123 Main Street
White Plains, New York 10601
914 681.6240

**New York Power Authority**

**John C. Brons**
Senior Vice President
Nuclear Generation

May 2, 1986
IPN-86-21

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Steven A. Varga, Director
PWR Project Directorate No.3
Division of PWR Licensing - A

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Notification of State Pollutant Discharge
Elimination System (SPDES) Permit Changes

References:

1) Letter from Mr. J.W. Blake (NYPA) to Mr. Steidle (New York State Department of Environmental Conservation), dated June 6, 1985, entitled: "SPDS NY0004472, Application for Proposed Discharge".

2) Letter from Mr. W.J. Clarke (New York State Department of Environmental Conservation) to Mr. J.W. Blake (NYPA), dated December 9, 1985.

This letter notifies the NRC of a change to the Indian Point SPDES permit regarding discharge from the newly constructed Indian Point 3 condensate polisher facility.

Section 3.2 of Appendix B, Part I to the Indian Point 3 Technical Specifications requires that the NRC be notified of proposed changes to the SPDES permit at the time it is submitted to the permitting agency. Approved changes to the SPDES permit are to be reported to the NRC within 30 days following the approval date.

By Reference 1, which is provided by the Attachment to this letter, the Authority requested a change to the SPDES permit regarding discharge from the Indian Point 3 condensate polisher. Reference 2 transmitted the approval of requested change. Due to an administrative oversight, notification of these actions was not made to the NRC as required by Section 3.2 of Appendix B, Part I to the Technical Specifications.

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PDR ADOCK 05000286
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1/1

The Authority does not consider that this administrative oversight in reporting causes or poses an operation or condition prohibited by the Technical Specifications. As such, the delay in notifying the NRC of the proposed change to the SPDES permit and its subsequent approval is not reportable under 10 CFR 50.73.

Should you or your staff have any questions regarding this matter, please contact Mr. P. Kokolakis of my staff.

Very truly yours,

John C. Brons
Senior Vice President
Nuclear Generation

cc: Resident Inspector's Office
Indian Point Unit 3
U.S. Nuclear Regulatory Commission
P.O. Box 66
Buchanan, NY 10511

Mr. J.D. Neighbors, Project Manager
PWR Project Directorate No. 3
Division of PWR Licensing - A
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, MD 20014

Attachment to IPN 86-21
PROPOSED CHANGES TO SPDES PERMIT

New York Power Authority
Indian Point 3 Nuclear Power Plant
Docket No. 50-286

White Plains, New York
914 681 6200

NewYorkPower Authority

June 6, 1985

New York State Department of
Environmental Conservation
Region 3
21 South Putt Corners Road
New Paltz, New York 12561

Subject: SPDES NY0004472
Application for proposed discharge

Attention: Mr. William Steidle

Dear Mr. Steidle:

This letter transmits four (4) copies of an application for an SPDES permit modification to include a proposed discharge from a condensate polisher facility located at Indian Point Unit 3 in Buchanan, New York.

If you have any questions regarding the information contained in the application, please call Olga Paidoussis (914-681-6403) of my staff.

Sincerely,

John W. Blake, Ph.D.
Director
Environmental Division

JWB:OP:mr

cc: O. Paidoussis
R. Keegan -Con Edison - w/att.

bcc: D. Hatfield w/att.
J. Lyons "
G. Cassaro "
J. Gillen/M.Kerns (IP3)-w/att.
J. Viviano - w/att.
J.R.Schmieder - w/o att
P.J.Early "
P. Gandhi "
W. Josiger (IP3) "
L. Hay (IP3) "

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e. 12 characters/inch)

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

# GENERAL INFORMATION

*Consolidated Permits Program*

*(Read the "General Instructions" before starting.)*

**I. EPA I.D. NUMBER**

F N Y 0 0 0 4 4 7 2 — F/A: D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

**GENERAL INSTRUCTIONS**

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all Items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

## II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

| SPECIFIC QUESTIONS | MARK 'X' YES | NO | FORM ATTACHED |
|---|---|---|---|
| A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A) | | X | |
| B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B) | | X | |
| C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C) | X | | X |
| D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D) | | X | |
| E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3) | | | NA |
| F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4) | | | NA |
| G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4) | | | NA |
| H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4) | | | NA |
| I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5) | | | NA |
| J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5) | | | NA |

## III. NAME OF FACILITY

1 SKIP Indian Point Nuclear Power Plant Unit 3

## IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*: 2 Blake John W PhD Dir Env Div

B. PHONE *(area code & no.)*: 914 681 6385

## V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 123 Main Street

B. CITY OR TOWN: 4 White Plains

C. STATE: NY

D. ZIP CODE: 10601

## VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 Bleakley Avenue

B. COUNTY NAME: Westchester

C. CITY OR TOWN: 6 Buchanan

D. STATE: NY

E. ZIP CODE: 10511

F. COUNTY CODE *(if known)*:



CONTINUE ON REVERSE

NA: Not Applicable

CONTINUED FROM THE FRONT

**VII. SIC CODES** (4-digit, in order of priority)

| A. FIRST | B. SECOND |
|---|---|
| 4911 (specify) Electric Companies and Systems | (specify) |
| **C. THIRD** | **D. FOURTH** |
| (specify) | (specify) |

**VIII. OPERATOR INFORMATION**

A. NAME: Power Authority of The State of New York

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

O (specify) State Authority

D. PHONE (area code & no.): A 914 681 6385

E. STREET OR P.O. BOX: 123 Main Street

F. CITY OR TOWN: White Plains

G. STATE: NY

H. ZIP CODE: 10601

**IX. INDIAN LAND**

Is the facility located on Indian lands? ☐ YES ☐ NO

**X. EXISTING ENVIRONMENTAL PERMITS**

| A. NPDES (Discharges to Surface Water) | D. PSD (Air Emissions from Proposed Sources) |
|---|---|
| 9 N NY0004472 | 9 P |
| **B. UIC (Underground Injection of Fluids)** | **E. OTHER (specify)** |
| 9 U | 9 (specify) |
| **C. RCRA (Hazardous Wastes)** | **E. OTHER (specify)** |
| 9 R | 9 (specify) |

**XI. MAP**

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

**XII. NATURE OF BUSINESS** (provide a brief description)

This application addresses modification of the existing SPDES permit (NY0004472) to incorporate discharges from a condensate polisher system (proposed). The discharges from this system will be comprised of regenerant and backwashes from anionic, cationic, mixed-bed resins and activated carbon.

