 315-349-4200.

Very truly yours,

Norman L. Rademacher
Plant Manager - Unit 1

NLR/CMM/lmc
Enclosure

xc: W. McCarthy, Water Engineer, NYSDEC Region 7

1. Name of the facility:

Nine Mile Point Nuclear Station Unit 1

2. Owner and operator of the facility:

Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, NY 13202

3. Location of the facility:

Carey M. Merritt, Environmental Protection Supervisor
P.O. Box 63, Lake Road
Lycoming, NY 13093
Town of Scriba
County of Oswego
State of New York

4. Date of initial facility operation:

1969.

5. Maximum storage of the facility on normal daily throughout:

See pages 8 through 12 of Attachment 1, Unit 1 Oil Spill Prevention Control and Countermeasure Plan

6. Description of the facility, including maps, flow diagrams and topographical maps:

A. Site description

1. General

The Nine Mile Point Nuclear Station - Unit 1 (Unit 1), owned by Niagara Mohawk Power Corporation (NMPC), is located on the western portion of the Nine Mile Point promontory. Approximately 300 ft. due east is Nine Mile Point Nuclear Station - Unit 2 (Unit 2). The eastern portion of the promontory is comprised of the James A. Fitzpatrick Nuclear Power Plant, owned by the New York Power Authority (NYPA).

The site is on Lake Ontario in Oswego County, approximately 5 miles north-northeast of the nearest boundary of the city of Oswego.

Figure 1 shows the Station location on an outline map of the State of New York. It is 230 miles northwest of New York City, 143.5 miles east-northeast of Buffalo, and 36 miles north-northwest of Syracuse. Figure 2 is a detailed map of the area within about 12 miles of the Station.

2. Physical Features

An associated plot plan is presented as Figure 3. Station buildings are situated in the western quadrant of a 200-acre cleared area centrally located along the lakeshore. Site property consists of partially-wooded land formerly used almost exclusively for residential and recreational purposes. For many miles west, east, and south of the site the country is characterized by rolling terrain rising gently up from the lake.

Grade evaluation at the site is 10 ft. above the record high lake level, while underlying rock structure is among the most structurally stable in the United States (U.S.) from the standpoint of tilting and folding. There is no record of wave activity such as seiche or tsunami of such a magnitude as to make inundation of the site likely. A shore protection dike composed of rock fill from the excavation separates the buildings and the lake.

All elevations in this report refer to the United States Land Survey (USLS) 1935 data.

B. Site map is included as Figure 3

C. Site topographical map is included as Figure 4

7. <u>Spill Prevention Control and Countermeasure Plan</u>:

The Nine Mile Point <u>Unit 1 Oil Spill Prevention Control and Countermeasure Plan</u> is included as Attachment 1

8. <u>Describe the spill, the cause of the spill including a failure analysis of the system or subsystem in which the failure occurred, corrective actions and/or countermeasures, preventive actions to minimize the possibility of reoccurrence, and any miscellaneous facts about the spill</u>

