STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA ALBANY 12223

April 13, 1979

To the addressed party.

Re: Case 80008 - New Haven Units 1 and 2

Enclosed are three sets of information requests which the Staffs of the Public Service Commission and Department of Environmental Conservation have served upon the applicant. The first set was mailed April 5 and the second and third sets were mailed this 13th day of April, 1979.

Very truly yours,

CRAIG M. INDYKE
Legal Assistant

Enclosures

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406 321

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STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA ALBANY 12223

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Secretary

April 13, 1979

Mr. M. J. Ray
Manager - Nuclear Reports
New York State Electric &
Gas Corporation
Vestal Parkway
Binghamton, NY 13902

Re: Case 80008 - Information Requests Relating to Land Use in the New Haven area.

Dear Mr. Ray:

The enclosed series of information requests deal with the impacts that the proposed nuclear power plant will have upon the New Haven site and surrounding area. Any questions regarding these requests should be directed to William Lilley of the Commission Staff at (518) 474-5363.

Information requests regarding the aesthetics and geology of the New Haven site should be following shortly.

Very truly yours,

CRAIG M. DUDYKE
Legal Assistant

Enc.

cc: Roderick Schutt, Esq.
All parties
NRC Docket Nos. STN 50-596 & STN 50-597

406 322

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STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 80008 - Information Requests Relating to Land Use at the New Haven Site, 16 NYCRR Part 77.

New Haven Nuclear - 16 NYCRR Part 77, Land Use

1. Why does the applicant plan to purchase land outside the exclusion zone?

2. What plans does the applicant have for the land outside the exclusion zone?

3. In regard to the land within the exclusion zone which is not needed for plant facilities:
   a. What plans does the applicant have for this land?
   b. Has the applicant made an agricultural assessment of this land? If not, please provide.
   c. Would the applicant object to a lease back arrangement of agricultural lands not needed for plant facilities similar to that at the Ginna Nuclear Station? If so, why?

4. The applicant projects an estimated peak work force of 4505 workers (4145 manual (8.1-6) and 360 non-manual (8.1-9)).
   a. By whom and on what basis were these estimates derived?
   b. Provide actual peak work force numbers to date of manual and non-manual workers for any comparable two unit

sites now under construction including all shifts, seasonal effects, percentage of plant completed, site location, major construction companies, engineering firms and source of information.

5. According to page 8.1-8 of the application, the Sterling SNUPPS and Nine Mile Point Unit #2 work forces are taken into account.

   a. What are the current construction dates for Nine Mile Point Unit #2 and SNUPPS?

   b. Is the current work force of 2100 and projected peak of 3000 at Nine Mile Point Unit #2 consistent with the applicant's estimate?

   c. Is the current work force of 2260 workers at the 30% completed Wolf Creek SNUPPS plant consistent with the applicant's estimate?

   d. Compare the work forces of Nine Mile Point Unit #2, SNUPPS and the New Haven Plants' work forces on a year-by-year basis.

6. According to Table 8.2-8, 881 manual weekly transient workers will commute from Onondaga County over 25 miles.

   a. On what basis and studies did the applicant arrive at this conclusion?

   b. Is this consistent with the relocation habits of the weekly transient construction workers located at Nine Mile Point #2 now under construction?

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406 324

c. What impact will the weekly transient construction work force have on the off-campus student housing in and around the City of Oswego which is estimated at about 1500 by SUNY of Oswego?

7. According to page 8.2-7, about 2000 mobile homes in Oswego County are in mobile home parks.

a. Where are these mobile home parks located and how far are they from the New Haven site?

b. On what basis does the applicant assume that the estimated 200 rental mobile homes will be available to construction workers?

8. Does the applicant plan onsite ambulance service during construction? If not, why?

a. What is the current annual rate of emergency accident calls handled by the Donald McFee Memorial Ambulance Service?

b. What is the current annual rate of transportation calls handled by the Donald McFee Memorial Ambulance Service?

c. Does the applicant plan to provide any assistance to the Donald McFee Memorial Ambulance Service?