**XIII. CERTIFICATION** (see instructions)

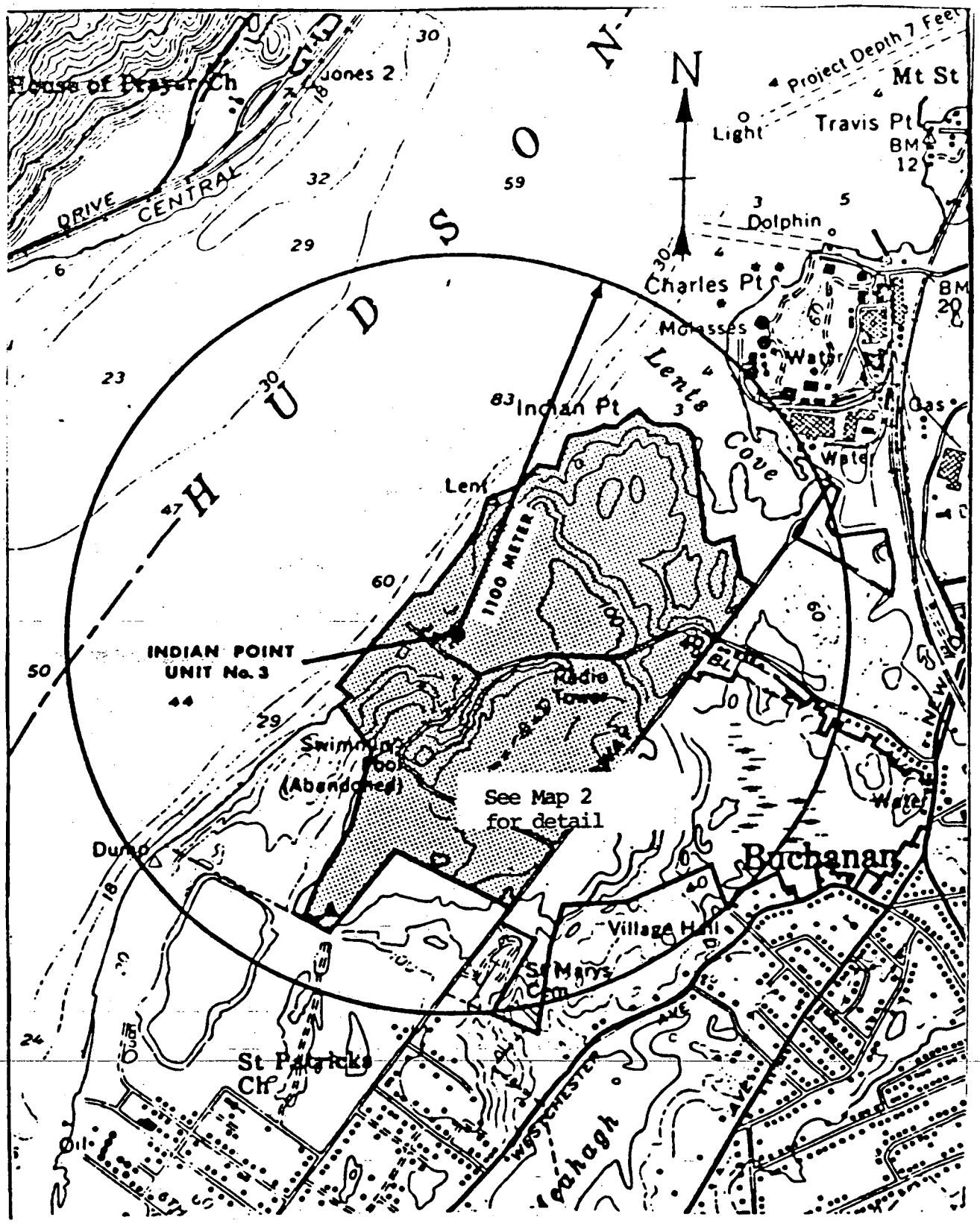
*I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

| A. NAME & OFFICIAL TITLE (type or print) | B. SIGNATURE | C. DATE SIGNED |
|---|---|---|
| John W. Blake, Ph. D.<br>Director, Environmental Div. | John W. Blake | 5 June '85 |

