



Duquesne Light

Nuclear Construction Division
Robinson Plaza, Building 2, Suite 210
Pittsburgh, PA 15205

2NRC-4-123

(412) 787-5141

(412) 923-1960

Telecopy (412) 787-2629

August 13, 1984

United States Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. George W. Knighton, Chief
Licensing Branch 3
Office of Nuclear Reactor Regulation

SUBJECT: Beaver Valley Power Station - Unit No. 2
Pocket No. 50-412
Environmental Site Visit Action Items

Gentlemen:

Please find enclosed (Enclosure 1) the Pennsylvania Department of Environmental Resources (PDER) permits for BVPS-2 that are in effect as of July, 1984. These permits were requested as Action Item No. 5 in the Environmental Site Visit Meeting Summary letter to Duquesne Light Company dated May 8, 1984. The permit number, title, and validity is as follows:

- 0473211 Industrial Waste, Combined BVPS-1 and BVPS-2 (no expiration)
- 0473802 Erosion and Sedimentation Control Plan (expires 12/31/86)
- 0478403 Construction Modification to BVPS-1 Facilities (no expiration)
- 0482404 Construct BVPS-2 Facility (no expiration)
- E-04-78 Emergency Outfall/Impact Basin (expires 12/31/86)

The NPDES permit application, PA 0025615, for BVPS-2 operation has already been forwarded to you in DLC letter 2NRC-3-052 dated July 25, 1983. This permit has not been issued by the PDER as of July, 1984.

Also enclosed (Enclosure 2) is a list of permits issued for various construction activities associated with BVPS-2. Since they are not associated with the operation license phase of the plant, they have not been included with this package.

DUQUESNE LIGHT COMPANY

8408210437 840813
PDR ADOCK 05000412
A PDR

By *E. J. Woolever*
E. J. Woolever
Vice President

SUBSCRIBED AND SWORN TO BEFORE ME THIS
13th DAY OF August, 1984.

Elva G. Lesondak
Notary Public

ELVA G. LESONDAK, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

001
11

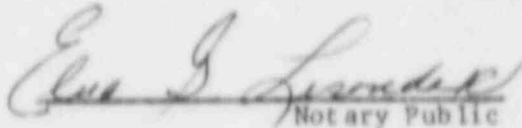
United States Nuclear Regulatory Commission
Mr. George W. Knighton, Chief
Page 2

TJZ/wjs
Enclosures

cc: Mr. H. R. Denton, Director NRR (w/o attachment)
Mr. D. Eisenhut, Director Division of Licensing (w/o attachment)
Ms. M. Ley, Project Manager (w/o attachment)
Mr. M. Licitra, Project Manager (w/o attachment)
Mr. G. Walton, NRC Resident Inspector (w/o attachment)

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

On this 10th day of August, 1984, before me, a Notary Public in and for said Commonwealth and County, personally appeared E. J. Woolever, who being duly sworn, deposed and said that (1) he is Vice President of Duquesne Light, (2) he is duly authorized to execute and file the foregoing Submittal on behalf of said Company, and (3) the statements set forth in the Submittal are true and correct to the best of his knowledge.


Notary Public

ELVA G. LESONDAK, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

ENCLOSURE 2

Construction Permits

PA 0027707	NPDES, Sedimentation Pond	(expired 7/17/81)
0475711	Auxiliary Intake	(expired 12/31/77)
0477705	Barge Slip	(expired 12/31/79)
0477706	Parking Lot	(expired 12/31/79)
0473734	Peggs Run	(expired 12/31/77)
0477723	Peggs Run Culvert Extension	(expires 12/31/84; however, extension will not be built)

Application For Amendment
to
Industrial Waste Permit 047324

Beaver Valley Power Station
Duquesne Light Company

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

DATE PREPARED

12/20/73

APPLICATION FOR SANITARY WATER BOARD PERMIT

For Department of Health Use Only

APPLICANT NAME Duquesne Light Company, et al, owners as tenants in common of Beaver Valley Power Station Unit No. 2 *	PROJECT LOCATION (A) MUNICIPALITY Shippingport Borough
TELEPHONE NO. 412-471-4300	(B) COUNTY Beaver
MAILING ADDRESS Duquesne Light Company 435 Sixth Avenue Pittsburgh, Pennsylvania 15219	

HEREBY APPLIES FOR: (CHECK APPROPRIATE BLOCKS IN COLUMNS A, B AND C)

A. APPROVAL OF PLANS FOR CONSTRUCTION OF: <input type="checkbox"/> PUMP STATIONS; SEWERS AND APPURTENANCES <input type="checkbox"/> SEWAGE TREATMENT PLANT <input type="checkbox"/> MINE DRAINAGE TREATMENT PLANT <input checked="" type="checkbox"/> INDUSTRIAL WASTE TREATMENT PLANT	B. APPROVAL TO DISCHARGE: (1) <input checked="" type="checkbox"/> TREATED <input checked="" type="checkbox"/> UNTREATED (2) <input checked="" type="checkbox"/> INDUSTRIAL WASTES <input type="checkbox"/> MINE DRAINAGE <input type="checkbox"/> SEWAGE	C. APPROVAL TO OPERATE: <input type="checkbox"/> COAL MINE <input checked="" type="checkbox"/> <u>CONA</u>
--	---	--

(ALL DISCHARGES OF WASTES ARE PURSUANT TO "THE CLEAN STREAMS LAW")

I HEREBY CERTIFY THAT THE COMPLETENESS REPORT AND ALL PLANS, MODULES, AND DOCUMENTS DESIGNATED THEREIN ARE ATTACHED TO THIS APPLICATION, AND MADE A PART HEREOF.

