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RECIP.NAME RECIPIENT AFFILIATION
CRUTCHFIELD,D. Operating Reactors Branch 5

SUBJECT: Forwards results of review of FES identifying significant changes to facility or environ since Dec 1973 in response to 820806 request,Util Repts B-13-072 & B-13-073 encl to assist NRC in review of items on Page VI.
SEE ENVIRON Reports. # 8209160436

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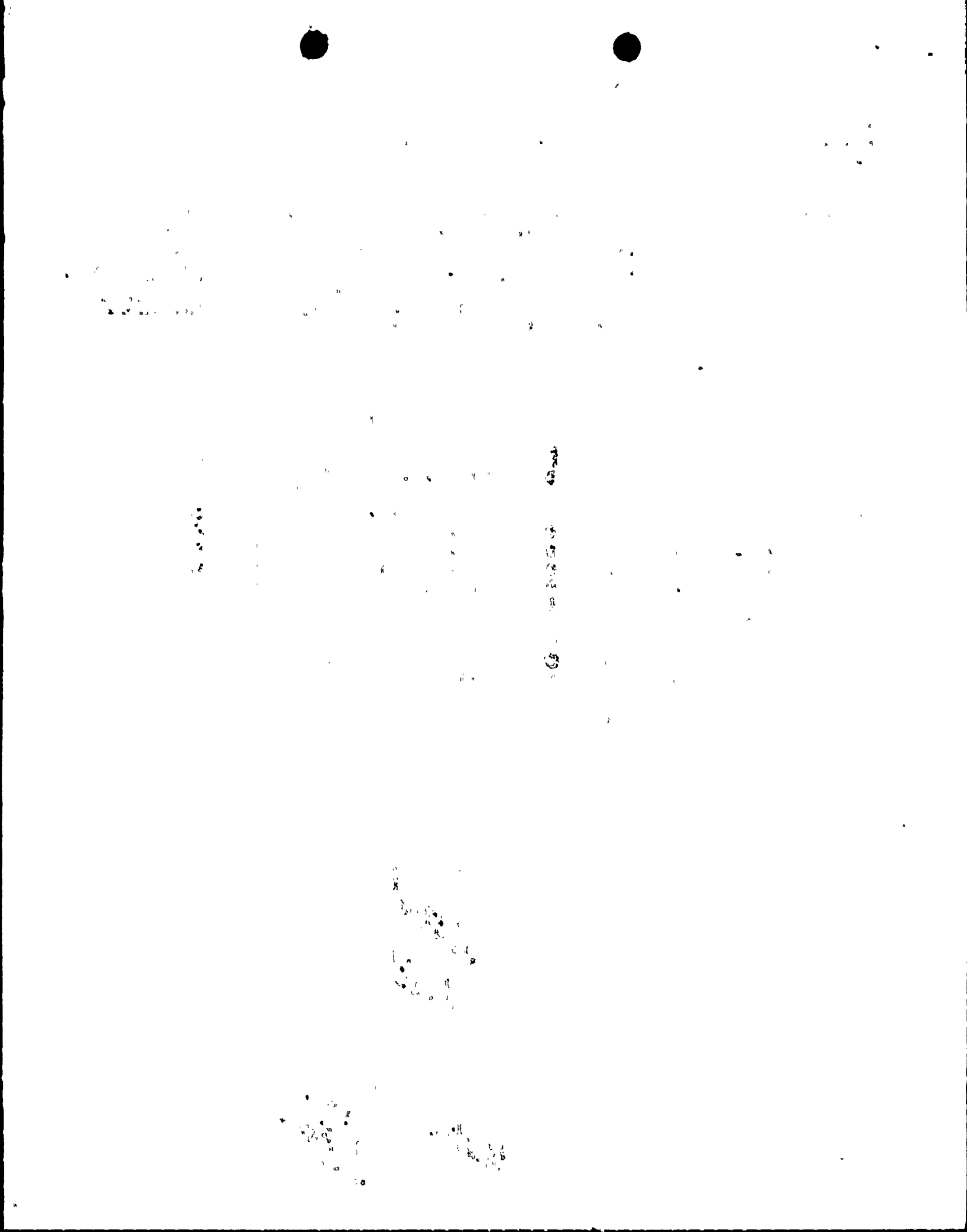