FIGURE 1

STATION LOCATION

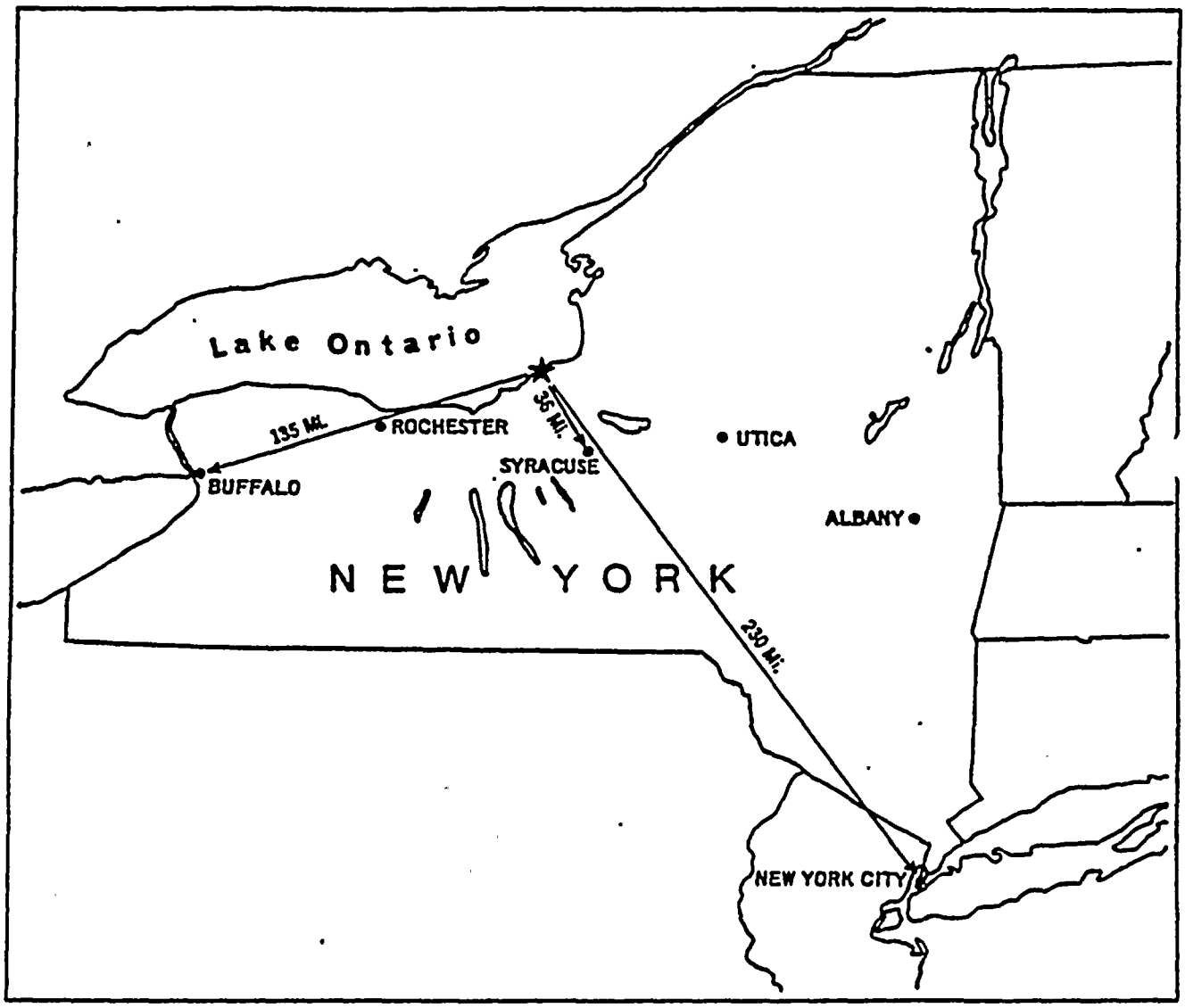