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406 325

9. According to page 8.2-9, "it seems likely that much of the unmet demand for transient accommodations would be filled by construction of scattered mobile home park development within a few minutes' drive of the construction site."

   a. Does the applicant propose any plan to reduce the impact of additional scattered mobile homes in the unzoned town of New Haven as a result of plant construction?

10. According to Table 8.2-8, "Families of manual employees are not expected to relocate".

   a. On what basis and studies is this statement made?

   b. Is this consistent with relocation of manual work force at Nine Mile Point #2 and TVA plants?

11. Provide a productivity assessment for the 225 acres of prime farmland within the construction area of the station noted on page 2.1-8.

12. Provide a list of National Registry of Historic Places within 10 miles of the site discussed on page 2.6-3.

13. Please define "immediate vicinity" in terms of distance from the site. Page 2.6-2.

14. Provide a map locating the "several cultural properties which lie on or in the immediate vicinity of the site." noted at page 2.6-2.

15. Please identify the University Foundation, Inc. and whether they have plans for the Shepherd-Timbello property and home.

STATE OF NEW YORK DEPARTMENT OF PUBLIC

THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA ALBANY 12223

April 5, 1979

Mr. M. J. Pay
Manager - Nuclear Reports
New York State Electric &
Gas Corporation
Binghamton, New York 13902

Dear Mr. Pay:

Enclosed are questions Staff has developed thus far pertaining to the portions of the application addressing the requi of 16 NYCRR Part 74 (Aquatic Ecology). For the most part these qu address issues relating to the proposed nuclear alternate at the s site. Please notify me of your anticipated time of response. If any questions contact me or Norman Morrison of the Commission Staf (phone: (518) 474-5363).

Very truly yours,

ROBERT GREY
Staff Counsel

Enclosure

cc: Roderick Schutt
Huber, Magill, Lawrence & Farrell

cc: Supplemental mailing April 12, 1979
All parties
NRC Docket Nos. STN 50-596 & STN 50-597

PSC STAFF QUESTIONS RELATING TO PART 74
(AQUATIC ECOLOGY)

1. During the operation of the intake it is possible that there will be episodes of high impingement, despite low through plant flow.
   - Will it be possible to redesign the intake purphouse to accommodate backfit of a fish return system, if and when monitoring shows this to be desirable?
   - What would be the anticipated cost of such a redesign in terms of percent of total purphouse cost? (In current dollars).

2. (a) In Chapter 3.4 the onsite diversion of the tributary of Catfish Creek is described. However, no accommodation for the west branch of this tributary seems to have been made.
   - What will happen to this stream?

   (b) The application contemplates removing 2000 feet of Catfish Creek tributary during construction at New Haven, resulting in a loss of habitat.
   - Has the applicant considered building one or more ponds along the course of the diverted creek to provide new habitat and increased spill and sediment control? If yes, explain any conclusions and the basis for those conclusions. If pond construction has not been considered, assess the feasibility of such construction in view of water quality, hydrology, and geology. Particularly address costs associated with such a project, particularly in view of the landscaping involved.

3. During the night of July 18, 1977 high densities of alewife post-larvae were observed in the shallow portions of the Lake (Table 2.2-F-6). Similar densities were also noted inshore at the Sterling site during the same period (PG&E 1978).

   - Is the applicant aware of any explanation of this phenomena that has been given? If not, what possible explanation(s) can the applicant provide for it?

4. In Chapter 3.4 the construction of the make-up and blow-down line from the purphouse to the station is described. Figure 3.4-4 and 4.1-4 shows the line crossing the tributary of Catfish Creek in two places.

   - What construction procedures and techniques will be used when crossing this creek?
   - What is the anticipated environmental impact?

5. In Chapter 3.4 (p. 3.4-5) the velocity through the vertical traveling screens at the purphouse are described given at 0.2 fps, maximum. These velocities appear low in view of the fact that fish that have reached the area immediately in front of the screens have no chance of returning back through the intake tunnel to the lake.

   - Are the designed through screen velocities a result of engineering constraint or an effort to reduce impingement?
   - Would it be cost effective to reduce the surface area of the screens and thereby increase through screen velocity?