**COMMENTS FOR OFFICIAL USE ONLY**

C

MAP 1


House of Prayer Ch
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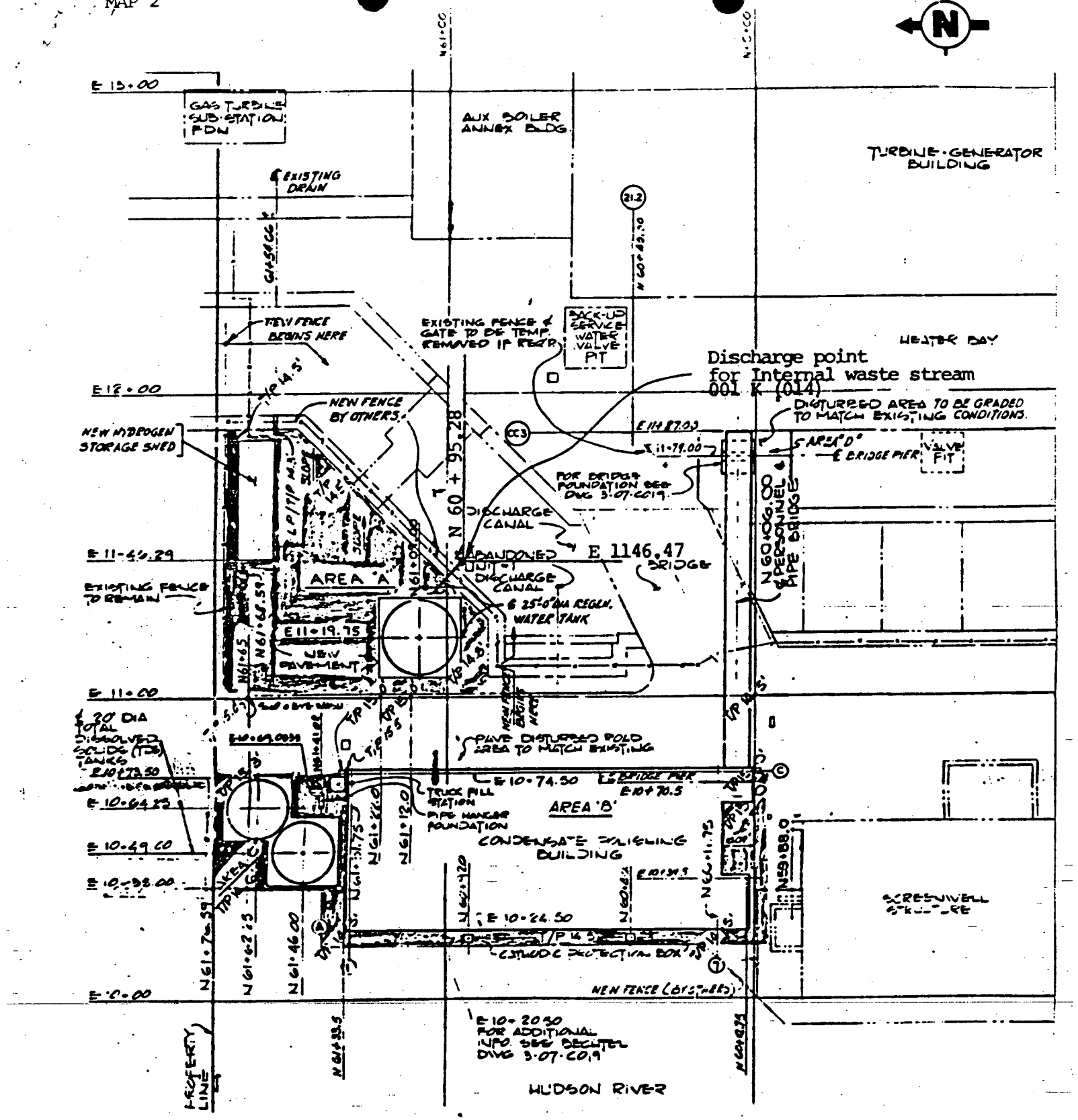
Travis Pt
BM
12
Dolphin
Charles Pt
Molasses
Water
BM
20
Lents Cove
Indian Pt
Lent
1100 METER
INDIAN POINT
UNIT No. 3
44
Radio Tower
Swimming pool
(Abandoned)
See Map 2
for detail
Dump
Buchanan
Village Hall
St Marys
Cem
St Patricks
Ch
Oil
Gas
Water
WESTCHESTER
AVE
Peekskill

MAP 2




PLAN

SCALE 1" = 20'-0"

Attachment A

The SPDES permit (No. NY0004472) for the Indian Point Generating station is issued jointly to Consolidated Edison Company of New York, Inc., owner and operator of Units 1 and 2, and the New York Power Authority, owner and operator of Unit 3.

This application for permit modification is submitted by the New York Power Authority for filter backwash and regeneration cycle wastewaters that will result from the operation of a condensate polisher (ion-exchange treatment) facility. The projected start-up date for the condensate polisher facility is November, 1985.

This application covers proposed discharges that will result from operation of the condensate polisher facility at Indian Point Unit 3 only. Information concerning current discharges from Outfall 001 and contributing internal waste streams (designated 001A-001J in SPDES Permit No. NY0004472)[1] was provided in the joint application for SPDES permit submitted by the Power Authority and Con Edison on September 25, 1979. Supplements to this application were submitted on December 13, 1979 - December 16, 1980 - and June 15, 1981.

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1. These internal waste streams were redesignated 002-013 by November 18, 1982 letter from R. E. Townsend (NYSDEC) to R. Keegan (Consolidated Edison Company of New York, Inc.). (Copy attached.)

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-0001
Room 320 Phone: (518) 457-2010

RECEIVED
NOV 29 1982
ROBERT T. KEEGAN

Robert F. Flacke
Commissioner

November 18, 1982

Consolidated Edison of New York
4 Irving Place
Room 1026
New York, New York 10003

Attention: R. Keegan

Dear Mr. Keegan:

Discharge Monitoring Report (D.M.R.) Clarification For
State Pollutant Discharge Elimination System (SPDES)
Permit Number: NY-0004472

Your SPDES discharge permit issued May 14, 1981 (which combines units 1, 2 and 3) uses letters in the listing of the internal waste streams. Our computer can only designate waste streams on the D.M.R. using numbers. Therefore, we have assigned the following outfall numbers to represent the permit waste streams. These numbered outfalls have been assigned consecutively to the waste streams as they are listed in your permit on pages 4 and 5.

| OUTFALL NUMBER | PERMIT WASTE STREAM |
|---|---|
| 001 | 001 -- discharge canal effluent |
| 002 | 001A -- sewage treatment plant |
| 003 | Sum of 001 (B, C, D, E, F, G, H) |
| 004 | Sum of 001 (C, D) |
| 005 | 001F (net) |
| 006 | Sum of 001 (B, C, D) |
| 007 | 001C |
| 008 | 001E |
| 009 | 001F |
| 010 | 001G |
| 011 | 001H |
| 012 | 001I |
| 013 | 001J |

*In the future if you desire to type these waste streams onto the DMR for clarity, please do not "XXX" out the numerical outfall designations. If you require any further assistance concerning the completion of the DMR, please contact me at (518) 457-0824. Thank you.*

*Very truly yours,*

Robert E. Townsend

*Robert E. Townsend, P.E.*
*Senior Sanitary Engineer*
*Bureau of Wastewater Facilities Operations*

Please print or type in the unshaded areas only.