Percentage of Undivided Ownership: Duquesne Light Company et al

*See Attachment to Module 2
page 2-4a

By: E. J. Woolever
SIGNATURE OF APPLICANT OR RESPONSIBLE OFFICIAL

NAME OF APPLICANT OR RESPONSIBLE OFFICIAL: E. J. Woolever	TITLE Vice President Eng. & Const. Division Duquesne Light Company	DATE OF APPLICATION
--	--	---------------------

ADDRESS
435 Sixth Avenue, Pittsburgh, Pennsylvania 15219

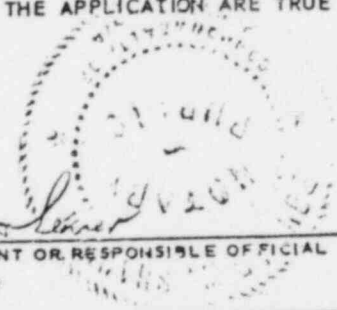
AFFIDAVIT
COMMONWEALTH OF PENNSYLVANIA, COUNTY OF Allegheny

I, Earl J. Woolever BEING DULY SWORN, ACCORDING TO LAW, DEPOSE AND SAY THAT I (AM THE APPLICANT) (AM AN OFFICER OR OFFICIAL OF THE APPLICANT) (HAVE THE AUTHORITY TO MAKE THIS APPLICATION) AND THAT THE PLANS, REPORTS AND DOCUMENTS SUBMITTED AS PART OF THE APPLICATION ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SWORN AND SUBSCRIBED TO BEFORE ME THIS

24th DAY OF December 19 73
DONALD W. SHANNON, Notary Public
Pittsburgh, Allegheny Co., Pa.
My Commission Expires
June 7, 1975
Donald W. Shannon
NOTARY PUBLIC

E. J. Woolever
SIGNATURE OF APPLICANT OR RESPONSIBLE OFFICIAL
Earl J. Woolever



THE SECTION BELOW IS TO BE COMPLETED BY THE DESIGN ENGINEER (OR SURVEYOR) AUTHORIZED BY THE APPLICANT TO PREPARE THIS APPLICATION

NAME OF DESIGN ENGINEER (OR SURVEYOR) AND FIRM Carl O. Richardson, Jr. Stone & Webster Engineering Corp.	TELEPHONE NUMBER 617-434-7039
MAILING ADDRESS 225 Franklin Street, Boston, Mass. 02107	
AGREEMENT DATE 10-18-73	SIGNATURE OF DESIGN ENGINEER (OR SURVEYOR) <u>Carl Otto Richardson</u>



DATE PREPARED

12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

For Department of Health Use Only

APPLICATION FOR SANITARY WATER BOARD PERMIT

APPLICANT NAME Duquesne Light Company, et al, owners as tenants in common of Beaver Valley Power Station Unit No. 2 *	PROJECT LOCATION (A) MUNICIPALITY Shippingport Borough
	(B) COUNTY Beaver
TELEPHONE NO. 412-471-4300	
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(ALL DISCHARGES OF WASTES ARE PURSUANT TO "THE CLEAN STREAMS LAW")

I HEREBY CERTIFY THAT THE COMPLETENESS REPORT AND ALL PLANS, MODULES, AND DOCUMENTS DESIGNATED THEREIN ARE ATTACHED TO THIS APPLICATION, AND MADE A PART HEREOF.

Percentage of Undivided Ownership: Duquesne Light Company et al
 *See Attachment to Module 2 page 2-4a
 By: _____
 SIGNATURE OF APPLICANT OR RESPONSIBLE OFFICIAL

NAME OF APPLICANT OR RESPONSIBLE OFFICIAL: E. J. Woolever	TITLE Vice President Eng. & Const. Division Duquesne Light Company	DATE OF APPLICATION
ADDRESS 435 Sixth Avenue, Pittsburgh, Pennsylvania 15219		

AFFIDAVIT
 COMMONWEALTH OF PENNSYLVANIA, COUNTY OF Allegheny
 I, Earl J. Woolever BEING DULY SWORN, ACCORDING TO LAW, DEPOSE AND SAY THAT I (AM THE APPLICANT) (AM AN OFFICER OR OFFICIAL OF THE APPLICANT) (HAVE THE AUTHORITY TO MAKE THIS APPLICATION) AND THAT THE PLANS, REPORTS AND DOCUMENTS SUBMITTED AS PART OF THE APPLICATION ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SWORN AND SUBSCRIBED TO BEFORE ME THIS
 _____ DAY OF _____ 19 _____