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JOHN E. MAIER
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September 10, 1982

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Final Environmental Statement Review
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

Your letter dated August 6, 1982, which was received on August 10, 1982, requested Rochester Gas and Electric Corporation (RG&E) to review the Final Environmental Statement (FES) for significant changes to the Ginna facility or environs that would affect the conclusions reached in December 1973. The attachment to this letter contains the results of that review. The comments presented in the attachment reference studies that have been undertaken since 1973 and changes to the Ginna facility. The information presented augments the Staff's original conclusion and provides additional information to resolve previous concerns.

Also attached are six copies of two RG&E reports that were requested by a member of your staff to aid in the Staff's review of items on page vi.

Very truly yours,

John E. Maier

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pp. iii	Ginna is currently operating at the design power level of 1520 MWt 490 MWe. Reference to 1300 MWt and 420 MWe should be deleted.
pp. vi, Item 1.	Radiological Environmental Technical Specifications were submitted to the Staff for approval on August 12, 1982. These Technical Specifications should satisfy the requirements of Item 1.
Item 2.	The fish impingement program is presented in the attached document, "1977 Impingement Program Analysis Report," RGE Report No. B-13-072, January 1980.
Item 3.	The use of chlorine is monitored and controlled. Based on operating experience, it has been found that the use of chlorine could be decreased. Currently, less than 2000 gallons of sodium hypochlorite are used per year and application is made twice per week over a nine month per year schedule. Since the use of chlorine has been decreased from the amounts referenced in the FES, the environmental impacts have also decreased.
Item 4.	The effect of thermal shock is addresed in the attached report, "A Biological Assessment of a Power Plant Shutdown During Winter," RGE Report No. B-13-073, January 1982. (Complete reference to RGE Reports are listed after the last comment.)
Main Report	Due to a March 1982 amendment to 10 CFR 51.23 which eliminated discussions on need for power or alternative energy sources or alternative sites, sections addressing these topics in the FES have not been reviewed.
page 1-2, Table 1.1	Table 1.1 should be updated. Federal agencies should include the U.S. Environmental Protection Agency, NPDES permit no. NY0000493 on April 1, 1977 regarding thermal effects. This permit has been transferred to NYS under the SPDES program. The renewal to this permit was applied for in October 1981. This permit includes the application of the 316a demonstration variance in April 1977. The Local section could be expanded to include building permits for buildings constructed after 1973.
page 2-1, Section 2.1	The Site, including substation 13A, is now a total of 488 acres with nearly all land acquisitions located on the former western boundary of the site. Figure 2.2 should be updated with revised boundaries.

page 2-4,
Section 2.2.2.1

The exclusion area has been extended beyond the 450-meter radius to the west and east (ref. NRC SEP Topic II-1.A, 7/17/81), however, the 3 farm residences are still outside the exclusion area.

page 2-7,
Section 2.2.2.2,
Figure 2.5

Local land use may have changed somewhat since the 1973 FES; for milk-producing animals, the Ginna Appendix I Evaluation (June 3, 1976 submittal to NRC) used the same dairy cow distances and directions as shown in FES Figure 2.5. No milk-producing goats had been identified within a 5-mile radius, and thus were not assumed in the Appendix I evaluation.

Currently proposed Radiological Effluent Tech Specs (RETS) require an annual land use survey to identify the nearest milk animals and residences within 5 miles from Ginna. Such a census may in the future identify new milk goats, and possible changes in cattle locations. If the Staff redoes the radiological dose calculations for the FES, the most recent census should be incorporated. The most recent RETS submittal was 8/12/82.

page 2-8,
Section 2.3.1

The nearest historical site now listed in the National Register of Historic Places, 1973, is Heritage Square, located on Ontario Center Road approximately 1.5 miles southeast of the Site.

page 2-12,
Section 2.6

The meteorological data base for determining Ginna dispersion values has most recently included the years 1966, 1967 and 1973-74, (composited) and 1975 (ref. Ginna Appendix I Evaluation, June 3, 1976; and our June 30, 1981 submittal to NRC on SEP Topic II-2.C "Atmospheric Transport and Diffusion Characteristics for Accident Analysis," which employed the 1966, 1967 and 1973-74 composited data.