~~3~~ 3

406 330

6. It appears that construction will alter a large portion (if not all) of the central mudminnow (Umbra limi) habitat in the eastern portion of the tributary to Catfish Creek (Tables 2.2-285, Chapter 3.4).
   - Has the applicant done any study to indicate whether the population of central mudminnow in this headwater is unique in any way? If yes, supply any study and supporting documentation. If no, is there any reason to believe the central mudminnow population has any unique characteristics? Explain.

7. Implicit in the theoretical model of impingement are the assumptions that the community composition and density of fishes at Nine Mile Point and in Mexico Bay are the same (Chapter 5.1, p. 5.1-26).
   - Please provide tabular comparison(s) and analysis to support these assumptions.
   - Explain in detail where and why abundance comparison cannot be made (see p. 2.2-146).

8. Comparison of the applicants adult equivalent loss and that of the proposed Sterling Nuclear Station show that the New Haven Nuclear facility has a higher expected mortality (PG&E 1978). This, despite the fact that Sterling is a once through system would use far more cooling water.
   - Explain this apparent disparity in terms of population density involved and elements of the adult equivalent model used.
   - Is there any reason to believe that the ichthyoplankton entrainment impacts on adult population levels will be similar between the two plants?

9. Apparently the offshore cooling water intake will be located in an area where the substrate is active, varying in response to storm induced surges in lake current (p. 2.2-131). The application locates the intake aperture 6 feet off the bottom to reduce entrainment of bottom dwellers.

   - How much variability in intake aperture elevation (off the bottom) is anticipated due to changes in substrate level?
   - How would this effect entrainment of bottom organisms?

10. Much of the rationale for location of the cooling water intake (section 5.1-11) is based on analysis given in section 2.2. This analysis consists of the identification and location of statistical differences among transects and among depth contours.

    To clarify the record and provide a complete analysis of differences among prospective intake locations provide the following analysis.

Macroplankton

Provide two way analysis of variance (location x date) for the following taxa:

Total macroinvertebrates*
Gammarus spp*
P. hoyii

Total Ichthyoplankton
Alewife
Lake Herring
Rainbow Smelt
Burbot
Morone spp
Tessellated darter
Yellow perch

All life stages:
eggs
larvae
postlarvae
juveniles
(data permitting**)

* Unfortunately greatest densities of the amphipod occurred later in the year when sampling was conducted only on III. These dates will not fit in the analysis.

** Dates, with less than 50% occurrence among locations, and/or locations, with less than 50% occurrance among dates, should be dropped from the analysis only when these represent lowest overall averages. Location means (X) should be included in presentation of apostomii results with indication these weren't tested.

Two Way ANOVA -

Components of the analysis are:

Source of variation (consider all Main Effects - Fixed)

Date - 1. Test will include only dates in which the organism occurred.

2. Only include night data.

Location - 1. Every point (in reality a three-dimensional zone) where samples were taken will be considered a location. Samples were collected in three spaces not on a plane or line; therefore, location 33 surface (S) will be separate from 33 mid (M) and bottom (B).

Transformations - Transformation using either the $\log_{10}$ (X+1) convention or the Taylor Power Law (Elliot 1973) is acceptable.

Interactions - The presence of significant interaction in ANOVA does not preclude further separation of main effects by using a posteorii test (Sokal and Rohlf 1969).

Presentation of results of ANOVA

ANOVA should be presented in the standard format:

Title to include name of organism tested, specifics of main effects, transformation used, gear and test.

Source	df	SS	MS	F	Probability
Location					
Date					
Location X Date					
Error					
Total					

Apostcorii Test: (Least Significant Difference LSD) or range test Date will not be tested. Differences among locations wi be tested and be presented in the following manner (preferably on th page as the ANOVA).

Title

Location*			
mean ($\bar{X}$)**			
Geo mean ($\bar{X}$)***			

* in order of greatest to least
** Arithmetic mean
*** Geometric mean: mean of the transformed data converted back to arit

11. Please provide analysis of variance (see question 10) of bottom gillnet data for Alewife, Rainbow smelt, Spottail shiner, and Whi perch. Use the interaction mean square as the error term in the calculation of F.