 NOTARY PUBLIC

 SIGNATURE OF APPLICANT OR RESPONSIBLE OFFICIAL
 Earl J. Woolever

THE SECTION BELOW IS TO BE COMPLETED BY THE DESIGN ENGINEER (OR SURVEYOR) AUTHORIZED BY THE APPLICANT TO PREPARE THIS APPLICATION

NAME OF DESIGN ENGINEER (OR SURVEYOR) AND FIRM Carl O. Richardson, Jr. Stone & Webster Engineering Corp.		
MAILING ADDRESS 225 Franklin Street, Boston, Mass. 02107	TELEPHONE NUMBER 617-434-7039	
AGREEMENT DATE	SIGNATURE OF DESIGN ENGINEER (OR SURVEYOR) <i>Carl Otto Richardson</i>	

STATE OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
INDUSTRIAL WASTE PERMIT APPLICATION

Table of Contents

	<u>Page</u>
Affidavit	
Introduction	1
Module 2 - General Information	2-1
List of Corporate Officers	2-10
Module 4 - Waste Load and Characteristics	4-1
Liquid Waste Discharges	4-4
Waste Water Schematic	
Radioactive Liquid Waste Disposal System	
Module 8 - Pumping Facilities	8-1
Module 13 - Settling Tanks	13-1
Module 18 - Chemical Treatment	18-1
Module 27 - Heated Wastes	27-1
Thermal Effects of Cooling Tower Blowdown	27-3
General Arrangement, Water-Wastewater Facilities	
Pollution Incident Prevention Plan	A-1
Proof of Publication	B-1
U.S. Geological Survey Quadrangle Map	C-1

INTRODUCTION

This application is submitted pursuant to the Pennsylvania Clean Stream Law, act of January 22, 1937, PL 1987, as amended, in support of a request by The Cleveland Electric Illuminating Company, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, and The Toledo Edison Company for the Commonwealth of Pennsylvania Certification under Section 401 of the Federal Water Pollution Control Act, 1972 Amendments, for Unit No. 2 at the Beaver Valley Power Station. The above listed applicants comprise the Central Area Power Coordinating Group (CAPCO).

A detailed environmental report for this station has been prepared by the applicants and reviewed by the Atomic Energy Commission (AEC). The AEC has evaluated this environmental report and prepared a draft environmental statement pursuant to paragraph 8.6 of Appendix D to 10CFR50. The draft environmental statement was transmitted with a request for comment to the Office of Radiological Health, Pennsylvania Department of Health, Harrisburg, Pennsylvania. Comments by the Pennsylvania Department of Environmental Resources are included in Appendix A of the AEC Final Environmental Statement, pages A-30 through A-37.

Beaver Valley Power Station - Unit No. 2 (BVPS-2) is a nuclear power station utilizing a pressurized water reactor. The steam supply system and turbine generator are furnished by Westinghouse Electric Corporation and are similar in design concept to those same items furnished on Beaver Valley Power Station Unit No. 1 (BVPS-1).

BVPS-2 will share the following systems related to industrial waste management with Unit No. 1:

- Intake structure
- Discharge structure
- Water supply and treatment systems
- Auxiliary steam boilers
- Radioactive liquid waste system
- Steam generator blowdown system

The first five systems were installed with BVPS-1. The steam generator system will be installed on BVPS-2 and is designed to process blowdown from both units. The radioactive liquid waste and steam generator blowdown systems are interconnected between stations to provide operational flexibility and additional capacity if required. BVPS-2 is expected to be a duplicate of Unit 1; however, Unit 2 is in the early stages of design, therefore equipment and capacities may change as regulations and requirements develop. This application contains waste quantities relative to the proposed operation of BVPS-2 alone. Unit 1 amended application No. 0473208 was submitted May 7, 1973.

The application attached hereto consists of completed water pollution control forms, Modules 2, 4, 8, 13, 18, and 27. Also included is an attachment to Module 4 entitled "Liquid Waste Discharges", a description of the waste treatment system. A report on the pollution prevention program is included, as well as an erosion and sedimentation control plan covering the earthwork activities at the site.

H710 046 2

DATE PREPARED

12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

DESIGN ENGINEER AND FIRM Carl O. Richardson, Jr. - Stone & Webster Engineering Corporation

ADDRESS 225 Franklin Street, Boston, Mass. ZIP 02107 TELEPHONE 617-434-7039

APPLICANT Beaver Valley Power Station - Duquesne Light Company

LOCATION OF PROJECT: MUNICIPALITY Shippingport Borough COUNTY Beaver

DESCRIPTION OF PROJECT Construction of Industrial Wastewater treatment facilities to treat Nuclear Power Station wastewaters. A permit is also sought for the discharge of innocuous, untreated wastewaters from this power station.