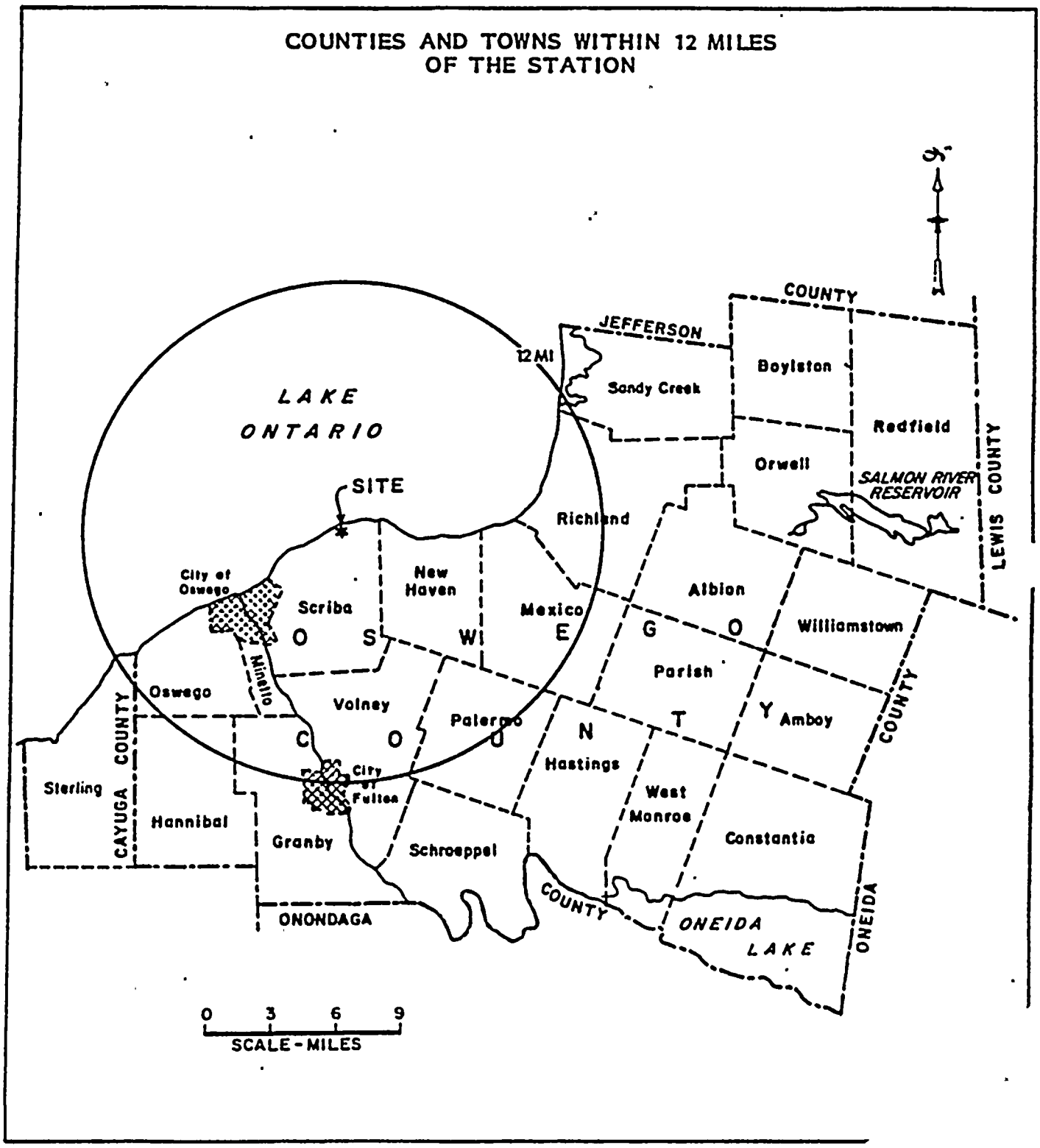