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
# EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
*Consolidated Permits Program*

## I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

| A. ~~OUTFALL~~ NUMBER (list) | B. LATITUDE 1. DEG. | 2. MIN. | 3. SEC. | C. LONGITUDE 1. DEG. | 2. MIN. | 3. SEC. | D. RECEIVING WATER (name) |
|---|---|---|---|---|---|---|---|
| 001K (014) | 60 | 95 | 28 | 114 | 6 | 42 | Discharge Canal (Outfall 001) |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

| 1. ~~OUTFALL~~ NO. (list) | 2. OPERATION(S) CONTRIBUTING FLOW a. OPERATION (list) | b. AVERAGE FLOW (include units) | 3. TREATMENT a. DESCRIPTION | b. LIST CODES FROM TABLE 2C-1 |
|---|---|---|---|---|
| 001K (014) | Backwash and regeneration wastewaters from operation of filters and exchange type demineralizers used to produce makeup water for steam generator and to polish condensate from turbines | 500 gpm for 55-67 min. on a daily basis | Neutralization | 2-k |
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OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

CONTINUE ON REVERSE

Attachment B

A flow diagram indicating wastewater sources from the condensate polisher facility is given in Attachment C. The following is a description of the facilities operations, with emphasis on wastewater generating processes.

1. Condensate Polisher

The primary function of the condensate polishing system is to remove the suspended and dissolved solids from turbine condensate. The system is designed to maintain the required purity of the feedwater for the steam generators and the main turbine.

The condensate polishing system consists of six deep-bed polisher vessels with an automated regeneration system and a polished condensate post filtration and pumping system. The polisher vessels contain cationic, anionic, mixed-bed resins and activated carbon.

During start-up of power generation the primary function of the polishers will be to remove suspended solids and corrosion products from the feedwater system. During normal power operation, the primary function is to prevent dissolved impurities from concentrating in the steam generators to undersirable levels.

The polished condensate is sent to a bank of six surface type cartridge filters to remove resin fines. Filtered condensate is pumped back to the turbine building.

The resin regeneration system is comprised of a strong acid cation regeneration vessel, a strong base anion regeneration vessel, and a resin mix and hold vessel.

Regeneration waste is separated into high TDS and low TDS wastes and discharged into high TDS and low TDS waste sumps; wastes from these sumps are pumped to corresponding waste tanks.

After the regeneration of the resin beds, the resins are rinsed with influent condensate. The rinse water may either be recycled back to the influent header or released to the low TDS sump.

Low TDS wastes are filtered and sent through a make-up demineralizer system for subsequent polishing and reuse as feed water for the steam generators and turbines.

High TDS wastes are neutralized in the HTDS tank and batch discharged to the discharge canal via outfall 001K (014).

2. Make-up demineralizer system

The primary function of the make-up demineralizer system is to provide high purity water for condensate polisher regeneration. Sources of raw water for the make-up demineralizer system are municipal (potable) water and low TDS waste from the condensate polisher system.

Pressure filtration will be used to reduce turbidity and suspended solids content of influent water. The filter system also uses polyelectrolyte (flocculant). Filter backwash is pumped to the high TDS tank.

The system will also use an activated carbon unit to remove organic material and free residual chlorine from filter water prior to demineralization. Backwash from the carbon unit will go to the low TDS tank.

Cation, anion, and mixed-bed ion exchange units will be used to remove dissolved solids from the filtered water. The demineralizer resins are regenerated with dilute sulfuric acid (cation bed), dilute caustic soda (anion bed) and both dilute acid and caustic (mixed bed) waste regenerant solutions, and backwashed to the high TDS and low TDS tanks, respectively.

3. Anticipated chemical characteristics of waste water and projected chemical consumption.

The determinations of chemical concentrations in the waste water discharge from internal waste stream 001K (014) and consumption of chemicals are based on the regeneration of one polisher vessel and one full regeneration cycle (cation, anion, and mixed-bed) of the make-up demineralizer on alternate days. Additionally, the concentrations were determined based on influent characterization. A list of parameters (based on those parameters requested in Section V of Form 2C) in the discharge stream is given in Table I. Influent characterizations for polisher and make-up demineralizer influents are given in Tables II and III respectively.

Excluding resin, activated carbon, and filtration media, the only chemicals that will be consumed are:

(1) Sulfuric acid (93% $H_2SO_4$), 280 ton/year

(2) Caustic soda (50% NaOH), 460 ton/year

(3) Flocculant (of type suitable for potable water application), 1 ton/year

New York Power Authority

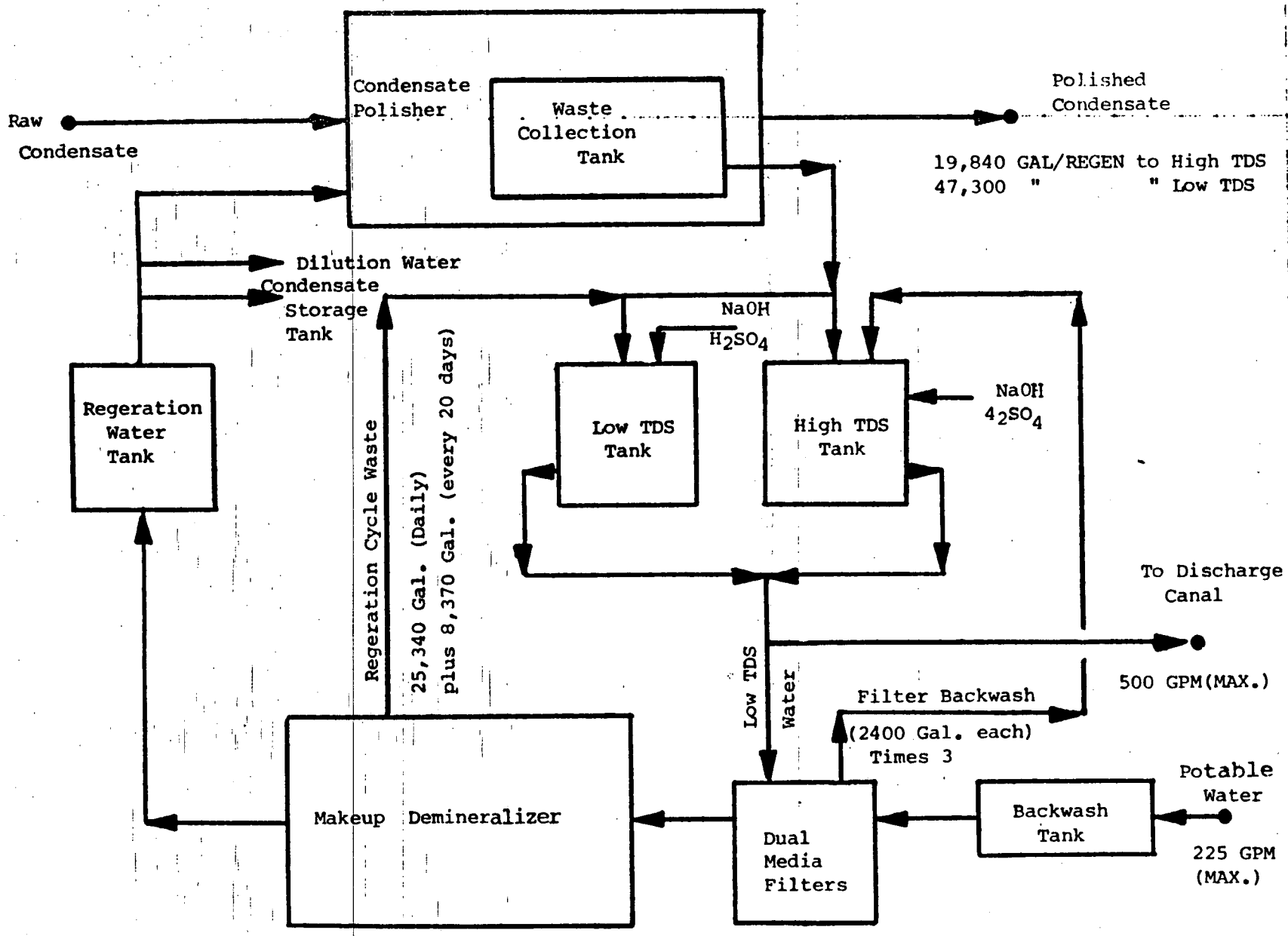
Indian Point Nuclear Power

Project Plant, Unit 3 Page 1 of

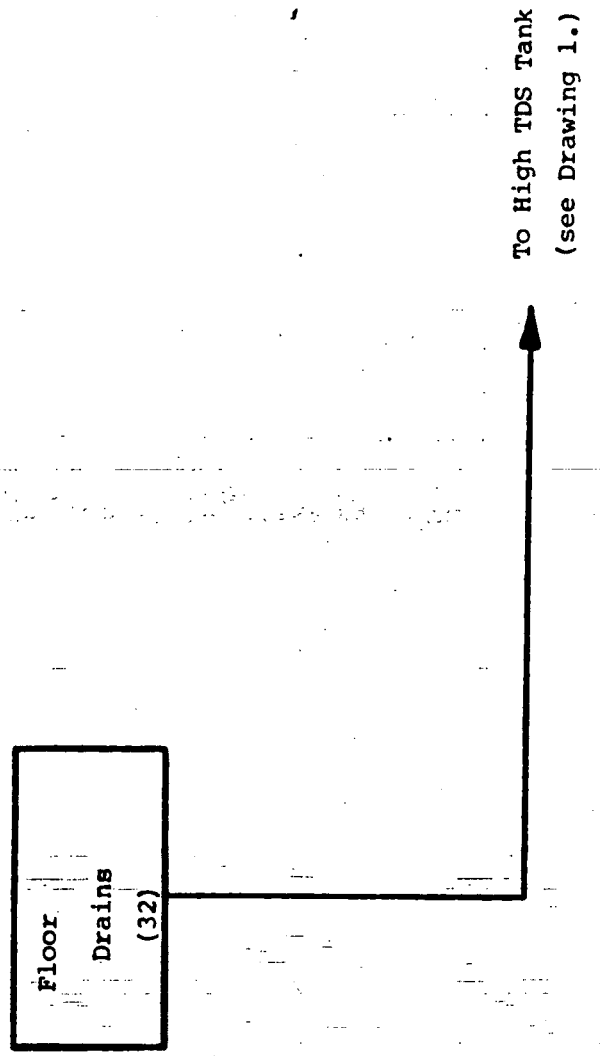
Subject Condensate Polisher Facility Date 19