PROPOSED PROJECT WILL BE COMPLETED AND DISCHARGE WILL COMMENCE ~~ON~~ (DATE) By June 1, 1979

A. DOCUMENTATION REQUIRED

1. HAS A CHECK FOR \$25.00, PAYABLE TO THE PENNSYLVANIA DEPARTMENT OF HEALTH, BEEN INCLUDED? (NOT REQUIRED OF STATE OR FEDERAL AGENCIES) Yes No N/A

2. HAVE 2 COPIES OF THE APPLICATION, H710 046, BEEN SUBMITTED? (THREE (3) COPIES REQUIRED FOR PROJECTS IN THE DELAWARE RIVER BASIN) Yes No

A. HAS THE AFFIDAVIT BEEN PROPERLY COMPLETED AND EXECUTED? Yes No

B. HAS PROOF OF PUBLICATION BEEN SUBMITTED? Yes No

3. DOES THE APPLICATION INCLUDE THE FOLLOWING APPLICABLE MODULES:

MODULE NUMBER	TITLE	NUMBER OF PAGES	
2	GENERAL INFORMATION - INDUSTRIAL WASTES	9	<input checked="" type="checkbox"/> Yes
4	WASTE LOAD AND CHARACTERISTICS	3	<input checked="" type="checkbox"/> Yes
5	GEOLOGY AND GROUND WATER INFORMATION	2	<input type="checkbox"/> Yes
8	PUMPING FACILITIES	1	<input checked="" type="checkbox"/> Yes
9	FLOW EQUALIZATION AND STORAGE BASINS	2	<input type="checkbox"/> Yes
10	GRIT CHAMBERS	1	<input type="checkbox"/> Yes
11	SCREENING AND COMMINUTING DEVICES	2	<input type="checkbox"/> Yes
12	IMHOFF AND SEPTIC TANKS	2	<input type="checkbox"/> Yes
13	SETTLING TANKS (Clarifier Blowdown)	2	<input checked="" type="checkbox"/> Yes
14	EARTHEN SETTLING BASINS	2	<input type="checkbox"/> Yes

H710 046.2

DATE PREPARED

12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERINGWATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

A. DOCUMENTATION REQUIRED - CONTINUED

<u>MODULE NUMBER</u>	<u>TITLE</u>	<u>NUMBER OF PAGES</u>	
15	TRICKLING FILTERS	1	<input type="checkbox"/> Yes
16	AERATION TANKS OR BASINS	2	<input type="checkbox"/> Yes
17	WASTE STABILIZATION PONDS	2	<input type="checkbox"/> Yes
18	CHEMICAL TREATMENT (INCLUDING FEEDERS)	3	<input checked="" type="checkbox"/> Yes
19	MIXING AND FLOCCULATION FACILITIES	1	<input type="checkbox"/> Yes
20	SAND FILTERS	1	<input type="checkbox"/> Yes
21	DISINFECTION	2	<input type="checkbox"/> Yes
22	SPRAY IRRIGATION	1	<input type="checkbox"/> Yes
23	PHYSICAL ABSORPTION, ION EXCHANGE AND CONTACT UNITS	2	<input type="checkbox"/> Yes
24	FLOTATION AND OIL SEPARATION	2	<input type="checkbox"/> Yes
25	DEEP WELL DISPOSAL	3	<input type="checkbox"/> Yes
26	SLUDGE TREATMENT AND DISPOSAL		
	A. SEPARATE DIGESTION TANKS AND SLUDGE THICKENING TANKS	1	<input type="checkbox"/> Yes
	C. WET OXIDATION	1	<input type="checkbox"/> Yes
	D. SLUDGE DRYING BEDS	1	<input type="checkbox"/> Yes
	E. LAND DISPOSAL OF SLUDGE	1	<input type="checkbox"/> Yes
	F. SLUDGE LAGOONS	1	<input type="checkbox"/> Yes
	G. FILTERS AND CENTRIFUGES	1	<input type="checkbox"/> Yes
	H. INCINERATION	1	<input type="checkbox"/> Yes
	I. DEEP MINE DISPOSAL	2	<input type="checkbox"/> Yes
27	HEATED WASTES (Cooling Tower Blowdown)	2	<input checked="" type="checkbox"/> Yes

H710.046.7

DATE PREPARED

12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

B. REQUIRED DATA

1. THE FRONT COVER OR FLYLEAF OF EACH SET OF DRAWINGS AND SPECIFICATIONS MUST BEAR THE SIGNATURE AND SEAL OF THE REGISTERED PROFESSIONAL ENGINEER OR SURVEYOR BY OR UNDER WHOM PREPARED. EACH DRAWING MUST BEAR AN IMPRINT OR REASONABLE FACSIMILE OF SUCH SEAL.

2. SUPPORTING INFORMATION:

A. 2 COPIES OF DESIGNER'S PLANS, MODULES, AND SPECIFICATIONS
(3 COPIES REQUIRED FOR PROJECTS IN DELAWARE RIVER BASIN)

Yes

B. SCHEMATIC FLOW DIAGRAM OF WASTE TREATMENT PLANT (See Note)
(ON APPROX. 8 1/2 x 11" PAPER, ACCOMPANYING MODULES)

Yes

C. UNITED STATES GEOLOGICAL SURVEY TOPOGRAPHIC MAP SHOWING EXACT POINT OF DISCHARGE AND TREATMENT PLANT LOCATION

Yes

D. HAVE YOU APPLIED FOR WATER AND POWER RESOURCES BOARD APPROVAL FOR STREAM ENCROACHMENTS?

Yes No N/A

E. HAVE YOU SUBMITTED A LIST OF NAMES, TITLES, AND ADDRESSES OF ALL PARTNERS IN THE CASE OF A PARTNERSHIP OR ALL OFFICERS IN THE CASE OF A CORPORATION, UNINCORPORATED ASSOCIATION, INCORPORATED ASSOCIATION, PARTNERSHIP, OR OTHER ENTITY?