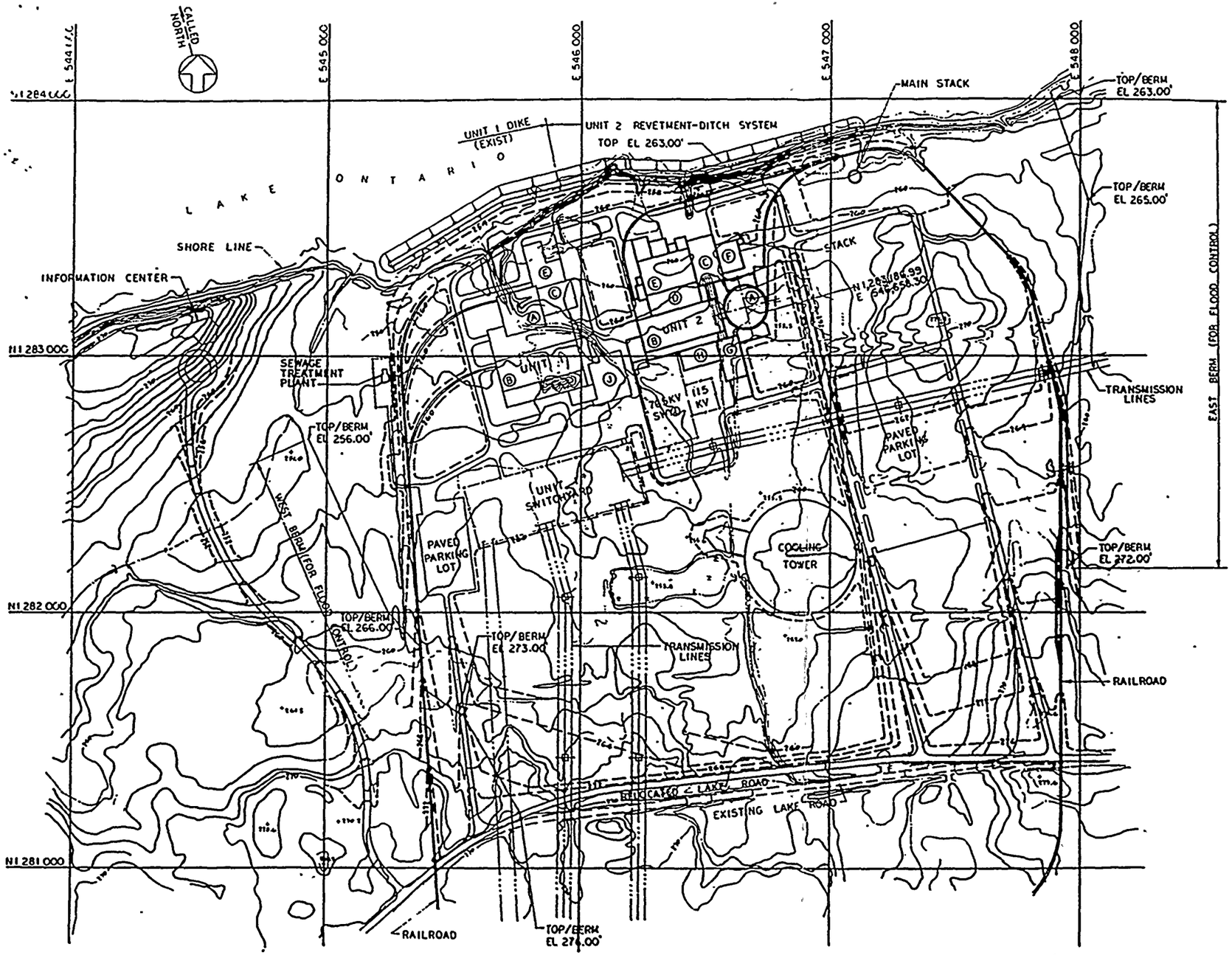


