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Rev. 1/12/95

SUBJECT: Forwards rev 11 to "Updated Final Safety Analysis Rept," for R E Ginna Nuclear Power Plant.

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ROBERT C. MECREDY
Vice President
Nuclear Operations

December 16, 1994

U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Allen R. Johnson
Project Directorate I-3
Washington, D.C. 20555

Subject: Annual Submittal of Updated Final Safety Analysis Report (UFSAR), Revision 11
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Johnson:

In accordance with 10CFR50.71(e), Rochester Gas and Electric has prepared its 1994 annual revision to the Updated Final Safety Analysis Report (UFSAR). Enclosed are the original and 10 copies of the revised pages, together with a list of effective pages. Change bars marked with an "11" indicate those revisions which have been incorporated.

The information presented in Revision 11 reflects changes to the facility as described in the UFSAR and information and analyses submitted to the Commission or prepared pursuant to Commission requirements since our last annual update submitted December 16, 1993.

Very truly yours,

Robert C. Mecredy

GT/359

xc: Mr. Allen R. Johnson (Mail Stop 14D1)
Project Directorate I-3
Washington, D.C. 20555

U.S. Nuclear Regulatory Commission
Region I
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Ginna Senior Resident Inspector

A053 / 11

R. E. GINNA NUCLEAR POWER PLANT
UPDATED FINAL SAFETY ANALYSIS REPORT

Revision 11 Instructions - 12/94

The following Revision 11 instructions indicate replacement pages and additional or removed pages for the Updated Final Safety Analysis Report. Remove the existing pages and insert the replacement and additional pages where indicated by these instructions.

Location	Remove Pages	Insert Revision 11 Pages
VOLUME I		
List of Effective Pages	LEP-1/LEP-2 through LEP-15/LEP-16	LEP-1/LEP-2 through LEP-15/blank
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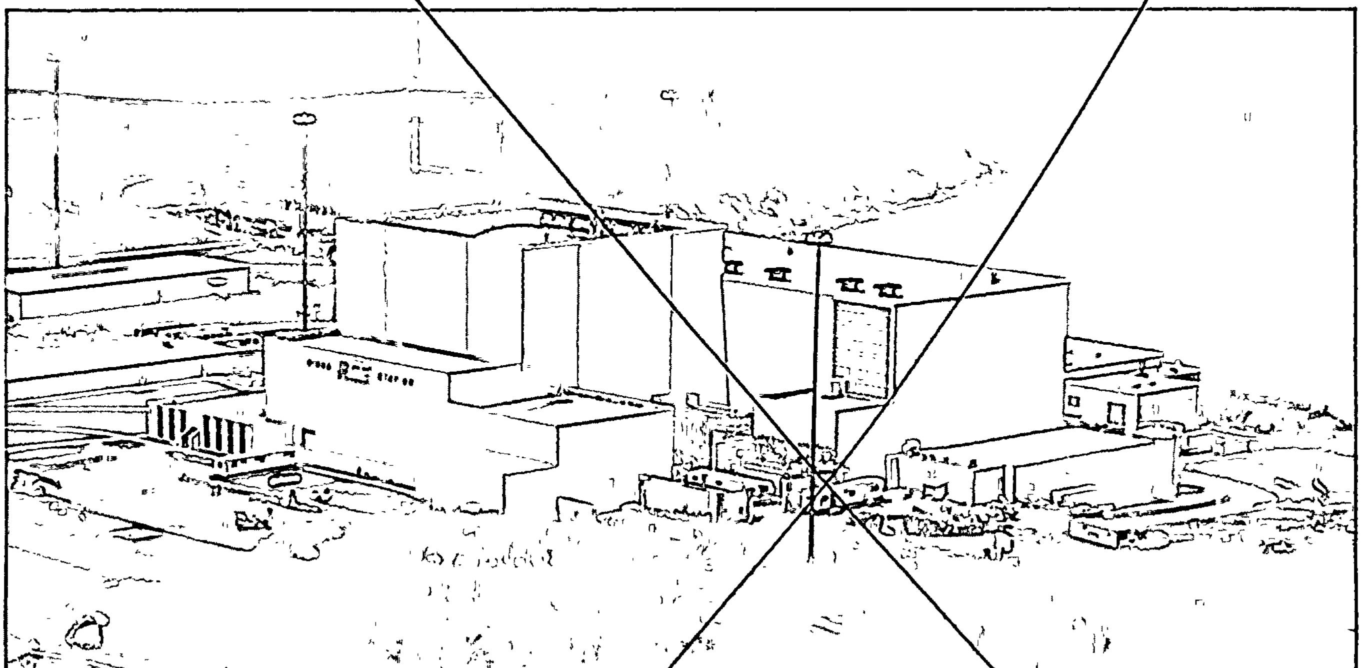
RG&E