Yes No N/A

F. HAVE YOU APPLIED FOR BUREAU OF AIR POLLUTION CONTROL APPROVAL FOR STREAM ENCROACHMENTS?

Yes No N/A

3. SPECIFY THE FOLLOWING:

PLANS: Waste Water Schematic NO. OF SHEETS 1 DATE 12/20/73
Title/Description

PLANS: Radioactive Liquid Waste Disposal System NO. OF SHEETS 1 DATE 12/20/73
Title/Description

PLANS: General Arrangement NO. OF SHEETS 1 DATE 12/20/73
Title/Description

PLANS: Steam Generator Blowdown System NO. OF SHEETS _____ DATE 12/20/73
Title/Description

B. SPECIFICATIONS (IF APPLICABLE): N/A
Title

NUMBER OF VOLUMES _____ DATE _____

C. OTHER (SPECIFY TYPE AND NUMBER):

U.S.G.S. Map, Hookstown, Pa. Quadrangle

Note: Because of the complexity of the attached drawings, they were not reduced to 8 1/2 x 11.

12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

B. REQUIRED DATA - CONTINUED

4. ARE THE PLANS:

A. CLEAR, LEGIBLE, AND DRAWN TO SCALE?

Yes No

B. WITHIN MAXIMUM SIZE OF 36 INCHES BY 50 INCHES?

Yes No

C. CLASS OF CONSTRUCTION

1. TYPE:

- NEW
- REPLACEMENT OF EXISTING FACILITY
- ADDITION AND/OR MODIFICATION TO EXISTING FACILITY

D. PLANT STATUS

1. IS THE INDUSTRIAL ESTABLISHMENT:

- PROPOSED?
- EXISTING?

2. TYPE OF INDUSTRIAL ESTABLISHMENT (USE STANDARD CODE OF UNITED STATES OFFICE OF STATISTICAL STANDARDS):

CODE 4911 DESCRIPTION Electrical Companies and Systems

A. TYPE OF PRODUCT: Electrical Energy

B. DAILY PRODUCTION: 851.9 MWe

C. DAYS PER YEAR OF PRODUCTION: 335

D. LENGTH OF WORKING DAY: 24 HOURS 7 DAYS PER WEEK
45 additional Normal

E. NUMBER OF EMPLOYEES Approximately 70 additional Refueling

3. TYPE OF OWNERSHIP:

- INDIVIDUAL
- CORPORATION
- PARTNERSHIP
- OTHER (SPECIFY) _____

4. HAS THIS APPLICATION BEEN FILED AS A RESULT OF A SANITARY WATER BOARD ORDER?

Yes No

5. HAS THIS APPLICATION BEEN FILED AS THE RESULT OF A VIOLATION NOTICE?

Yes No

6. THE DATE OF THE ORDER OR VIOLATION NOTICE IS _____

N/A

7. LIST BY NUMBER AND DATE ANY PREVIOUSLY ISSUED PERMITS RELEVANT TO THIS INDUSTRIAL ESTABLISHMENT:

Sevage 0472411 12/06/72
Sevage 076947 6/25/69

IW 0470208 2/25/71

IW 0473208
Submitted 5/7/73

*See Attachment page 2-4a

ATTACHMENT TO MODULE TWO

Percentage of Undivided Ownership

Beaver Valley Power Station

Unit No. 2

Duquesne Light Company	15%
Ohio Edison Company	34%
Pennsylvania Power Company	6%
The Cleveland Electric Illuminating Company	29%
The Toledo Edison Company	16%

DATE PREPARED

12/20/73

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

E. WASTE TREATMENT

1. ARE INDUSTRIAL WASTES NOW BEING PRODUCED BY THE INDUSTRIAL ESTABLISHMENT?

Yes No

A. IF YES, ARE THE INDUSTRIAL WASTES:

- DISCHARGED WITHOUT TREATMENT?
- TREATED AND DISCHARGED WITHOUT PERMIT?
- TREATED AND DISCHARGED UNDER SANITARY WATER BOARD PERMIT?
- DISCHARGED TO MUNICIPAL SEWERAGE SYSTEM?
 - SANITARY OR COMBINED SEWERS
 - STORM SEWERS

NAME OF SYSTEM _____

OTHER (DESCRIBE) _____

2. IF THE INDUSTRIAL WASTES ARE BEING TREATED IN AN EXISTING INDUSTRIAL WASTE TREATMENT PLANT, BRIEFLY DESCRIBE THE TREATMENT PROVIDED:

N/A

3. WHAT IS THE METHOD OF DISPOSAL OF SANITARY SEWAGE?

- PUBLIC SEWERAGE SYSTEM
- PRIVATE SEWAGE TREATMENT PLANT - Extended Aeration

OWNERSHIP Duquesne Light Company

LOCATION On Lot

PERMIT No. 0472411

- ON LOT SEPTIC TANK TILE FIELD SYSTEM During construction
- OTHER (DESCRIBE) _____

F. OPERATIONAL FEATURES

NOTE: IN ANSWERING THE FOLLOWING QUESTIONS, INFORMATION PROVIDED MUST APPLY TO ALL UNITS OF TREATMENT PLANT.