FIGURE 2


COUNTIES AND TOWNS WITHIN 12 MILES
OF THE STATION
LAKE
ONTARIO
SITE
12 MI
JEFFERSON
COUNTY
Sandy Creek
Boylston
Redfield
Orwell
SALMON RIVER
RESERVOIR
LEWIS COUNTY
Richland
City of
Oswego
Scriba
New
Haven
Mexico
Albion
Williamstown
O S W E G O
Minetto
Parish
Oswego
Volney
Palermo
Amboy
COUNTY
C O U N T Y
Hastings
City
of
Fulton
Sterling
CAYUGA COUNTY
Hannibal
Granby
Schroeppel
West
Monroe
Constantia
ONONDAGA
COUNTY
ONEIDA
LAKE
ONEIDA
0 3 6 9
SCALE-MILES



IDENTIFICATION LEGEND

A	REACTOR BUILDING
B	TURBINE BUILDING
C	RADWASTE BUILDING
D	HEATER BAYS
E	SCREENWELL BUILDING
F	CONDENSATE STORAGE TANK BLDG
G	CONTROL BUILDING
H	NORMAL SWITCHGEAR BUILDING
J	ADMINISTRATION BUILDING

LEGEND

- ORIGINAL GROUND CONTOUR
- NEW GROUND CONTOUR
- FENCE LINE

NOTES

1. GRID COORDINATES REFER TO NEW YORK STATE COORDINATE SYSTEM
2. ELEVATIONS REFER TO MEAN SEA LEVEL
3. ORIGINAL CONTOUR INTERVAL – 2 FEET

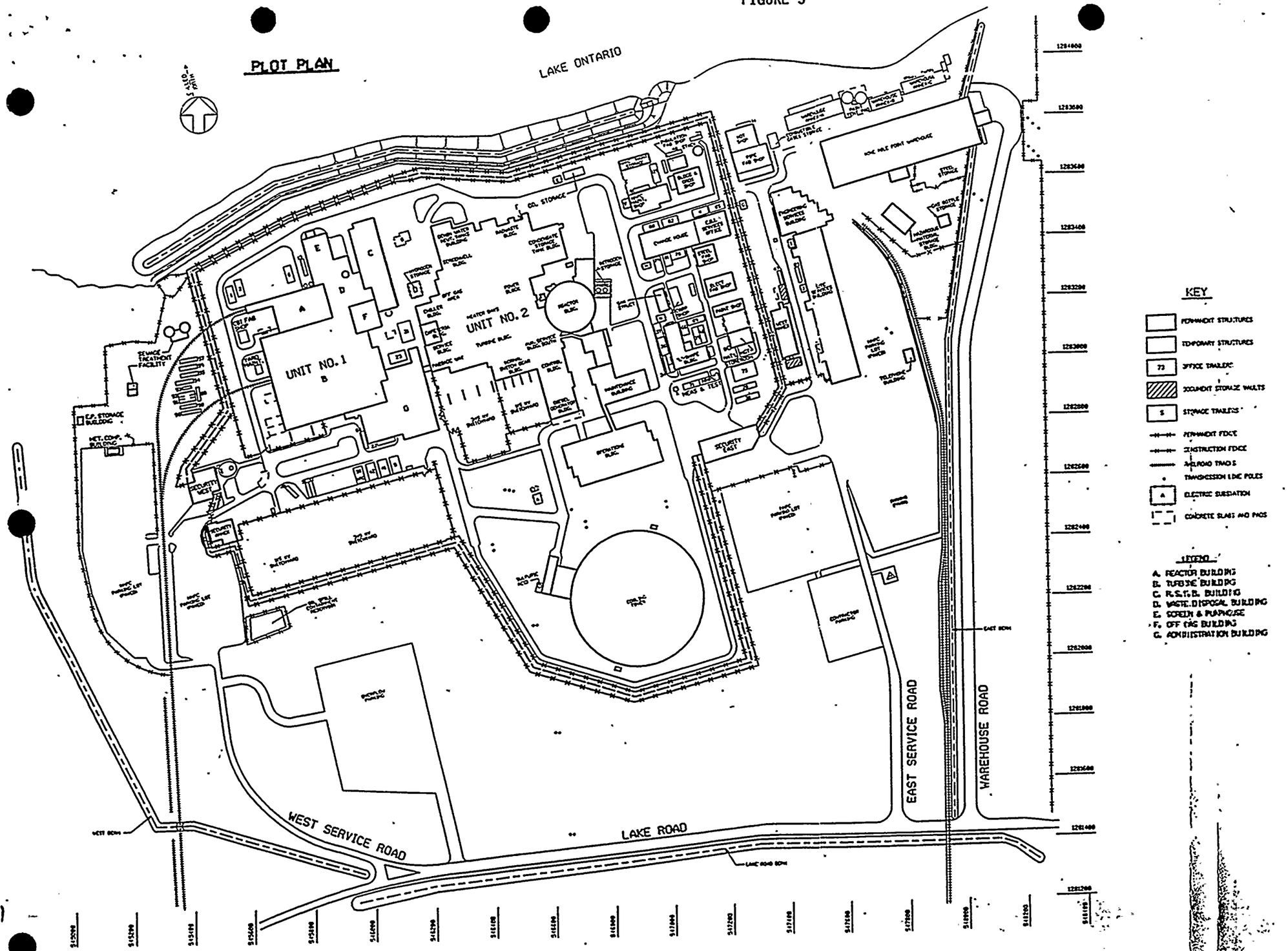
9705070220-01

FIGURE 1.2-1

PLOT PLAN

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 2
FINAL SAFETY ANALYSIS REPORT