R. E. GINNA NUCLEAR POWER PLANT



UPDATED FINAL SAFETY ANALYSIS REPORT

REVISION 9 12/92

Superseded pages per Rev. 11 UFSAR
50-244 9412200102 12/16/94

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8. Waste holdup tank.
9. Various operations panels.
10. Waste evaporator.
11. Blender room.
12. Spent resin tanks.
13. Safety injection filters.
14. Seal injection filters.
15. Containment spray pumps.
16. Nonregenerative heat exchanger.
17. Seal return filter and cooler.
18. Charging pump rooms and accumulator.
19. Sodium hydroxide tank and leakoff tank.
20. Safety injection pumps (three). |2

Auxiliary Building - Intermediate Level (See Figure 1.2-11)

1. Spent fuel pool filter and heat exchanger.
2. Chemical and volume control system holdup tanks.
3. Residual heat removal heat exchangers.
4. Waste gas compressors and gas stripper.
5. Gas decay tanks (four).
6. Reactor coolant filter.
7. Volume control tank.
8. Concentrates holding tank and transfer pump.
9. Demineralizer vault.
10. High efficiency particulate air filters.
11. Nonregenerative heat exchanger.
12. 480-V bus 16 (vital bus).
13. Charcoal filter unit.
14. Motor control center 1D.
15. Motor control center 1M.

Auxiliary Building - Operating Floor (See Figure 1.2-12)

1. Decontamination pit.
2. Spent fuel storage pool, crane, and transfer canal.
3. New fuel unloading area.

4. New fuel storage racks.
5. Crane bay.
6. Refueling water storage tank (all levels). 3
7. Component cooling pumps.
8. Component cooling water heat exchangers and surge tank.
9. Boric acid demineralizers.
10. Monitor tanks and pumps.
11. Waste condensate tanks.
12. Reactor makeup water tank and pumps.
13. Drumming station and drum storage area.
14. 480-V bus 14 (vital bus).
15. Auxiliary building supply fan and filter.
16. Boric acid batching tank.
17. Boric acid tank and pumps.
18. Waste condenser demineralizer.
19. Motor control center 1C.
20. Motor control center 1L.
21. Motor control center 1E.

1.2.3.4 <u>Intermediate Building (See Figures 1.2-6, 1.2-7, 1.2-8, and 1.2-14)</u> 4

The intermediate building surrounds the containment building to the west and north and joins the service building and turbine building. It is divided into two sections called the hot side (restricted area access) and the cold side. 10

<u>Hot Side (Restricted Area Access)</u>

The hot side is west of the containment building and joins the auxiliary building.

The intermediate building hot side extends from the spent fuel pool access to the Radiation Protection control desk and has three levels. The area contains 10 the Radiation Protection control access desk, the primary sample room, the postaccident sampling system sample panel, and the hydrogen recombiner panel. It also contains ventilation units for several systems including the con- 3 trolled access area exhaust fans and filter, main auxiliary exhaust fans and filter, auxiliary exhaust fan 1C, and the spent fuel pool charcoal filters.

relay room is directly below the control room and houses relay racks and the
MUX room. The battery rooms and the air handling room are on the lowest level 3
of the control building.