Meteorological dispersion models used by us and the NRC have been revised since 1973 with NRC results presented in an NRC letter dated September 24, 1981 regarding SEP Topic II-2.C, "Atmospheric Transport and Diffusion Characteristics for Accident Analysis".

page 2-13,
Section 2.6 — Table 2.1 appears to still be valid.

page 2-14,
Section 2.6 — Figure 2.7 needs to be revised to show site boundary changes, and revised X/Q values. A site map is presented in the RG&E letter dated June 26, 1981 and approved by NRC letter dated July 17, 1981 regarding SEP Topic II-1.A, "Exclusion Area Authority Control".

page 2-17,
Section 2.7.1.2 — The bog turtle is now only listed as endangered by the NYS DEC and is no longer listed on the Department of the Interior List. Although there may be potential bog turtle habitat on the site, no bog turtles have ever been seen or reported at Ginna.

No other endangered species from either the NYS DEC or DOI current endangered species lists are presumed to be found at the site as a resident. There is a remote possibility that a bald eagle or osprey may fly near the site during migration periods, but they do not reside on or near the site.

page 2-29,
Section 2.7.2.5 — Since the time of the FES, significant changes have occurred in the New York State Department of Environmental Conservation (NYSDEC) policies, fish populations, and test surveys.

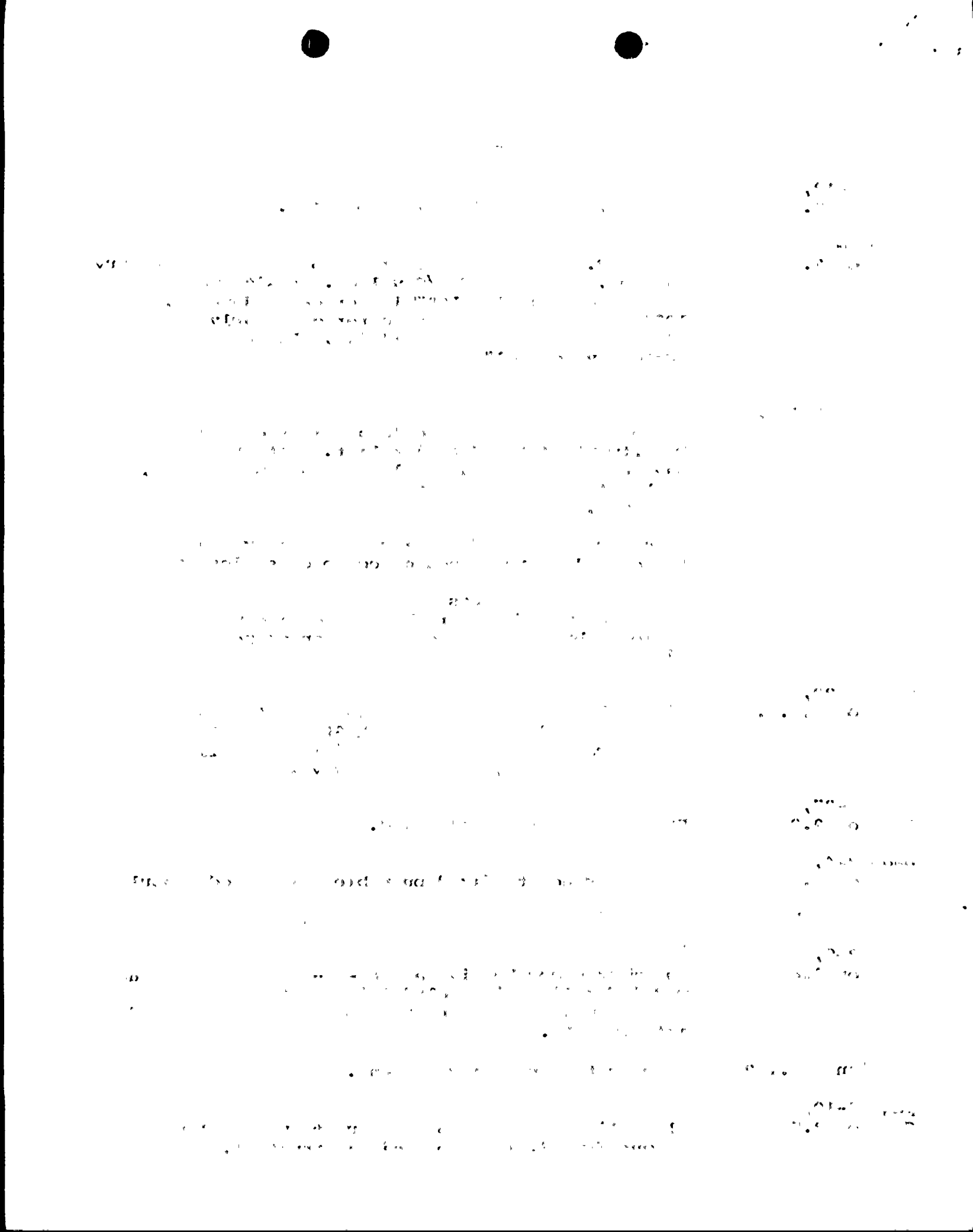
page 2-37,
Section 2.8 — This section is still valid.