FIGURE 3



9705070220-02

1995

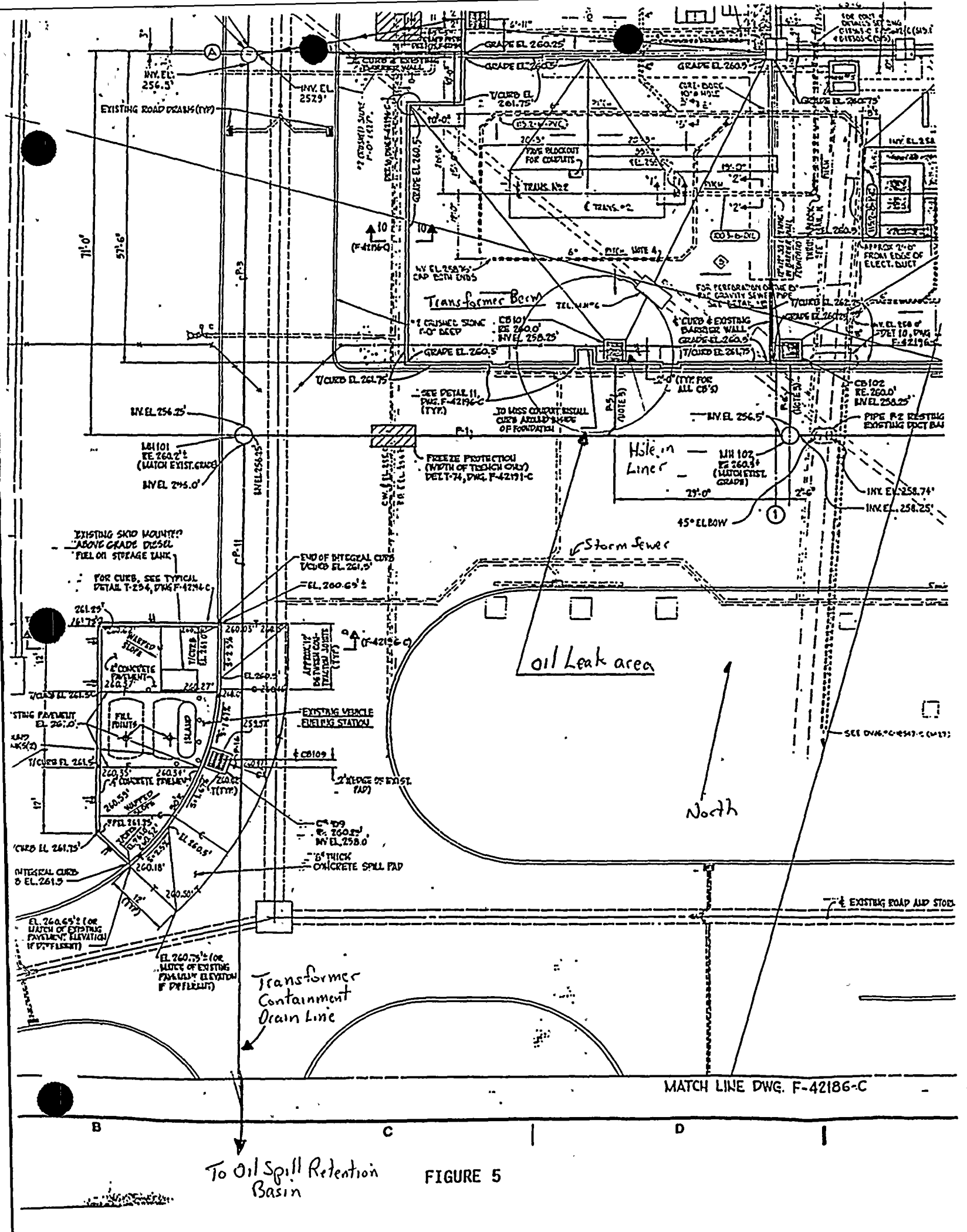

Transformer Berm
Hole in Liner
Storm Sewer
Oil Leak area
North
Transformer Containment Drain Line
To Oil Spill Retention Basin
MATCH LINE DWG. F-42186-C
EXISTING SKID MOUNTED ABOVE GRADE DIESEL FUEL OIL STORAGE TANK
EXISTING VEHICLE FUELING STATION
FREEZE PROTECTION (WIDTH OF TRENCH ONLY) DET T-74, DWG F-42191-C
45° ELBOW
B
C
D

FIGURE 5

A. Spill #1 Description:

On January 19, 1996 at approximately 1005 hours while a vendor was removing sludge from the site Sewage Treatment Plant (STP), a hydraulic line ruptured on the vendor's truck resulting in a spill of about 10 gallons of hydraulic fluid to the blacktop on the east side of the STP. The event occurred during heavy wind with rain changing to snow. This incident was reported to the New York State DEC Oil and Hazardous Material Spill Hotline as spill incident number 95-13062 and to the National Response Center as spill incident number 320953. Multiple sorbent dams were placed on the asphalt drainage area to contain the spill and a vacuum truck was brought in to aid in cleanup of the hydraulic fluid/water mixture.

B. Spill #1 cause of the spill:

A worn hydraulic hose that failed upon pressurization under normal working conditions.

C. Spill #1 failure analysis:

Not applicable.

D. Spill #1 corrective and/or countermeasures:

Immediate actions included the establishment of multiple drainage ditch dams in series with oil absorbent booms and pads. A vacuum truck was brought on site within two hours of the spill to vacuum any visible oil within the holdup areas created by the dams and the asphalt surface on which the spill occurred. In addition, the sand and debris in the drainage ditch were removed and discarded.

E. Spill #1 preventive actions:

The vendor owning the truck with the failed hydraulic hose was requested to inspect their vehicles for similar worn hoses. The environmental consequences of this event were discussed with the vendor and all personnel involved with the incident.

9. <u>Miscellaneous facts about spill #1</u>:

The spill occurred on an asphalt surface that drained to a shallow asphalt drainage ditch that contained 1-2 inches of sand. The prompt establishment of oil absorbent dams and the dense nature of hydraulic fluid relative to water allowed us to completely contain the oil. Subsequent removal of the drainage ditch water and sand facilitated the complete recovery of the spilled oil. NMPC did not witness any release of oil to navigatable water.

A. Spill #2 description:

In early March of this year, evidence of an oily substance was identified being discharged from the Unit 1 storm sewers to Lake Ontario. On March 11, when the analytical results of a surface sample showed the presence of oil and grease (1840 ppm), the event was reported to the New York State DEC Spill Hotline and assigned spill number 95-15850. The spill was also reported to the National Response Center and assigned a spill number 330556. The oily substance appeared intermittently at the outfall through the rest of March and into early April. Subsequent samples of the outfall on March 14 and 15 appeared to be clear, however, still showed oil and grease levels of 6.5 and 10.9 ppm. Again on March 21 and 22, outfall samples were drawn and found to have oil and grease values less than one part per million.

On March 26, however, there appeared to be a significant amount of oily globules collected on the absorbent booms placed at the outfall. The oily substance was collected for further analysis to characterize the type of oil. The analyses from the oily globules collected on March 26 showed the substance to be a light oil or diesel fuel.

At this time, the idea that the oily substance was from parking lot and roadway runoff due to a normal spring thaw, was discredited. Furthermore, on March 28, the Unit 1 Oil Spill Retention Basin was drained to Lake Ontario due to normal accumulation of water. During the draindown of the pond, it was noticed that an oil film had accumulated on the pond. The draindown was immediately terminated and a sample of the drawdown water was obtained.