QUESTIONS REGARDING FOSSIL ALTERNATE

1. A large portion of Butterfly Creek will be either diverted or channelized in this project (section 4.1-41).

   - Has the applicant considered building one or more ponds long the course of the diverted creek to provide new habitat and increased spill and sediment control? If Yes, explain any conclusions and the basis for those conclusions.

     If pond construction has not been considered, assess the feasibility of such construction in view of water quality, hydrology, and geology. Particularly address costs associated with such a project, particularly in view of landscaping involved.

2. A large amount of terrestrial impact associated with fossil fuels is the disposal of ash. The New York Energy Office is presently sponsoring a study on the use of coal waste in the construction of artificial reefs (SUNY 1979). The technology under review attempts to use waste as a construction component for blocks used in underwater habitat improvement.

   - Has this concept, or any similar concept been considered for use in Lake Ontario to eliminate the waste disposal problem and create fishing reefs? If it were to be used, what potential benefits would result? What potential harmful effects on the environmental could result if it were used? What are the costs in dollars (added cost of operation) of employing this technology?

Literature Cited

Elliot, J.M. 1973. Some Methods for the Statistical Analysis of Sample of Benthic Invertebrate Freshwater Biological Association. Sci. P No. 25. 148 pp.

Sokal, R.R. and R.J. Rohlf. 1969. Biometry, W.H. Freeman Co. San Francisco. 776 pp.

RC&E, 1978. Testimony on Entrainment Adult Equivalent to NYS Siting Bo Case 80005.

RG&E, 1978, 1977 Biological Report: Sterling Power Project. Rochester and Electric Corporation, Rochester, New York.

SUNY and IU Conversion Systems, 1979. Coal Waste Artificial Reef Prograr (Draft), submitted to New York State Energy Research and Developmer Authority, Albany, New York.

STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA ALBANY 12223

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Secretary

RELATED CORRESPONDENCE

April 13, 1979

Mr. M.J. Ray
New York State Electric and
Gas Corporation
4500 Vestal Parkway East
Binghamton, New York 13902

Dear Mr. Ray:

Enclosed are requests for information submitted by the staffs of the Public Service Commission and the Department of Environmental Conservation which pertain for the most part to our analyses under Part 60 of 16 NYCRR (Water Quality and Quantity). Please provide responses as expeditiously as possible and notify us of the expected date of your response.

80-1

(2.1.3.7.1) A temporary potable water supply from onsite wells is discussed. Please provide the following:

(a) Location of the well(s) on Figure 2.1-16.

(b) Depth of the well(s).

(c) Analysis of the impact on groundwater availability and on the water table throughout the year.

(d) Characteristics of the wastewaters which will result from the activated carbon system.

(e) Method of treatment and disposal of the wastewaters.

80-2

(2.1.3.9) Diversion of one of the tributaries (Catfish tributary FW) is discussed.

(a) Show the slopes, lengths, portions lined, cross-sections, profiles, etc.

(b) Provide a copy of the Clark unit hydrograph which is mentioned on page 2.1-31.

80-3

(2.4) Please review the data presented for apparent inconsistencies and supply revisions to the figures indicated where necessary.

(a) In Figure 2.4-5 and Figure 2.4-7, are the Platforms and meter locations properly identified?

(b) On the monthly summary plots (Figures 2.4-32 through 2.4-33), are the current meter locations correct?

80-4

(2.5.4.6) Construction period groundwater monitoring is mentioned on page 2.5-87.

(a) Describe the type of program to be used for monitoring groundwater quality and quantity. Include the number of observation wells to be used, their location, frequency of sampling and parameters to be measured.

80-5

(2.5.4.6) Ground Water Conditions are discussed.

(a) Show in Figure 2.5-48, the area of the site where drawdowns will have an impact. Also indicate if in addition to well No. 97, which will be affected by dewatering operations (as discussed in Sections 4.1.8 and 6.4.2.2), any of the wells shown in Figure 2.1-17 and Figure 2.1-18 will be affected. Explain how water levels, water quality, and yields from those wells will be affected.

(b) What action will the applicant take to compensate the affected users?

80-6

(3.3.2.1) The plant's heat dissipation systems are discussed in this section. Figure 3.4-1 also shows that the blowdown from the reactor plant service water cooling tower will be mixed with the circulating water blowdown immediately prior to discharge to the lake.