page 3-4,
Section 3.2 — The reference to fixed burnable poison rods should be deleted because Ginna no longer uses or plans to use fixed burnable poison rods.

page 3-8,
Section 3.4.1 — The most comprehensive and up-to-date thermal plume model for Ginna is included in the Ginna 316a Supplement. This document should be incorporated into the FES.

Section 3.4.1.2 — Same as the preceding comment.

page 3-19,
Section 3.5 — Plant liquid and gaseous effluents were calculated in our June 3, 1976 Appendix I submittal, followed



by a similar evaluation by the NRC staff. Most recently, Franklin Research Center, a contractor for NRC, was provided an updated description of our existing radwaste systems as part of their review of Ginna's proposed RETS.

page 3-20, Section 3.5.1 — Figure 3.12 shows S/G blowdown as an effluent. We are now recycling blowdown as normal practice.

page 3-21, Section 3.5.1 — Laundry wastes have been reduced as liquid discharges due to installation of dry cleaning equipment.

page 3-23, Section 3.5.1 — Table 3.5 may contain values different than those used in NRC's own Appendix I evaluation of the Ginna plant, due to later Reg. Guide changes (e.g., gas holdup times, failed fuel percentage, decontamination factors, leakage rates, etc.)

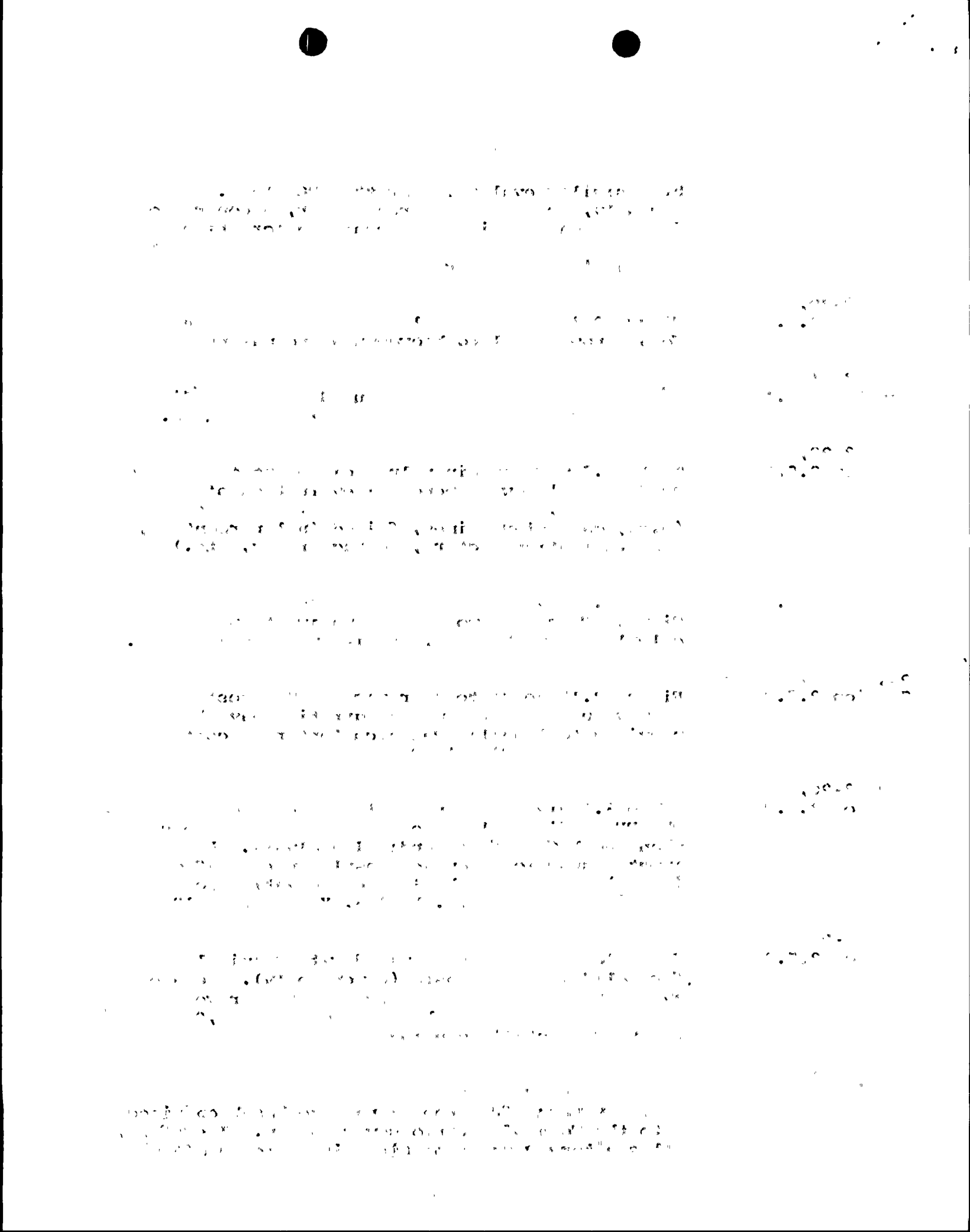