1. WILL STANDBY EQUIPMENT BE PROVIDED FOR ALL MECHANICAL UNITS IN THE TREATMENT PLANT?

Yes No

H710.046 2

DATE PREPARED

12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

F. OPERATIONAL FEATURES - CONTINUED

- A. IF NO, WILL SPARE PARTS BE STOCKED AT THE TREATMENT PLANT FOR ALL CRITICAL MECHANICAL UNITS? Yes No
- B. IF NO, ARE PARTS READILY AVAILABLE FROM LOCAL SUPPLIERS FOR REPAIRING MECHANICAL BREAKDOWNS? Yes No
2. WILL PROCESS PRODUCING WASTES BE DISCONTINUED DURING PERIODS OF EQUIPMENT FAILURE? Yes No

A. IF NO, DESCRIBE ANTICIPATED REDUCTION IN TREATMENT EFFICIENCY DURING EQUIPMENT FAILURE.

Processes producing wastewaters will only be discontinued when effluents are not in compliance with applicable water quality criteria & effluent standards.

G. RECEIVING STREAM *

1. WHAT IS THE NAME OF THE RECEIVING STREAM? Ohio River

A. TRIBUTARY OF: Mississippi River

B. TRIBUTARY OF: _____

- C. MAJOR DRAINAGE BASIN: DELAWARE POTOMAC
 SUSQUEHANNA LAKE ERIE
 OHIO GENESEE

2. DESCRIBE THE EXACT POINT(S) OF DISCHARGE:

40 DEG, 37 MIN, 22 SEC. LATITUDE

80 DEG, 26 MIN, 08 SEC. LONGITUDE

A. WATERSHED AREA ABOVE POINT OF DISCHARGE IS

23,000 SQUARE MILES.

3. WHAT IS THE:

A. MINIMUM 7-CONSECUTIVE-DAY FLOW OCCURRING ONCE IN 10 YEARS?

6500 CUBIC FEET PER SECOND ORSANCO Pollution Control Standards 1-70 and 2-70

B. MINIMUM STREAM FLOW? 5000 CUBIC FEET PER SECOND

* ATTACH A U. S. GEOLOGICAL SURVEY 7.5' OR 15' QUADRANGLE MAP SHOWING EXACT POINT(S) OF DISCHARGE.

12/20/73

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

G. RECEIVING STREAM - CONTINUED

C. FLOWS (FROM ITEMS 3.A. AND 3.B.) ARE BASED ON: MEASUREMENTS _____ YEARS OF RECORD.
 ESTIMATES by U.S. Army Corps of Engineers
Pittsburgh District

D. IF STREAM GOES DRY, FOR HOW MANY DAYS PER YEAR? N/A

4. IS THE TREATMENT PLANT SUBJECT TO FLOODING? Yes No

5. THE PROBABILITY OF THE TREATMENT PLANT BEING OUT OF SERVICE

DUE TO FLOODING IS ONCE IN 1000+ YEARS.

A. LIST BRIEFLY THE METHODS USED FOR FLOOD PROTECTION: All structures are located above or are protected against the Ohio River Standard Project Flood Elevation (as furnished by the U.S. Army Corps of Engineers, Pittsburgh District) with the exception of the circulating water discharge structure. Flooding of this structure will not effect operation of the plant.

6. TO THE BEST OF YOUR KNOWLEDGE, WILL THE TREATED WASTE DISCHARGE ADVERSELY AFFECT:

- A. DOMESTIC WATER SUPPLY? Yes No
- B. BATHING? Yes No
- C. STOCK WATERING? Yes No
- D. FISH AND AQUATIC LIFE? Yes No
- E. INDUSTRIAL WATER SUPPLY? Yes No
- F. IRRIGATION? Yes No
- G. BOATING AND AESTHETICS? Yes No
- H. POWER AND NAVIGATION? Yes No

7. IF ANY ITEMS IN 6 ABOVE ARE ANSWERED YES, INDICATE LOCATION AND EXTENT OF ADVERSE EFFECT:

H710 046.2

DATE PREPARED

12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

WATER POLLUTION CONTROL

INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

H. PROCESS WATER - CONTINUED		TABLE II
SOURCE	NAME	AVERAGE WATER USE (MGD)
PUBLIC SUPPLY		
WELLS		
RIVER, STREAM, OR LAKE	Ohio River	38.8
OTHER (SPECIFY)		

1. SEAL AND SIGNATURE OF PROFESSIONAL ENGINEER OR SURVEYOR RESPONSIBLE FOR THIS APPLICATION

1. SIGNATURE OF PROFESSIONAL ENGINEER
(Or Surveyor Where Permitted By Law)

Carl Otto Richardson Jr.