1.2.3.7 All-Volatile-Treatment Building

The all-volatile-treatment building houses demineralizers and other equipment necessary for the condensate polishing system to allow all-volatile-treatment of secondary water (see Figure 1.2-16). 7

The technical support center is located on the second floor of the all-volatile-treatment building and houses the computers and equipment, including emergency power supplies (diesel generator and batteries), necessary to provide the staff technical support during an emergency event (see Figure 1.2-17). 7

1.2.3.8 Standby Auxiliary Feedwater Pump Building

The standby auxiliary feedwater pump building is located on the southeast corner of the auxiliary building and houses the two standby auxiliary feedwater pumps and the 10,000-gal condensate supply tank. The building is a Seismic Category I concrete structure supported by caissons (see Figure 1.2-18).

1.2.3.9 Screen House

The screen house is located north of the turbine building on Lake Ontario and houses the main circulating water inlet lines and pumps; the service water pumps (four); 480-V switchgear buses 17 and 18, the diesel fire pump, the motor-driven fire pump, and motor control centers 1G1 and 1G2 (see Figure 1.2-19).

1.2.3.10 Service Building

The service building is located at the west end of the auxiliary building. This building provides the office spaces for the administrative staff at Ginna Station (see Figures 1.2-20 and 1.2-21).

The service building has two levels. The basement level is comprised of storerooms, machine shops, maintenance areas, etc. The ground floor level of the service building houses the following areas:

1. Radiation Protection. |10
2. Chemistry.
3. Engineering.
4. Shift technical advisors.
5. Cafeteria.
6. Mechanical equipment.
7. Laboratories.
8. First Aid room. |10
9. Central records.
10. Main office.
11. Quality control office.
12. Maintenance office.
13. Plant superintendent's office.
14. Men's locker room.
15. Women's locker room.
16. Technical office.
17. Planning office.

The locker rooms are used as the change areas for donning or removing protective clothing used in the auxiliary building, intermediate building, and containment.

1.2.3.11 Diesel Generator Building

The diesel generator building adjoins the turbine building on the east end of the north wall opposite the control building. The building is a one-story reinforced-concrete structure that houses the emergency diesel generators. | 5

1.2.4 NUCLEAR STEAM SUPPLY SYSTEM

The nuclear steam supply system consists of a pressurized water reactor, reactor coolant system, and associated auxiliary fluid systems. The reactor coolant system is arranged as two closed reactor coolant loops connected in parallel to the reactor vessel, each containing a reactor coolant pump and a steam generator. An electrically heated pressurizer is connected to one of the loops (loop B).

The reactor core is composed of uranium dioxide pellets enclosed in zircaloy tubes with welded end plugs. The tubes are supported in assemblies by a grid structure. The mechanical control rods consist of clusters of stainless steel clad absorber rods and guide tubes located within the fuel assembly. The core fuel is divided into several regions.

The steam generators are vertical U-tube units containing Inconel tubes. Integral separating equipment reduces the moisture content of the steam at the turbine throttle to 0.25% or less.

The reactor coolant pumps are vertical, single-stage, centrifugal pumps equipped with controlled leakage shaft seals.

Auxiliary systems are provided to add makeup water to the reactor coolant system, purify reactor coolant water, provide chemicals for corrosion inhibition and reactor control, cool system components, remove residual heat when the reactor is shut down, cool the spent fuel storage pool, sample reactor coolant water, provide for emergency safety injection, vent and drain the reactor coolant system, and for other purposes.

1.2.5 REACTOR AND PLANT CONTROL

The reactor is controlled by a coordinated combination of chemical shim and mechanical control rods. The control system allows the plant to accept step load increases of 10% and ramp load increases of 5% per minute over the load range of 12.8% to 100%. Similar step and ramp load reductions are possible over the range of 100% to 12.8%.

Complete supervision of both the nuclear and turbine generator plants is accomplished from the central control room. This supervision includes the capability to test periodically the operability of the reactor protection system.

1.2.6 WASTE DISPOSAL SYSTEM

The waste disposal system provides all equipment necessary to collect, process, and prepare for disposal all potentially radioactive liquid, gaseous, and solid wastes produced as a result of reactor operation.