(a) Provide information on the characteristics of this discharge similar to what has been given for the circulating water system (Table 3.6-5).

80-7

(3.2) The reactor and steam electric system is discussed.

(a) Identify those components which will require pre-operational cleaning.

(b) Give the characteristics and volumes of the wastewaters which will be produced.

(c) Where and how will the wastewaters be treated?

(d) Give the characteristics of the wastewaters which will result from operational cleaning and maintenance of these components. Where and how will these wastes be treated?

(e) What are the expected characteristics of these effluents after treatment? Give basis for answer (e.g., studies done, past experience, literature review, etc.).

(f) Describe the sampling and monitoring procedures for the effluents.

80-8

(3.3.2.1) Explain why a concentration factor of 2 was chosen for the reactor plant service water system and a concentration of 3 for the circulating water system.

80-9

(Figure 3.4-1) This Figure shows that the combined effluent from Turbine Plant Component Heat Exchangers and from Chilled Water Mechanical Refrigeration Units is split in two lines, one of them discharges to the Blowdown to Lake line and the other to the circulating water system.

80-9 (Continued)

(a) Explain why this is done.

(b) What are the characteristics and flow these discharges?

80-10

(3.4.3.1) The construction of the pumphouse at the shorel discussed in this section. Please also refer t Executive Order 11988 which was implemented by "Floodplain Management Guidelines" which appear th> Federal Register, February 10, 1978 (43 FR

(a) Give the Lake Ontario water levels of the "base floodplain" and the "critical action floodplain" as defined in this document.

(b) Show how these water levels were derived.

(c) Is this facility within the "base floodplai

(d) If so, indicate the alternatives to the proposed pumphouse location and the costs associated with these alternatives. How wo the "base flood" affect plant operation? Provide the basis for your answers.

(e) Explain how the "critical action flood" migh affect the operation of the proposed pump station and the power plant.

80-11

(Figure 3.4-4) Insert "A" shows a temporary construction in discharge structure.

(a) Provide engineering design data for thi facility similar to what has been given the operational intake and discharge structures. (e.g., location, flows, velocities, structural diagrams.)

80-12

(3.6.1.1) It is stated in this section that 27,300 lbs. of 93 percent H_2SO_4 will be added to the makeup water per day.

(a) Explain how this amount was calculated.

(b) Explain the makeup water pH sampling and monitoring procedures.

80-13

(3.6.1.2) The pretreatment process is discussed on page 3.6-1. It is indicated that activated carbon filters backwash wastes will be directed to the demineralizer waste neutralization tank. Please provide the following:

(a) Volume, composition, and frequency of release of the waste to the lake.

(b) Explain how the average and maximum total suspended solids (TSS) concentrations in Table 3.6-2 were obtained.

(c) Are the Water Treatment Systems described in Section 3.6.1 located indoors, in building 13 of Figure 3.1-1?

(d) What are the approximate capacities of the raw water tank and the two activated carbon filters?

80-14

(Figure 3.6-2) The demineralization system is diagramed.

(a) What are the volumes of the demineralizer beds?

(b) What is the volume of the water storage tank?

(c) Give the basis for the answers given under (a) and (b) above.

(d) What is the degree of removal to be provided by this system?

(e) [illegible]?

80-15

(3 .1.2) Refer to the Demineralization Process.

(a) What are the waste flows involved in the 20-
10-day and 60 days regenerations described o
Page 3.6-2?

(b) What are the compositions of the wastes refer
to above in (a)? Provide the basis for your
answer.

(c) Will the waste neutralization tank operate as
complete mix reactor without ny type of
settling allowed afterwards?

(d) Explain the monitoring procedures for the eff

80-16

(3.6.3) Spills and leakage from chemical storage areas will b
pumped to the waste neutralization tank, according to
this section.

(a) Are all these chemicals listed in Table 7.3-17.
If not, complete the list. (e.g., pesticides,
cleaning solutions, etc.)

(b) Indicate the types of and the characteristics
of the impermeable liners that are being
considered for surfacing these storage areas
and the rationale for selecting the proposed
liner.