page 3-24, Section 3.5.1 — Table 3.6 gives liquid effluent estimates for Ginna. These are more conservative than those calculated by the NRC in their Appendix I review.

page 3-25, Section 3.5.2 — Figure 3.13 needs to be revised. The most recent flow values and system configuration have been provided to Franklin Research Center, a contractor for the NRC on Ginna's RETS.

page 3-26, Section 3.5.2 — Table 3.7 gives gaseous effluent release estimates. The FES iodine release estimates are more conservative than the NRC staff Appendix I analysis. Differing input assumptions however result in the FES gas (noble) releases to be less conservative for certain isotopes (e.g. Xe-133, Xe-131m, Xe-133m).

page 3-27 Section 3.5.3 — We no longer use cement mixed with vermiculite for solidifying radwaste (cement only). We are averaging approximately 14,000 feet^3 per year of solid radwaste so the FES figure of 16,000 feet^3 per year is still bounding.

page 3-31, Section 3.7 — The sanitary waste system has been modified. Sanitary waste from the Ginna Site has been piped into the Town of Ontario sewer system. Therefore, all sanitary waste from Ginna is disposed of by



use of the Town of Ontario sewer system. The Staff's conclusion should not be changed.

page 3-32,
Section 3.8 — There are now 5 overhead transmission lines.