Liquid wastes requiring cleanup before release are collected and processed by a vendor supplied demineralization system. After appropriate cleaning and filtering, the liquid is collected in the chemical and volume control system monitor tank A for ultimate release to the circulating water discharge canal at a concentration below 10 CFR 20 limits. The spent demineralizer resin is packaged and shipped from the site for ultimate disposal in an authorized location. Liquid wastes were also processed by the waste evaporator system until 1990 when use of the evaporator was discontinued. 7

Gaseous wastes are collected and stored until their radioactivity level is low enough so that discharge to the environment does not create radioactivity concentrations above 10 CFR 20 limits.

Solid wastes including evaporator concentrates are packaged and shipped from the site for ultimate disposal in an authorized location. Wet solid wastes are solidified. Dry solid wastes are shipped in bulk form to a vendor for volume reduction and packaging for delivery to a disposal site. 7

Operating procedures generally limit normal effluents to within 10 CFR 50, Appendix I, limits. Sanitary waste from Ginna Station is piped into the Town of Ontario, New York, sewer system.

1.2.7 FUEL HANDLING SYSTEM

The reactor is refueled with equipment designed to handle spent fuel under water from the time it leaves the reactor vessel until it is placed in a cask for shipment from the site. Underwater transfer of spent fuel provides an optically transparent radiation shield, as well as a reliable source of coolant for removal of decay heat.

1.2.8 TURBINE AND AUXILIARIES

The turbine is a tandem-compound, three-cylinder, 1800-rpm unit having 40-in. exhaust blading in the low-pressure elements. Four combination moisture