2. SEAL OF PROFESSIONAL ENGINEER
(Or Surveyor Where Permitted By Law)



SUPPLEMENT TO MODULE TWO

List of Officers
of
DUQUESNE LIGHT COMPANY
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219

John M. Arthur	-	Chairman of the Board and Chief Executive Officer
Stanley G. Schaffer-		President
Earl J. Woolever	-	Vice President Engineering and Construction Division
William F. Gilfillan, Jr.	-	Vice President Sales Division
Daniel E. Green	-	Vice President Operations Division
Charles M. Atkinson-		Vice President Fiscal Division
John A Knepper	-	Treasurer and Controller
Howard W. Staas	-	Secretary

WATER POLLUTION CONTROL

For Department of Health Use Only

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

TABLE I - WASTE STATUS REPORT

TOTAL WASTE FLOW (MGD)		SOURCE OF WASTE: Cooling Tower Blowdown Waste Stream A <input type="checkbox"/> PRESENT <input checked="" type="checkbox"/> FUTURE	SOURCE OF WASTE: Make-up DM Waste Stream B <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	SOURCE OF WASTE: Mixed Bed DM Waste Stream C <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	SOURCE OF WASTE: Softener Waste Stream D <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE
1. TYPE OF WASTE		Heat	Acid & Caustic Regenerants	Acid & Caustic Regenerants	Brine Regenerants
2. FLOW	A. MGD (AVERAGE)	21.6	0.013 Once every 7 days	0.003 Once every 60-90 days	0.003 Once every 7-10 days
	B. MGD (MAXIMUM)	28.1	0.013 Once per day	0.003 Once every 7 days	0.003 Once per day
3. WASTE DISCHARGE	A. TREATED SEPARATELY				
	B. NOT-TREATED	Not Treated			Not Treated
	C. COMBINED AND TREATED		Combined and Treated	Combined and Treated	
4. SEQUENCE OF TREATMENT STEPS		<input checked="" type="checkbox"/> Discharge			
		<input checked="" type="checkbox"/>	Collection	Collection	Dilution
		<input checked="" type="checkbox"/>	Neutralization	Neutralization	Discharge
		<input checked="" type="checkbox"/>	Dilution	Dilution	
		<input checked="" type="checkbox"/>	Discharge	Discharge	

A. GENERAL INFORMATION

1. WILL ALL LABORATORY ANALYSES BE IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER"? Yes No N/A
2. WILL THE TREATMENT PROCESS PRODUCE FOR EACH WASTE ABOVE A SATISFACTORY EFFLUENT THAT WILL HAVE NO ADVERSE EFFECT UPON THE RECEIVING STREAM OR ITS USES? Yes No N/A

ONLY SEWERAGE AND INDUSTRIAL WASTE APPLICANTS COMPLETE ITEM 3.

3. GIVE EXPECTED PERCENTAGE REDUCTION OF:
- A. BOD (5 DAY 20° CENTIGRADE) _____ % N/A
- B. SUSPENDED SOLIDS _____ % N/A
- C. SETTLEABLE SOLIDS (SEWAGE ONLY) _____ % N/A

TABLE H - WASTE LOAD CHARACTERISTICS

Sample Or Data Location	Cooling Tower WASTE: Blowdown		WASTE: Make-Up DM		WASTE: Mixed Bed DM		WASTE: Softener	
	LOCATION: Waste Line Waste Stream A		LOCATION: Waste Line Waste Stream B		LOCATION: Waste Line Waste Stream C		LOCATION: Waste Line Waste Stream D	
	<input type="checkbox"/> EXISTING <input checked="" type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	
	Waste Load		Waste Load		Waste Load		Waste Load	
Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	
<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	
1. WASTE FLOW Mg/L	S M 21.6	S M 21.6	S M 0.013 Once/wk	S M 0.013 Once/wk	S M 0.003 Once/3mon	S M 0.003 Once/3mon	S M 0.003 Once/wk	S M 0.003 Once/wk
2. COLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3. TEMPERATURE Deg F	55 - 90	55 - 90	Ambient	Amb	Amb	Amb	Amb	Amb
4. pH	S M	S M	S M 2-3	S M 6-8.5	S M 9-10	S M 6-8.5	S M 6-8.5	S M
5. ALKALINITY (Minus for Acid) Mg/L	S M	S M	S M -5700	S M 20	S M 7600	S M 50	S M 10	S M
6. SOLIDS - SUSPENDED Mg/L	S M	S M	S M <25	S M <25	S M <25	S M <25	S M <25	S M
7. SOLIDS - SUSPENDED Lbs/Cap/Day	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M N/A	S M
8. SOLIDS - SUSPENDED Lbs/Day	S M	S M	S M <2.7 Lbs/wk	S M <2.7 Lbs/wk	S M <0.62 Lbs/Quar	S M <0.62 Lbs/Quar	S M <0.62 Lbs/wk	S M
9. SOLIDS - SETTLEABLE Ml/L	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M N/A	S M
10. SOLIDS - DISSOLVED Mg/L	S M	S M	S M 31,700	S M 212	S M 22,705	S M 152	S M 199,400	S M
11. IRON - DISSOLVED Mg/L	S M	S M	S M 25	S M 0.2	S M .05	S M <.05	S M .05	S M
12. IRON (Total) Mg/L	S M	S M	S M 28	S M 0.22	S M .05	S M <.05	S M .05	S M
13. MANGANESE Mg/L	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M N/A	S M
14. ALUMINUM Mg/L	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M N/A	S M
15. BOD (5 Day 20° C) Mg/L	S	S	S <1	S <1	S <1	S <1	S <1	S
16. BOD (5 Day 20° C) Lbs/Cap/Day	S	S	S N/A	S N/A	S N/A	S N/A	S N/A	S
17. BOD (5 Day 20° C) Net Added Lbs/Day	S	S	S 0	S 0	S 0	S 0	S 0	S