(c) Will the spill containment dikes be designed to
contain and treat the runoff from the 10-year,
24-hour storm as well as spills equivalent to
the full volume of stored materials.

(d) How large are the areas contained within the
spill containment dikes?

(e) Provide information on how the 10-year, 24-hour
storm flow is calculated.

80-17

(3.6.2) The EPA residual chlorine model which was used to calculate free available and total residual chlorine is referenced?

(a) What were the input values used in this model?

(b) Give the basis for choosing these inputs values.

(c) What were the model output values?

(d) Why will there be no analysis of free available and total residual chlorine levels immediately prior to discharge as shown in Figure 3.6-4?

80-18

(Figure 3.6-3) The waste treatment system is shown.

(a) What is the volume of the waste neutralizing tank and how was this volume calculated?

80-19

(3.6.3) Floor and Equipment Drainage Wastes are discussed.

(a) How was the estimated maximum flow of 7,200 gpd arrived at?

(b) What type of oil separator will be used?

(c) What will be its capacity?

(d) Will the separator have the capability to remove emulsified oils?

(e) How will the waste be handled if the separator malfunctions?

(f) Will the effluent from the separator be continuously monitored for oil, suspended solids and turbidity? What procedures will be followed if the allowable concentrations in the effluent are exceeded?

80-19 (Continued)

(g) Will pH be controlled and monitored?

(h) Give the basis for these answers.

80-20

(3.6.4) The Roof and Yard Drainage System is discussed.

(a) Are the Fuel Storage and Delivery Areas described in Table 3.2-5 included in this system?

(b) Will the spill containment dikes be designed to contain and treat the runoff from the 10-year, 24-hour storm as well as spills equivalent to the full volume of stored materials?

(c) How large are the areas contained within the spill containment dikes?

(d) Provide information on how the 10-year, 24-hour storm flow is calculated.

(e) Indicate the types of and the characteristics of the impermeable liners that are being considered for surfacing these storage areas.

(f) Where will the oil storage areas be located? Show these on a site plan. Give the acreage of each of these areas.

(g) How much surface area will be taken by the diked fuel oil storage facilities?

(h) Will there be any other fuel or oil storage facilities in addition to the ones listed in Table 3.2-5? If so, show them and answer questions (a) through (d) as applicable.

(i) Describe the proposed sampling and monitoring of the roof and yard drainage stormwater system.

(j) In addition to the oil storage areas covered above, identify on a site plan each of the areas which contribute to the roof and yard drainage system. Give the acreage of each.

80-21

(3.6.7.1) Blowdown from the natural draft cooling tower is discussed. Table 3.6-1 is said to have been obtained from Table 3.6-6 by applying average and maximum concentration factors to average and maximum ambient water quality. There are however, several values such as chloride, TDS, Manganese, Zinc, fluoride, cyanide which do not seem to have been obtained in this way.

(a) Explain how these values were obtained.

80-22

(Table 3.6.3) Explain how each of the values for average and maximum discharge was calculated.

80-23

(3.6.7.1) The increases of iron, chromium and nickel in the cooling tower blowdown due to corrosion are discussed.

(a) To what extent does corrosion affect the concentration of these elements?

(b) What is the basis for the answer given under (a) above?

80-24

(Figure 3.7-1) The Sanitary Waste Treatment Facility System is shown. Provide the following preliminary design information.

(a) Volume of equalization basin.

(b) Volume of biological contact chamber.

(c) Approximate area of the bio-discs.

(d) Volume of the clarification basin.

(e) Volume of the disinfection chamber.

(f) Engineering basis for the answers given for (a) through (e) above.

80-25

(Table 3.6-4) The chemicals used for initial startup are li

(a) ...ve the quantities of these that will the wastewater stream.

(b) What are the flows involved in the cleani of the systems identified in this table?

(c) Give the concentration of ammonia and hyd zine in the wastewater?

(d) What other pollutants such as total suspe solids will be found in the wastewater an what concentrations?

(e) It is stated in Section 3.6.7.3 that a temporary basin will be used to remove suspended material.

(1) Please show the location of ...is basi and provide the main hyd... ...ic featur of it (that is, capacity, detention time, etc.).