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Table 1.7-1

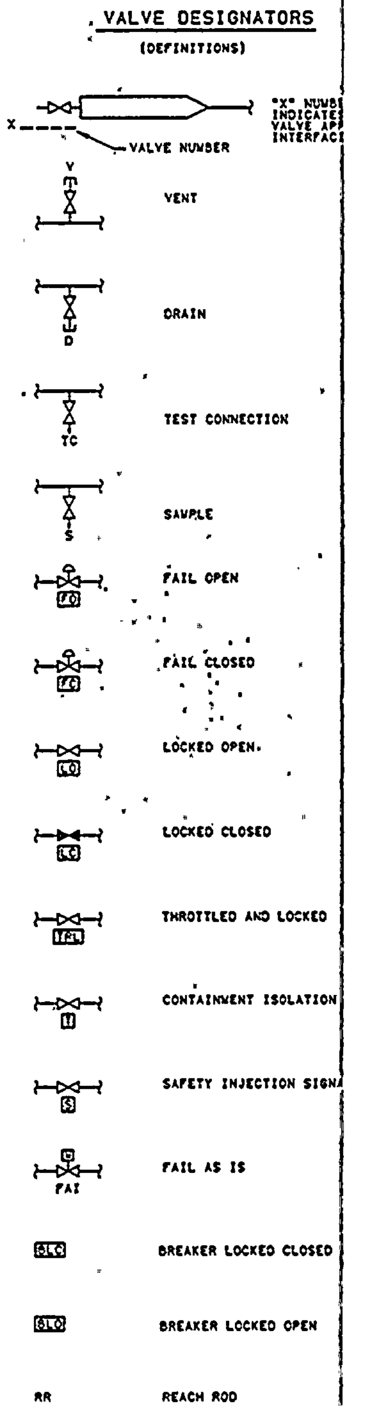
ELECTRICAL, INSTRUMENTATION, AND CONTROL DRAWINGS

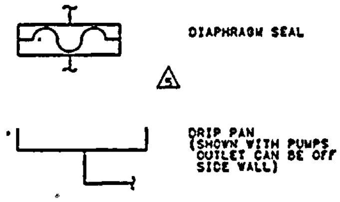
Drawing Number	Title	Figure Number	
03201-0102	120-Volt ac Instrument Bus One-Line Diagram	8.3-4	9
21945-357	125-Volt dc Battery Intertie, TSC Battery - Vital Battery Systems, Two-Line Wiring Diagram	8.3-8	
33013-623			
Sheet 1	Main One-Line Operating Diagram	8.3-1, Sheet 1	5
Sheet 2	Main One-Line Operating Diagram	8.3-1, Sheet 2	
33013-652	480-Volt One-Line Wiring Diagram	8.3-3	
33013-653	4160-Volt One-Line Diagram	8.3-2	
33013-756			
Sheet 1	Electrical One-line Diagram, 125-Volt dc System	8.3-6	
Sheet 2	Electrical Panel Arrangements, 125-Volt dc System	8.3-7	3
33013-1353			
Sheet 1	Logic Diagram, Index and Symbols	7.2-3	
Sheet 2	Logic Diagram, Reactor Trip Signals	7.2-4	
Sheet 3	Logic Diagram, Turbine Trip Signals	7.2-9	
Sheet 4	Logic Diagram, Electrical Protection Logic	7.2-8	
Sheet 5	Logic Diagram, Emergency Generator 'B' Starting	8.3-5	
Sheet 6	Logic Diagram, Safeguards Actuation Signals	7.3-1, Sheet 1	7
Sheet 7	Logic Diagram, Safeguards Actuation Signals	7.3-1 Sheet 2	
Sheet 8	Logic Diagram, Safeguards Sequence	7.3-3	
Sheet 9	Logic Diagram, Feedwater Isolation and Auxiliary Feedwater Pump Actuation Signals	7.3-2	
Sheet 10	Logic Diagram, Nuclear Instrumentation Trip Signals	7.2-6	

Table 1.7-1

ELECTRICAL, INSTRUMENTATION, AND CONTROL DRAWINGS (Continued)

Drawing Number	Title	Figure Number
33013-1353 (Continued)		
Sheet 11	Logic Diagram, Nuclear Instrumentation, Permissives, and Blocks	7.2-11
Sheet 12	Logic Diagram, Pressurizer Trip Signals	7.2-7
Sheet 13	Logic Diagram, Steam Generator Trip Signals	7.2-10
Sheet 14	Logic Diagram, Reactor Coolant System Trip Signals	7.2-5
Sheet 15	Logic Diagram, Stops and Turbine Runbacks	7.7-5





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NOTES

1. FOR GENERAL NOTES REFER TO DRAWING 33013-2241.
2. THIS DRAWING SUPERSEDES PORTIONS OF DRAWINGS 33013-1257 SHEETS 1 AND 2

Drawing 33013-2242, Sheet 2, Revision 5

ROCHESTER GAS AND ELECTRIC CORPORATION
R. E. GINNA NUCLEAR POWER PLANT
UPDATED FINAL SAFETY ANALYSIS REPORT

Figure 1.7-1, Sheet 2
Symbol Legend

REV 10 12/93

1.8.1.19.3 Pressure Tests | 6

All piping penetrations and personnel locks were pressure tested in the fabricator's shop to demonstrate leaktightness and structural integrity.

In order to ensure that the joints in the liner plate and penetrations as well as all weld connections of test channels were leaktight, it was required that all welds be examined by detecting leaks at 69 psig test pressure using a soap bubble test or a mixture of air and Freon, and 100% of detectable leaks be arrested. These tests were preliminary to the performance of the initial integrated leak rate test which ensured that the containment leak rate was no greater than 0.1% of the contained volume in 24 hr at 60 psig.

The liner weld seams were also examined by pressurizing the test channels to design pressure (60 psig) with a mixture of air and Freon, and checking all seams with a halogen leak detector. All detectable leaks were corrected by repairing the weld and retesting.

1.8.1.19.4 Quality Control Provisions | 6

The following quality control provisions were employed in the welding procedure for the liner:

> The qualification of welding procedures and welders was in accordance with Section IX, Welding Qualifications, of the ASME Boiler and Pressure Vessel Code. Contractor shall submit welding procedures to the Engineer for review.
>
> The qualification tests described in Section IX, Part A, include guided bend tests to demonstrate weld ductility. All penetrations shall be examined in accordance with the requirements of the ASME Nuclear Vessels Code for Class B Vessels. Other shop fabricated components including the reinforcement about openings shall be fully radiographed. All nonradiographable joint details shall be examined by the liquid penetrant method.

Conformance to this code was adhered to in all applicable cases.

1.8.1.20 <u>Safety Guide 20 - Vibration Measurements on Reactor Internals</u>

A vibration analysis and test program was developed for Ginna Station by Westinghouse Corporation. The preoperational test program and its results are discussed in Section 14.6. The results show that the vibration of the reactor internals for the Ginna plant are well within the existing criteria.