SPDES Permit Application Computed by

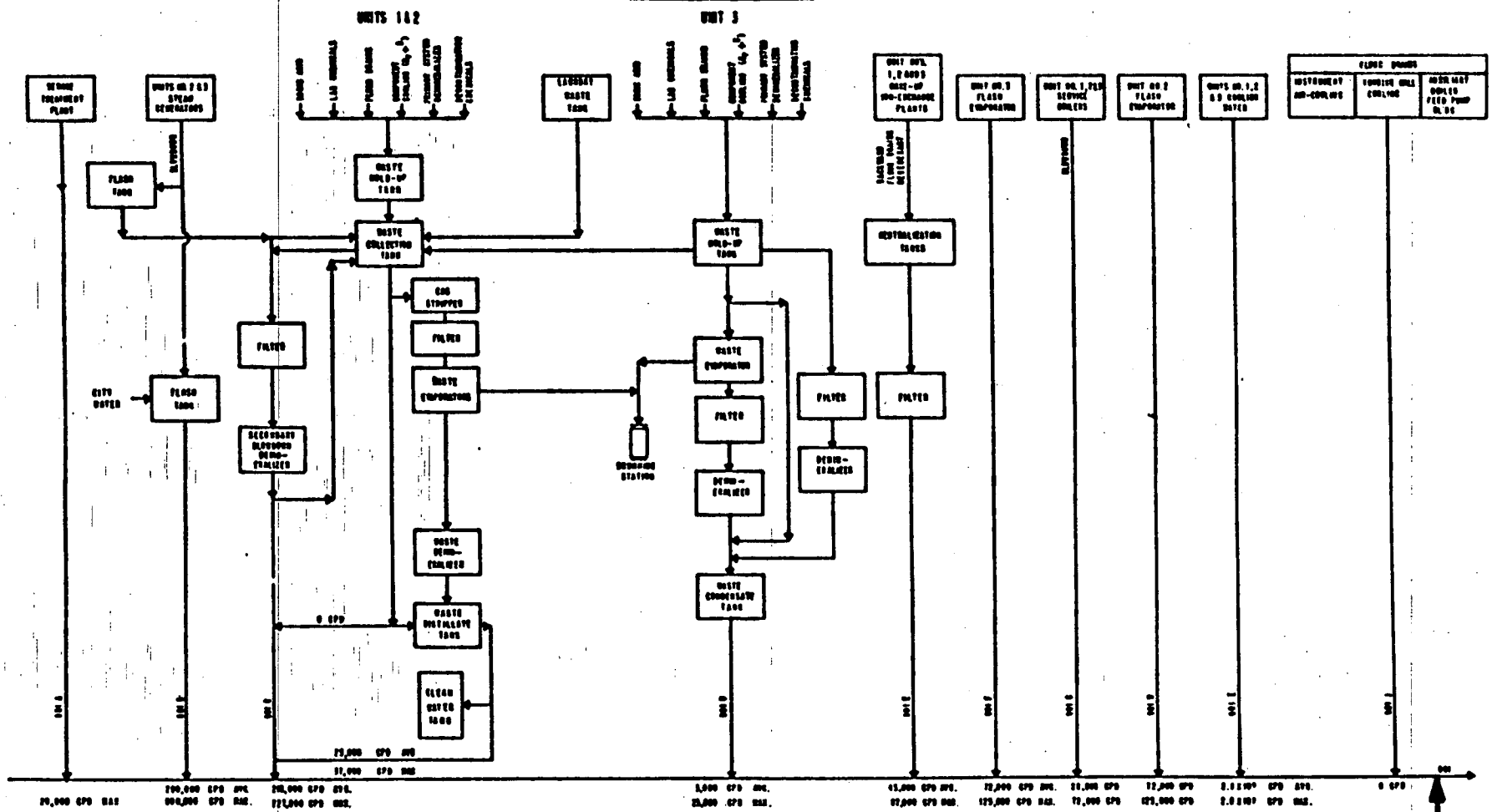
Checked by




REFERENCE DRAWING (NYPA) 840005-SK-001 M


Floor Drains (32)
To High TDS Tank (see Drawing 1.)

# INDIAN POINT GENERATING STATION
## CONTRIBUTIONS TO DIS. 001




| Condensate Polisher | Demineralizer |
|---|---|
| Backwashes<br>Regenerants | Backwashes<br>Regenerants |

→ Neutralization Tank

EPA I.D. NUMBER (copy from Item 1 of Form 1)
[redacted]004472

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

## V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

| 1. POLLUTANT | 2. SOURCE | 1. POLLUTANT | 2. SOURCE |
|---|---|---|---|
| None from Table 2c - 3 | | | |

## VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

A. Is any pollutant listed in Item V-C a substance or a component of a substance which you do or expect that you will over the next 5 years use or manufacture as an intermediate or final product or byproduct?

☒ YES *(list all such pollutants below)* ☐ NO *(go to Item VI-B)*

Those parameters listed in Item V-C are expected to be present based on operation of proposed condensate polisher facility and influent water quality.

B. Are your operations such that your raw materials, processes, or products can reasonably be expected to vary so that your discharges of pollutants may during the next 5 years exceed two times the maximum values reported in Item V?

☐ YES *(complete Item VI-C below)* ☒ NO *(go to Section VII)*

C. If you answered "Yes" to Item VI-B, explain below and describe in detail the sources and expected levels of such pollutants which you anticipate will be discharged from each outfall over the next 5 years, to the best of your ability at this time. Continue on additional sheets if you need more space.



CONTINUE ON REVERSE

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item I of Form 1)*: NY0004472

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

OUTFALL NO. 001K (014)

## V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

| 1. POLLUTANT | 2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 3. UNITS (specify if blank) a. CONCENTRATION | b. MASS | 4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Biochemical Oxygen Demand *(BOD)* | No data are available. Discharge is proposed: process does not exist at this time. | | | | | | | | | | | |
| b. Chemical Oxygen Demand *(COD)* | No data are available. Discharge is proposed: process does not exist at this time. | | | | | | | | | | | |
| c. Total Organic Carbon *(TOC)* * | 1.3-54.4 | 0.3-15.2 | | | | | | | lbs/day | | | |
| d. Total Suspended Solids *(TSS)* * | 50 | 11.5-14.0 | | | 30 | 6.9-8.4 | | mg/l | lbs/day | | | |
| e. Ammonia *(as N)* * | 0-700 | 0-160 | (Based on projected ammonium ion concentrations. Free ammonia is not expected to be present. | | | | | mg/l | lbs/day | | | |
| f. Flow * | VALUE 27,500 - 33,500 | | VALUE 27,500 - 33,500 | | VALUE | | | | gpd | VALUE | | |
| g. Temperature *(winter)* | VALUE 37.8 | | VALUE | | VALUE | | | °C | | VALUE | | |
| h. Temperature *(summer)* | VALUE 37.8 | | VALUE | | VALUE | | | °C | | VALUE | | |
| i. pH | MINIMUM 6.0 | MAXIMUM 9.0 | MINIMUM | MAXIMUM | | | | STANDARD UNITS | | | | |