(f) Show the location of the areas where the initial cleaning of these systems will be done. Give the acreage of these areas. Could storm runoff from adjacent land enter these areas during cleaning operations?

80-26

(3.7) It is stated that the plant will be designed for the maxi sewage flow (90,000 gpd). However, Table 4.1-1 shows a maximum monthly work force of 4,505 men/day which at 35 gpd results in a flow of 157,675 gpd.

(a) What will the effluent BOD_5 and TSS daily average and maximum poundages be when the plant receives 157,675 gpd of sanitary wastes? Explain how the plant will handle this situation.

(b) How long is the peak work force of 4,505 men/day expected to last?

(c) Is Table 3.7-1 properly entitled? It appears to apply to sanitary wastes generated during construction. Please make any necessary correction.

80-27

(4.1) Sanitary waste characteristics during construction are given in Table 4.1-1.

(a) Will the BOD and TSS concentrations during construction be the same as those during operation (refer to Table 3.7-1)?

(b) If not, make the appropriate adjustments in the two tables referenced above and show what the impact is on the treatment process.

80-28

(4.1.1.6) Disposal of solid and liquid wastes during construction is discussed.

(a) What is expected quality of excavation dewatering wastewater?

(b) Will there be only one sedimentation basin for the treatment of all storm runoff water from the entire site (476 acres), potable water treatment wastewater, and excavation dewatering?

(c) Provide an enlargement similar to Figure 3.1-15 and show the drainage patterns of the entire site. In addition show the man-made and natural channels which will deliver storm runoff to collection points, sedimentation basin(s), drainage ditches, and surface water bodies.

(d) Calculate the 10-year, 24-hour construction storm flows for each of the different drainage areas involved in Figure 3.1-15 and the total flow. Explain how runoff coefficients and rainfall intensities were derived. What is the capacity of the sedimentation basin(s) and their detention times?

(e) Figure 3.1-15 shows at least three (3) different sedimentation basin inlets. Explain how short-circulating of flows through the basin will be prevented.

(f) Show on Figure 3.1-15 the location of the outfall and point of discharge.

80-28 (Continued)

(g) Data gathered by applicant and shown in Section 6 and Appendix 2.4A of the application indicate that the diverted stream to which the discharges from the sedimentation pond will be made is an intermittent stream. Explain how effluent from the pond will comply with state regulations for intermittent streams. (DEC Policies and Procedures Manual Title 9100 Water Quality, Chapter 9140).

80-29

(Figure 4.1.1.6) A percolation basin for handling concrete equipment washwater is discussed.

(a) What are the characteristics of the concrete handling equipment washwater?

(b) What is the volume of this basin?

(c) What is the permeability of the soil under the basin?

(d) What is the quality of the water which will percolate into the ground?

(e) Give the basis for the answers provided under (a) through (d) above.

80-30

(4.1.3.2) Acreage altered by construction activities is described. It is stated that construction of the water makeup-blowdown pipelines and of the railroad spur will result in an additional disturbance of 49 acres of land.

(a) Describe all the protective measures to be taken to reduce erosion, and to treat storm water runoff from these areas.

80-31

(4.1.1.7) Chemical spills during construction are discussed.

(a) Please show in Figure 3.1-15 or in a similar Figure the location of the above ground storage facilities for lubricants, oils and chemicals.

80-31 (Continued)

(b) List the types and quantities of lubricant, oils and chemical used during construction.

(c) Will the lubricant, oil and chemical storag areas be sealed with an impermeable materia If not, how will compliance with 6 NYCRR 70. regulations be assured?

(d) Will the spill containment dikes be designec to contain and treat the runoff from the 10-year, 24-hour storm as well as spills equivalent to the full volume of stored materials?

(e) How large are the areas contained within the spill containment dikes?

(f) Provide information on how the 10-year, 24-hour storm flow is calculated.

80-32

(4.1.4.2.1) An erosion control sedimentation basis is discus

(a) Indicate the volume of this basin.

(b) The maximum flows that the basin will handl

(c) The design basis for the answers given in (and (b) above.

(d) The basis for the expectation that the suspended solids concentration in the effluent will not exceed 50 mg/l.