A program was conducted during the first refueling shutdown of the Ginna reactor (March 1971) to inspect and evaluate the performance of the reactor internals and core components. This inspection program was based on an inspection of all components, with emphasis on the thermal shield area since the thermal shield has previously been the most vulnerable problem area.

The structures inside and outside of the lower internals, the upper internals, three control rod drive shafts, and all rod cluster control assembly control rods were inspected using a closed-circuit underwater television and/or boroscope. All of the inspections performed by television were recorded on video tape; photographs were taken through the boroscope to record that portion of the inspection. This inspection revealed no problem areas in any of the items inspected.

The inspection program is described in Westinghouse report WCAP 7780, Robert E. Ginna Nuclear Generating Station, March 1971 Refueling Shutdown Reactor Internals and Core Components Evaluation.

1.8.1.21 Safety Guide 21 - Measuring and Reporting Effluents From Nuclear Power Plants

Starting on January 1, 1972, plant effluent monitoring and reporting was prepared in the format given in Appendix A of Safety Guide 21 and submitted to the State of New York on a monthly basis. A report in the format of Appendix A was provided to the AEC for the year 1971. The Technical Specifications, as revised on March 1, 1972, follow the intent of Safety Guide 21 for measuring and recording the plant effluents and are being followed. Plant records will be maintained to demonstrate that the sensitivity of analysis is within the limits given in the safety guide.

An onsite meteorological tower was fully operational early in 1965 and was used extensively in the collection of preoperational meteorological data. During early 1972, the recording instrumentation was relocated inside the accident. There are no components of systems in unheated compartments. Charcoal filter units are provided with spray systems to limit adsorber fires.

All cleanup systems are designed for ease of maintenance and ready removal of elements. Lighting is provided in the housings and test probe holes for in-place testing are available.

Filter units were tested prior to startup of Ginna Station and are retested according to the schedules of the Technical Specifications. These tests are subcontracted to a reliable vendor who prepares the report of test results. Samples from the charcoal filter trays are sent for organic iodides and elemental iodine efficiency tests according to Table 2 of Guide 1.52.

1.8.2.31 Regulatory Guide 1.53 - Application of the Single-Failure Criterion To Nuclear Power Plant Protection Systems

This guide endorses the use of IEEE Standard 379-1972, Trial-Use Guide for the Application of the Single-Failure Criterion to Nuclear Power Generating Station Protection Systems. Subjects which are covered in the standard include identification of undetectable failures, analysis of channel interconnections for failures which could compromise independence, testing to determine independence between redundant parts of the protection system, and analysis to show that no single failure can cause a loss of function due to improper connection of actuators to a power source.

Protection system failure analyses and reliability studies applicable to the Ginna plant were performed as described in the topical report WCAP 7486-L, An Evaluation of Anticipated Operational Transients in Westinghouse Pressurized Water Reactors. This report was submitted to the AEC by Westinghouse in March 1971. Subsequent evaluations have demonstrated the conformance of the Ginna Station design to this guide.

1.8.2.32 Regulatory Guide 1.54 - Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants

Contemporary standards were specified to ensure that protective coatings applied would perform their functions under environmental conditions experienced during normal operations and the design-basis accident and to do so without hazard of interfering with other nuclear components.

One standard specified was SP-5485 dated January 18, 1968, entitled Technical Specification, Painting of Structures and Equipment, Robert Emmett Ginna Nuclear Power Plant Unit No. 1, which includes techniques for preparation of surfaces to be painted, sampling, thickness measurement and control, and a detailed paint schedule including components and paint materials for plant structures and equipment. Also, SP-5339 dated March 31, 1967, entitled Technical Specification for Painting the Interior Surface of the Containment Vessel Dome for the Robert Emmett Ginna Nuclear Power Plant Unit No. 1, gives the specifications for the preparation, application, material, and paint sampling for the interior of the containment dome.

The painting of the containment structure and components inside the containment was governed by Westinghouse process specification PWR 597755, dated February 20, 1968. This specification covered the application of paint systems to equipment and structures in containments which use additive spray systems for fission product removal and/or containment cooling.