The sample from the drawdown water later showed oil and grease levels to be 1.1 part per million. Later on the 28th, a sample of the oily layer on the catch basin pond was analyzed for characterization. It was identified on March 29, that the oil sample collected from the Unit 1 Oil Spill Retention Basin was very similar to the oil collected at the outfall. We speculated that during the draindown of the Unit 1 Oil Spill Retention Basin, the water level in the catch basin became low enough to expose the transformer containment drain line and allowed a surge of oily water to enter the catch basin from the transformer area.

A third oil sample was then collected from the Unit 1 transformer containment sump and analyzed for characterization. The results mirrored those characterizing the type of oil found in the Unit 1 Oil Spill Retention Basin and found at the outfall. We then concluded on March 30 that the source of oil at the Outfall was transformer oil entering the storm sewer from the Unit 1 transformer containment area.

Figure 5 shows the proximity of the transformer, storm sewer, and Unit 1 Oil Spill Retention Basin.

An investigation of the transformer area containment integrity was immediately initiated. Storm sewer remediation actions were initiated, which included pumping out several curb drains in the area and plugging the storm sewer line adjacent to the transformer bermed area.

Initially, it was thought a failed seal around the transformer containment drain line provided an avenue for oil to enter the storm sewer, however, excavation of the area indicated the seal was intact. Further excavation around and in the transformer containment area and storm sewer piping have shown the oil to be escaping the transformer containment berm and traveling horizontally underground into the adjacent storm sewer.

These actions eliminated any more oil from entering the storm sewers and the outfall water quality returned to oil and grease levels of less than one part per million.

B. Spill #2 cause of the spill:

The cause of oil entering the storm sewers is a breach in the integrity of the transformer containment berm. A thumb-size hole and dislodged section of liner seam allowed oily water to exit the containment area and enter directly into the storm sewer drainage system. As shown in Figure 5, the hole in the containment liner is in very close proximity to the storm sewer.

A contributing cause to this spill is a leaking transformer that provided the source of oil in the containment area. A coupling on an oil recirculating line developed a small leak in October of 1995 while the unit was at full power. On March 30 the plant was shutdown for a one week outage and the transformer leak rate increased substantially during that period. Catch pans were installed underneath the leak that were inadequate and allowed oil to spill into the containment berm.

C. Spill #2 failure analysis:

The failure of the transformer containment berm liner is from overheating of the liner during installation causing the liner material to become brittle. Subsequent settling of the support material beneath the liner provided a situation leading to a puncture in the vicinity of the voided support material.

The failure to contain the leaking oil in the catch pans is attributed to improper containment device design and inadequate monitoring to empty the catch pans. The priority placed on monitoring the catch pans was low because of a reliance on the containment berm to function as designed, which would prevent leaking oil from entering the environment.

D. Spill #2 corrective and/or countermeasures:

Immediate corrective actions included the placement of sorbent booms and pads at the outfall to collect the oily substance. This practice continued into early May. A vendor was brought in on March 13 and again on March 27 to vacuum up oil laden water, silt, and stones at the outfall. The storm sewer drain in the area adjacent to the transformer berm was pumped out and plugged.

The ground/stones around and under the storm sewer were excavated and will be replaced with virgin gravel and stones. The transformer containment liner was repaired including new support material packed in around the area the puncture was located.

E. Spill #2 preventive actions:

Preventive Actions for this event include repair of the transformer oil leak during the next plant refueling outage and fabrication of an oil containment device to adequately catch the dripping oil. In addition, an inspection of a large portion of the transformer containment berm was performed to evaluate any other potential failure locations. Furthermore, we will sample and analyze the storm sewer system in that vicinity for oil and grease on a weekly basis until the leaking transformer is repaired.

9. Miscellaneous facts about spill #2:

The total amount of oil lost from the transformer since the leak developed is approximately 500 gallons. To date, we have accounted for approximately 300 gallons. The amount of oil discharged into the oil spill basin and the amount contained in the excavated soil is difficult to estimate. In addition, there is no practical way to estimate the oil that leaked prior to the occurrence at the outfall. However, it is a reasonable assumption that some of the unaccounted 200 gallons eventually was discharged to Lake Ontario.