80-33

(4.1.8) Wa[illegible]vater from the concrete batch plant and related or [illegible]ion, will be either treated or recycled or trea and discharged to the diverted stream.

(a) Include this discharge in the NPDES application with all appropriate information.

(b) When will the request for a variance from 6 NYCR 703 be made (refer to page 4.1-44).

80-34

(6.1.2.2) The applicant indicates that the model used is not normally used to predict the effects of dewatering operations on wells in the vicinity of the site.

(a) Is the applicant aware of any successful applications of this model to similar situations? If yes, explain those cases.

(b) If not, what is the basis for using this model?

(c) Was the effect of construction water use (50 gpm according to Section 4.1.1.10) also incorporated into the model? Explain.

80-35

(6.1.2.2) When will the additional groundwater information discussed in this section be submitted?

80-36

(6.2.1.1) It is indicated that a one-year preoperational study will be conducted approximately two years prior to the startup of Unit 1.

(a) Provide information on the scope of the study, monitoring locations, and any other measurement data to be used in the study.

80-37

(10.1) Alternative Cooling Systems are discussed on page 10.1-7. It is stated that Wet/Dry Mechanical Draft Cooling Towers were rejected because of costs, land requirements and noise levels.

(a) Were any studies done to support this conclusion? If yes, supply these studies. If not, what analysis was undertaker to support rejection of these alternatives? Supply any memoranda or other information providing a basis for rejecting the alternatives.

80-38

(10.4) It is indicated that a closed system for chemical waste treatment that would use evaporators was rejected becaus of higher costs.

(a) Were any studies done to support this conclusion? If yes, supply these studies.

(b) If no, on what basis were the cost comparisons made. Supply any background data, memoranda, documents, etc., used to carry out the analysis.

(1) Are all runoff storage basins, storage areas, an dikes surrounding areas in which runoff is colle or which can be affected by runoff, during const tion and operation designed to withstand extreme climatic conditions (such as the 100-year, 24-hou storm, 100-year flood, cloudbursts, flash floods) retain structural integrity, and remain in servic If yes, what is the basis for this conclusion. I no, what standards have been used in design of th facilities? Supply any supporting documentation u in reaching the conclusions indicated.

(2) Discuss the ability of the applicant's proposed treatment facilities to produce effluents from eac individual waste stream described in Section 3.6 that will comply with the following limitations prior to their combination with cooling tower blowdown:

	AVERAGE	MAXIMUM
Total Suspended Solids (TSS)	30 mg/l	50 mg/l
Settleable Solids	0.1 ml/l	0.2 ml/l
Oil and Grease	15 mg/l	20 mg/l
pH	6.0	9.0

80-39

(Appendix 5.3A) Section 1 NPDES Application, Standard Form C indicates that additional information concerning the characteristics of the washwater associated with preoperational cleaning and testing will be provided in an amendment to the application.

80-39 (Continued)

(a) When will this amendment to the application be filed?

(b) Will this amendment discuss treatment and dispose of preoperational wastes?

(c) If any liquid discharges result from preoperational cleaning, will these discharges be included in the NPDES application at the time that the amendment is filed?

80-49

(7.3.1) Transformer spills are discussed in this section.

(a) Describe the type of oil including any additive to be used to cool the transformers.

(b) Maximum oil spill volumes that could result from leaks, rupture, etc.

(c) Will the contractor be licensed to dispose of these particular types of waste?

(d) Will the transformer basins be constructed of impermeable material? Give the type of and characteristics of such materials.

(e) How will stormwater be diverted from the transformer areas?

(f) Will any material containing PCB's be used at the station? If so, how will the "no discharge of PCB's" Federal requirement (40 CFR 423.15 be complied with?

80-41

(Appendix 5.3A) Provide the location of Item 6 "Discharge Point" of the NPDES application, in Degrees, minutes, and seconds for each of the discharges applied for.

80-42

(Appendix 5.3A) Refer to Item 17 "Description of Intake and Discharge" of the NPDES application Form C, Section 11. An 8.3 million gallon figure is given for the effluent maximum flow value.

(a) How was this number calculated.

If you have any questions regarding these questions, pl notify us.

Very truly yours,

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All parties

NRC Docket STN 50-596 and STN 50-597