Regulatory Guide 1.54 and related ANSI Standard N101.4 were published after construction of the Ginna plant and thus were not available to be applied. However, the previously referenced process specifications demonstrate that care was taken in the selection and application of protective coatings for the Ginna plant.

1.8.2.33 Regulatory Guide 1.55 - Concrete Placement in Seismic Category I Structures

All concrete placement for the Ginna plant was accomplished in accordance with the proposed specification for structural concrete for buildings ACI-301 and the detailed construction specification.

In accordance with the specification, the contractor submitted placing drawings, reinforcing bar details, and bar lists, etc., for engineer approval to ensure that the details were in general compliance with the engineering

Chapter 2
SITE CHARACTERISTICS

2.1 GEOGRAPHY AND DEMOGRAPHY

2.1.1 SITE LOCATION AND DESCRIPTION

The site is in the township of Ontario, in the northwest corner of Wayne County, New York, on the south shore of Lake Ontario about 16 miles east of the center of the city of Rochester and 40 miles west-southwest of Oswego, at longitude 77° 18.7'W and latitude 43° 16.7'N. The general location is shown in Figure 2.1-1.

The site, including the switchyard, comprises 488 acres owned by the Rochester Gas and Electric Corporation (RG&E). Figures 2.1-2 and 2.1-3 show the site boundaries and their relationships to topographic and demographic features.

The surface of the land on the southern shore of Lake Ontario, at the site and east and west of it, is either flat or gently rolling. It slopes upward to the south from an elevation of about 255 ft above mean sea level (msl) near the edge of the lake; to 440 ft at Ridge Road (New York State Highway 104), 3.5 miles south of the lake; and then to about 1600 ft at the northern edge of the Appalachian Plateau, 30 to 40 miles to the south. Southward from Ridge Road the terrain progressively roughens, with a series of small abrupt hills, commencing about 10 miles south of the site.

Wayne County, in which the site is located, is primarily of an agrarian nature and sparsely populated. The location is shown in Figure 2.1-1. There are no substantial population centers, industrial complexes, transportation arteries, parks or other recreational facilities within a 3-mile radius of the Ginna site.[1] Roughly 70% of the county's 600 square miles are utilized for approximately 2500 farms, which primarily produce apples, grapes, cherries, dairy products, field crops, and vegetables. About 34% of Wayne County's workers are employed in manufacturing operations, 18% in service industries, 16% in retail trade, 14% in agriculture, and 18% in other occupations. Typical industries are listed in Table 2.2-1.

Monroe County, located adjacent to and west of Wayne County, has many manufacturing activities centered in and around Rochester. Approximately 22% of the county's 673 square miles is in urban development, about 28% is vacant, wooded, or water surface, and 50% is farm land upon which dairy products, field crops, poultry, livestock, fruits, and horticultural specialities are produced. Of Monroe County's workers, about 45% are employed in manufacturing, 20% in service industries, 16% in retail trade, 1.4% in agriculture, and the rest in other activities. Typical industries are listed in Table 2.2-2.

The land within a radius of 5 miles of the site is used for agricultural purposes, principally for growing apples, cherries, grapes, and field crops. In Figure 2.1-3, the orchard areas are characterized by a square array of trees, the open fields by relatively regular boundaries, and the woods by their dark color and irregular shape. There are only a few dairy farms in a 5-mile radius of the plant. They average between 50 to 75 milk cows per farm. Part of the site is under lease for fruit farming.

2.1.2 EXCLUSION AREA AUTHORITY AND CONTROL

The site exclusion area is completely within the plant boundaries. The distance from the containment to the nearest site boundary (excluding the boundary on the lakefront) is 1550 ft but the minimum exclusion distance is assumed to be 450 meters or 1476 ft. The site boundary is shown in Figure 2.1-2. No public highways or railroads traverse the exclusion area.