page 4-1,
Section 4.1.1 — Since 1973 several buildings plus a security lighting system have been added to the Ginna Site.

page 5-1,
Section 5.1 — Same comment as to page 2-1, Section 2.1 regarding site acreage.

page 5-3
Section 5.3 — The Appendix I analyses performed for the Ginna plant by both RG&E and the NRC generated new dose estimates more recent than the one in this section. (Reflecting environmental pathways model changes occurring from date of FES to approximately 1976 and later).

page 5-12,
Section 5.4.1 — Selective use of EPA approved herbicides is also utilized for right-of-way clearance.

page 5-14,
Section 5.4.2.1 — In general, the Ginna 316a should be referenced for the most thorough evaluation concerning the effects of the discharge on aquatic biota.

page 5-20,

Section 5.4.2.1 — Thermal Discharges: The Ginna 316a, RGE's reports on winter fish populations (RGE Report No. B-13-069) and assessment of winter shutdown effects (RGE Report No. B-13-073) show that fish populations in the area during winter are limited and that cold shock does not appear to be a problem.

page 5-20,
Section 5.4.2.1 — Entrainment: Planktonic entrainment effects are described in RGE Report No. B-13-036, and show little mortality to zooplankton due to plant entrainment. The Ginna 316a discusses plume entrainment.

page 5-22,
Section 5.4.2.1 — Impingement: Further analyses of impingement impacts can be found in RGE Report No. B-13-072. The reports conclude minimal adverse impact.

page 5-26,
Section 5.4.2.1 — See comment for page vi in item 3.

page 5-29,
Section 5.4.2.2 — Zooplankton: Effects due to plant entrainment of zooplankton are negligible based on RGE Report No. B-13-036; in addition the Ginna 316a has some discussion of plume entrainment.

page 5-30,
Section 5.4.2.2 — Benthos: The Ginna 316a as well as RGE Report B-13-080 will provide additional analyses of impacts upon the benthic communities, however, the NRC's conclusion of minor impact should remain the same.

page 5-31,
Section 5.4.2.2 — Fishes: RGE Reports B-13-072 and B-13-130 concerning impingement will indicate that juvenile salmonids are not an impingement problem. RGE Report B-3-073 as well as the Ginna 316a indicate that cold-shock should not be a problem. RGE Report B-13-069 provides preliminary findings that were lacking in 1973 on the coldwater fishing.

page 5-33,
Section 5.5.2 — The annual refueling consists of replacement of less than one-third (40) of the core. The reduction in the amount of fuel assemblies replaced is due to a more efficient fuel assembly and incorporation of low leakage loading patterns.

Current plans result in an equilibrium reload of $\leq$ 32 assemblies.

Currently new fuel assemblies are supplied by Exxon Nuclear Corporation facility in Richland, Washington. Starting in 1984 the fuel supplier will be changed to Westinghouse. Starting with the 1984 refueling new assemblies will be supplied by the Westinghouse Corporation facility in Columbia, South Carolina.

page 5-34,
Section 5.5.4 — This section should be updated to reflect current wastes generated at Ginna Station. The following represents the best estimate of waste generation:

classification	cu. ft./yr.	total Ci
solidified drums (waste mixed with cement in 55 gal. drums)	5,000	7 to 10
dry activated waste (compacted trash)	10,000	12 to 15
resins	242	350 to 400

Solidified waste is mixed with cement and shipped in 55 gallon drums.

page 5-34, Section 5.6

The Brookwood Science Information Center is now closed to the general public. However, meetings for organized groups can still be scheduled by appointment. Brookwood now serves as a training center for plant personnel and the emergency dose assessment center.

page 6-1 Section 6.1

Our proposed Radiological Effluent Tech Specs (RETS) would have significant changes with respect to effluent and environmental monitoring. These are under current review by NRC and its contractor, Franklin Research Center.

page 6-4, Section 6.2

Radiation-thermometry monitoring is no long done, triaxial studies are still conducted.