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

| 1. POLLUTANT AND CAS NO. *(if available)* | 2. MARK 'X' a. BELIEVED PRESENT | b. BELIEVED ABSENT | 3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION | (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | (2) MASS | d. NO. OF ANALYSES | 4. UNITS a. CONCENTRATION | b. MASS | 5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | (2) MASS | b. NO. OF ANALYSES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a. Bromide (24959-67-9) | | X | | | | | | | | | | | | |
| b. Chlorine, Total Residual | | X | | | | | | | | | | | | |
| c. Color | | X | | | | | | | | | | | | |
| d. Fecal Coliform | | X | | | | | | | | | | | | |
| e. Fluoride (16984-48-8) | X | | 0.5-11.5 | 0.1-3.2 | | | | | | mg/l | lbs/day | | | |
| f. Nitrate--Nitrite *(as N)* | | X | | | | | | | | | | | | |



CONTINUE ON REVERSE

*The values indicated represent the range for maximum values associated with the wastewater discharges from two distinct systems in the polisher facility. These systems will discharge separately on alternate days.

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**PART C** - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe to be absent. If you mark either columns 2-a or 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part; please review each carefully. Complete one table *(all seven pages)* for each outfall. See instructions for additional details and requirements.

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK 'X' | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a. TESTING REQUIRED | b. BELIEVED PRESENT | c. BELIEVED ABSENT | a. MAXIMUM DAILY VALUE (1) CONCENTRATION | a. MAXIMUM DAILY VALUE (2) MASS | b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION | b. MAXIMUM 30 DAY VALUE (if available) (2) MASS | c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION | c. LONG TERM AVRG. VALUE (if available) (2) MASS | d. NO. OF ANALYSES | a. CONCENTRATION | b. MASS | a. LONG TERM AVERAGE VALUE (1) CONCENTRATION | a. LONG TERM AVERAGE VALUE (2) MASS | b. NO. OF ANALYSES |
| **METALS, CYANIDE, AND TOTAL PHENOLS** | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-0) | | | X | | | | | | | | | | | | |
| 2M. Arsenic, Total (7440-38-2) | | | X | | | | | | | | | | | | |
| 3M. Beryllium, Total, 7440-41-7) | | | X | | | | | | | | | | | | |
| 4M. Cadmium, Total (7440-43-9) | | | X | | | | | | | | | | | | |
| 5M. Chromium, Total (7440-47-3) | | | X | | | | | | | | | | | | |
| 6M. Copper, Total (7550-50-8) | | X | | 2.2 | 0.5 | | | | | | mg/l | lbs/day | | | |
| 7M. Lead, Total (7439-97-6) | | | X | | | | | | | | | | | | |
| 8M. Mercury, Total (7439-97-6) | | | X | | | | | | | | | | | | |
| 9M. Nickel, Total (7440-02-0) | | | X | | | | | | | | | | | | |
| 10M. Selenium, Total (7782-49-2) | | | X | | | | | | | | | | | | |
| 11M. Silver, Total (7440-22-4) | | | X | | | | | | | | | | | | |
| 12M. Thallium, Total (7440-28-0) | | | X | | | | | | | | | | | | |
| 13M. Zinc, Total (7440-66-6) | | | X | | | | | | | | | | | | |
| 14M. Cyanide, Total (57-12-5) | | | X | | | | | | | | | | | | |
| 15M. Phenols, Total | | | X | | | | | | | | | | | | |
| **DIOXIN** | | | | | | | | | | | | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6) | | | X | DESCRIBE RESULTS | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – VOLATILE COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | | | X | | | | | | | | | | | | |
| 23V. 1,1,2,2-Tetrachloroethane (79-34-5) | | | X | | | | | | | | | | | | |
| 24V. Tetrachloroethylene (127-18-4) | | | X | | | | | | | | | | | | |
| 25V. Toluene (108-88-3) | | | X | | | | | | | | | | | | |
| 26V. 1,2-Trans-Dichloroethylene (156-60-5) | | | X | | | | | | | | | | | | |
| 27V. 1,1,1-Trichloroethane (71-55-6) | | | X | | | | | | | | | | | | |
| 28V. 1,1,2-Trichloroethane (79-00-5) | | | X | | | | | | | | | | | | |
| 29V. Trichloroethylene (79-01-6) | | | X | | | | | | | | | | | | |
| 30V. Trichlorofluoromethane (75-69-4) | | | X | | | | | | | | | | | | |
| 31V. Vinyl Chloride (75-01-4) | | | X | | | | | | | | | | | | |
| **GC/MS FRACTION – ACID COMPOUNDS** | | | | | | | | | | | | | | | |
| 1A. 2-Chlorophenol (95-57-8) | | | X | | | | | | | | | | | | |
| 2A. 2,4-Dichlorophenol (120-83-2) | | | X | | | | | | | | | | | | |
| 3A. 2,4-Dimethylphenol (105-67-9) | | | X | | | | | | | | | | | | |
| 4A. 4,6-Dinitro-O-Cresol (534-52-1) | | | X | | | | | | | | | | | | |
| 5A. 2,4-Dinitrophenol (51-28-5) | | | X | | | | | | | | | | | | |
| 6A. 2-Nitrophenol (88-75-5) | | | X | | | | | | | | | | | | |
| 7A. 4-Nitrophenol (100-02-7) | | | X | | | | | | | | | | | | |
| 8A. P-Chloro-M-Cresol (59-50-7) | | | X | | | | | | | | | | | | |
| 9A. Pentachlorophenol (87-86-5) | | | X | | | | | | | | | | | | |
| 10A. Phenol (108-95-2) | | | X | | | | | | | | | | | | |
| 11A. 2,4,6-Trichlorophenol (88-06-2) | | | X | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS** *(continued)* | | | | | | | | | | | | | | | |
| 22B. 1,4-Dichlorobenzene (106-46-7) | | | X | | | | | | | | | | | | |
| 23B. 3,3'-Dichlorobenzidine (91-94-1) | | | X | | | | | | | | | | | | |
| 24B. Diethyl Phthalate (84-66-2) | | | X | | | | | | | | | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | | | X | | | | | | | | | | | | |
| 26B. Di-N-Butyl Phthalate (84-74-2) | | | X | | | | | | | | | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | | | X | | | | | | | | | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | | | X | | | | | | | | | | | | |
| 29B. Di-N-Octyl Phthalate (117-84-0) | | | X | | | | | | | | | | | | |
| 30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7) | | | X | | | | | | | | | | | | |
| 31B. Fluoranthene (206-44-0) | | | X | | | | | | | | | | | | |
| 32B. Fluorene (86-73-7) | | | X | | | | | | | | | | | | |
| 33B. Hexachlorobenzene (118-71-1) | | | X | | | | | | | | | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | | | X | | | | | | | | | | | | |
| 35B. Hexachlorocyclopentadiene (77-47-4) | | | X | | | | | | | | | | | | |
| 36B. Hexachloroethane (67-72-1) | | | X | | | | | | | | | | | | |
| 37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5) | | | X | | | | | | | | | | | | |
| 38B. Isophorone (78-59-1) | | | X | | | | | | | | | | | | |
| 39B. Naphthalene (91-20-3) | | | X | | | | | | | | | | | | |
| 40B. Nitrobenzene (98-95-3) | | | X | | | | | | | | | | | | |
| 41B. N-Nitrosodimethylamine (62-75-9) | | | X | | | | | | | | | | | | |
| 42B. N-Nitrosodi-N-Propylamine (621-64-7) | | | X | | | | | | | | | | | | |