Rochester Gas and Electric Corporation owns and controls all of the land, including mineral rights, within the exclusion area. Regarding the lakeshore frontage within the exclusion area, RG&E, by New York State procedures,[2] owns the land above 243.8 ft msl. This is well below the average lake stage of 246 ft msl, but is above the extreme low water level of 242.23 ft msl and the lowest regulated level of 243 ft msl (see Section 2.4); however, since the low period is generally in the winter and the high period in the summer, it is not expected that there would be any beach use of this area. The exclusion area is not defined over the waters of Lake Ontario adjacent to the Ginna site. While RG&E has not specifically defined an exclusion area over the water, arrangements have been made with the U.S. Coast Guard, as documented in the Ginna Nuclear Emergency Response Plan, for the control of water traffic in the event of a plant emergency.

2.1.3 POPULATION DISTRIBUTION

2.1.3.1 Population Within Five Miles

The population distribution by 1-mile increments within 5 miles of the plant, projected for the years 1970, 1980, 1990, and 2010, is shown in Figure 2.1-4. The 1970 estimates were based on a 1967 count of houses and electric meters and includes summer residents. The estimates for 1980, 1990, and 2010 were made by the RG&E Rate and Economic Research Department and were derived from a study of past trends and probable future industrial, commercial, residential, and recreational development.

Updated population data based on preliminary estimates from the 1980 Census[3] are shown on Figure 2.1-5. Rochester Gas and Electric Corporation estimated that 10,864 persons resided within 5 miles of the plant in 1980, a density of 138 persons per square mile averaged over the entire area. It should be noted that this figure compares favorably with the 1980 population projection of 10,934 persons shown in Figure 2.1-4.

Updated 1992 population estimates based on data obtained from the Center for Government Research and 1990 Census data are shown in Figure 2.1-5a. Rochester Gas and Electric Corporation estimated that 11,277 persons resided within 10
5 miles of the plant in 1992. It should be noted that this figure is significantly lower than the 1990 population projection of 14,491 persons shown in Figure 2.1-4.

Based on the original FSAR for Ginna Station published in 1968, four schools were located approximately 3.5 miles south of the plant, and had a total enrollment of 2272 pupils and a teaching staff of 180. The nearest offsite residence is about 2000 ft southwest of the plant, and there are two occupied farmhouses on the site. The farms are owned by RG&E and the occupants have leases renewable annually at the option of RG&E. One farmhouse is about 2200 ft southeast of the plant and the other is about 1500 ft south. Both farmhouses are outside the exclusion area. Other buildings (horse barns) are located about 800 ft east and 1400 ft south of the plant.

2.1.3.2 Population Within Forty Miles

The population distribution projections by 10-mile increments within 40 miles of the plant, for the years 1970, 1980, 1990, and 2010, are shown in Figure 2.1-6. The 1970 estimates were based on extrapolations of the 1960 Census and a special census of Monroe County (Rochester area) dated April 1, 1964. The estimates for 1980, 1990, and 2010 were made by the RG&E Rate and Economic Research Department and were derived from a study of past trends and probable future industrial, commercial, residential, and recreational development.

2.1.3.3 Transient Population

Based on the original FSAR, there is a summertime increase of about 500 people in the lakeside population within a 5-mile radius of the plant, and a summertime increase of 4000 to 5000 people in the lakeside population within a 20-mile radius of the plant. The nearest group of houses are summer cottages, 0.8 miles west. Other groups are located at Bear Creek, 1.5 miles east, and at Ontario-on-the-Lake, 2 miles west.

Other than the summertime residents of the area, there are no large groups of transients within 5 miles of the site. The only parks near the site are Webster Beach Park in Monroe County, approximately 6 miles west of the plant site, and B. Forman Park in Wayne County, approximately 8 miles east of the plant site. There are no federal recreational facilities in the area. There are no state parks, public campsites, or special use areas within 10 miles of the plant.[3] Wayne County does have a migrant labor population during the June-October season, primarily for apple picking. Approximately 115 farmworker camps of five or more persons are scattered throughout Wayne County, with a total population of about 4400 migrants. Information from Rural New York Farmworker Opportunities shows that there are only 12 camps, with about 130 migrants, located in the vicinity of the Ginna site.[4]

2.1.3.4 Low-Population Zone

The low-population zone specified for the Ginna site is the area within a 3-mile (4827 m) radius of the plant.[5] A review in 1981 of population estimates and projected growth estimates indicates that the population growth