page 6-4, Section 6.3

The Ginna 316a provides comprehensive analysis of the impact of the thermal discharge. RG&E report B-13-072 provides impingement analyses and RGE Report B-13-036 provides information on plankton in-plant entrainment. RGE Reports B-13-058 and B-13-070 provide information on ichthyoplankton entrainment.

page 6-6, Lines 8-14

The Ginna 316a and RGE Report B-13-067 contain analyses sufficient to respond to many of the "potential biological impacts" mentioned in this paragraph. Impingement mortality is addressed in RG&E Report No. B-13-072, while entrainment is addressed in RGE Report Nos. B-13-036 and B-13-058.

page 6-6,
Lines 15-36:

Since 1973, RG&E has conducted extensive aquatic biological studies at Ginna, generally including and oftentimes going well beyond the limits of the programs mentioned in points 1-5. A number of the items contained within points 1-5 are addressed in the reports referenced throughout this memo. RG&E believes that sufficient information is now available to show the minor impact of the plant upon Lake Ontario.

page 7-1,
Section 7.1

The radiological consequences should be updated for new population distributions and different X/Q as referenced in the comment to page 2-14. Even though the values presented on Table 7.2 may change, the conclusions reached in Section 7.1 should not change.

page 8-9,
Section 8.2

See comment to page 5-34.

The 1981 property taxes at Ginna were approximately $3,797,698. Ginna currently employs approximately 200 people and over the last few years has averaged around 200 construction people associated with backfits and new constructions.

page 8-9,
Section 8.3.1

Report B-13-072 presents analyses of fish impingement, while Report B-13-073 presents preliminary cold-shock study results. These studies do not change the Staff's conclusions.

page 8-10,
Section 8.4

A decommissioning study has recently been completed for RG&E. The study assumes complete dismantling as suggested by NRC guidelines and transportation of waste to Handford. The estimated cost in 1982 dollars is approximately $120,000,000. When the worth of a 1973 dollar versus a 1982 dollar is considered the Staff's conclusions should not be changed.

page 10-2,
Section 10.2.2

The taxes and people employed should be updated based on the comment to page 8-9.

New estimate of fossil pollutions have been generated for an equivalent coal plant. The annual emissions are calculated to be:

- about 69,000 tons of sulfur dioxide
- about 12,725 tons of nitrogen oxides
- about 2,870 tons of particulate matter

The cost of environmental studies is now several million dollars.

An additional benefit not listed is the coordination and training of local governments, police, and firemen in regard to emergency planning and evacuation.

page 10-2,
Section 10.2.3 — See comment to page 5-34.

page 10-3,
Section 10.3.1 — Site acreage should be revised according to the comment to page 2-1.

page 10-4,
Section 10.3.4 — The results of environmental studies referenced in Section 8.3.1 indicate no adverse effect due to impingement or cold shock. Therefore, the Staff should conclude the Site presents minimal biological effect on recreational fisheries.

page 10-4
Section 10.3.5 — New 50-mile radius man-rem estimates from routine Ginna releases could be performed.

page B-1
Appendix B — (See response to Section 2.6).

Reports Referenced

RGE Report No.	Title
B-13-036	Plankton Study May, 1974 - March, 1975, GNPS
316a (B-13-043)	Ginna Nuclear Power Plant, RG&E, 316(a) Demonstration Supplement
B-13-058	1977 Fish Egg and Larval Program, Label Screenhouse Surveys, GNPS
B-13-067	1977 Fish Program Analysis Report, GNPS
B-13-069	Winter 1977-78 Fish Program Report, GNPS
B-13-070	1977 Macroinvertibrate and Ichthyo-plankton Entrainment Program Data Report, GNPS
B-13-072	1977 Impingement Program Analysis Report, GNPS
B-13-073	An Evaluation of Cold-Shock Potential to Fish in the Event of a Power Plant Shutdown
B-13-080	1977 Benthic Invertibrate Program Report, GNPS
B-13-130	1979 Impingement Program Data Report, GNPS

Other References

Ginna 316a	Ginna Nuclear Power Plant 316(a) Demonstration Supplement NPDES Permit No. NY 0000493 Federal Docket No. II-WP-75-56.