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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS FRACTION – PESTICIDES** *(continued)* | | | | | | | | | | | | | | | |
| 17P. Heptachlor Epoxide (1024-57-3) | | | X | | | | | | | | | | | | |
| 18P. PCB-1242 (53469-21-9) | | | X | | | | | | | | | | | | |
| 19P. PCB-1254 (11097-69-1) | | | X | | | | | | | | | | | | |
| 20P. PCB-1221 (11104-28-2) | | | X | | | | | | | | | | | | |
| 21P. PCB-1232 (11141-16-5) | | | X | | | | | | | | | | | | |
| 22P. PCB-1248 (12672-29-6) | | | X | | | | | | | | | | | | |
| 23P. PCB-1260 (11096-82-5) | | | X | | | | | | | | | | | | |
| 24P. PCB-1016 (12674-11-2) | | | X | | | | | | | | | | | | |
| 25P. Toxaphene (8001-35-2) | | | X | | | | | | | | | | | | |

TABLE I

EFFLUENT CHARACTERIZATION (PROJECTED)

For those parameters indicated in Item V-C the following are expected to be present in the effluent from the condensate polisher facility.

| | DISCHARGE "A"[1] | | DISCHARGE "B"[1] | |
|---|---|---|---|---|
| Volume (gal) | 33,500[2] | | 27,500[3] | |
| Flow (GPM) | 500 | | 500 | |
| Duration (Min) | 67 | | 55 | |
| Frequency | 1 per 48 hrs. | | 1 per 48 hrs. | |
| Component | lbs | ppm(wt) | lbs | ppm(wt) |
| Mg as Mg | 23.5 | 84 | 0.6 | 2.6 |
| Cu as Cu | - | - | 0.5 | 2.2 |
| Fe as Fe | 1.2 | 4.3 | 4.8 | 20.9 |
| $NH_4$ as $NH_4$[4] | - | - | 160.4 | 700 |
| $SO_4$ as $SO_4$ | 1288.4 | 4600 | 1936.4 | 8440 |
| F as Fluoride | 3.2 | 11.5 | 0.1 | 0.5 |
| T.O.C. | 15.2 | 54.4 | 0.3 | 1.3 |
| TSS[5] - AVG. | 8.4 | 30 | 6.9 | 30 |
| - MAX. | 14.0 | 50 | 11.5 | 50 |
| Oil & Grease | - | 15 | - | 15 |
| pH (Standard units) | 6.0 (min.) | 9.0 (max.) | 6.0 (min.) | 9.0 (max.) |
| Temp (°F) | 40 (min.) | 100 (max.) | 40 (min.) | 100 (max.) |
| (°C) | 4.4 (min.) | 37.8 (max.) | 4.4 (min.) | 37.8 (max.) |

NOTES:

(1) Discharge "A" and Discharge "B" occur on alternate days. These discharges do not occur simultaneously.

(2) Discharge "A" is comprised of gravity filter backwash, makeup demineralizer regenerant waste and mixed bed regenerant waste.

(3) Discharge "B" is comprised of gravity filter backwash and the regenerant waste of one polisher vessel.

(4) $NH_4$ concentrations are based on complete dissociation of Hydrazine.

(5) T.S.S. values assume all suspended solids in gravity filter backwash.

TABLE II

POLISHER INFLUENT

For those parameters indicated in Item V-C, the following are expected to be present in the influent to the condensate polisher unit:

| Component | Concentration (Less than or equal to, ppb) |
|---|---|
| Ammonia | 400 |
| Iron | 10 |
| Copper | 1 |
| Sulfate | 1 |
| pH | 6.0 - 9.2 |
| Temperature | 60°C |

TABLE III

MAKE-UP DEMINERALIZER INFLUENT

For those parameters indicated in Item V-C, the following are expected to be present in the influent to the make-up demineralizer unit.

| COMPONENT | CONCENTRATION (Less than or equal to, ppm) |
|---|---|
| Fluoride | 1 |
| Iron | 0.1 |
| Magnesium | 10 |
| Sulfate | 30 |
| TOC | 5 |
| pH | 7.2 |