CONCENTRATED 1.8 TIMES
 RIVER WATER
 DISCHARGED
 WITHOUT TREATMENT

See Main Outfall Analysis

H710,006, A
DATE PREPARED
12/20/73

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

WATER POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF HEALTH
 SANITARY ENGINEERING

For Department of Health Use Only

H710046.4
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COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF HEALTH
 SANITARY ENGINEERING
 WATER POLLUTION CONTROL
 MODULE 4 - WASTE LOAD AND CHARACTERISTICS

For Department of Health Use Only

Sample or Data Location - Continued	WASTE: <u>Cooling Tower Blowdown</u>		WASTE: <u>Make-up DM</u>		WASTE: <u>Mixed bed DM</u>		WASTE: <u>Softener</u>	
	LOCATION: <u>Waste Line Waste Stream A</u>		LOCATION: <u>Waste Line Waste Stream B</u>		LOCATION: <u>Waste Line Waste Stream C</u>		LOCATION: <u>Waste Line Waste Stream D</u>	
	<input type="checkbox"/> EXISTING <input checked="" type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	
	Waste Load		Waste Load		Waste Load		Waste Load	
Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	
<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	
18. DISSOLVED OXYGEN Mg/L	S	Sat	S Sat	Sat	S Sat	Sat	S	
19. TURBIDITY Units	S	< 10	S-M < 10	< 10	S-M < 10	< 10	S	
20. NITROGEN - AMMONIA Mg/L	S	S N/A	S N/A	S N/A	S N/A	S N/A	S	
21. NITROGEN - NITRITE Mg/L	S	N/A	S N/A	N/A	S N/A	N/A	S	
22. NITROGEN - NITRATE Mg/L	S	N/A	S N/A	N/A	S N/A	N/A	S	
23. PHOSPHATE (TOTAL SOLUBLE PO ₄) Mg/L	S	N/A	S N/A	N/A	S N/A	N/A	S	
24. SULFATE Mg/L	M	M 20,800	M 140	M 15340	M 102	M 125	M	
OTHER (Specify) (Give Units)								
Sodium Mg/L		9,100	60	7340	50	44,350		
Calcium Mg/L		860	6	9	.05	23,700		
Magnesium Mg/L		200	1.3	2	.01	5,500		
Silica Mg/L		170	1	8	.05	8		
Chloride Mg/L		570	4	6	.04	125,860		

RIVER WATER
 CONCENTRATED 1.8 TIMES
 DISCHARGED
 WITHOUT TREATMENT

See Main
 Outfall Analysis

B. DESCRIPTION OF SAMPLING PROCEDURE

1. FOR EACH WASTE LOAD ON TABLE II, DESCRIBE BELOW THE METHOD AND DATE(S) OF SAMPLING.

Cooling Tower Blowdown: N/A

Demineralizer and Softener Wastes:

These analyses are calculated from design data. Treated DM regenerants are diluted with cooling tower blowdown prior to discharge.

WATER POLLUTION CONTROL

For Department of Health Use Only

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

TABLE I - WASTE STATUS REPORT

TOTAL WASTE FLOW (MGD)		SOURCE OF WASTE:	SOURCE OF WASTE:	SOURCE OF WASTE:	SOURCE OF WASTE:
		Auxiliary Boiler Blowdown Waste Stream E	Rad-Waste Sys Discharge Waste Stream F	Combined Outfall Waste Stream	Steam Generator Blowdown Waste Stream K
		<input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	<input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	<input checked="" type="checkbox"/> A,B,C,D,E,F <input checked="" type="checkbox"/> FUTURE &K	<input type="checkbox"/> <input checked="" type="checkbox"/> FUTURE
1. TYPE OF WASTE		Alkalinity	Potentially Radioactive	Combined	Alkalinity
2. FLOW	A. MGD (AVERAGE)	0.0006	0.018	21.6	0.014
	B. MGD (MAXIMUM)	0.0012	0.020	28.1	0.014
3. WASTE DISCHARGE	A. TREATED SEPARATELY		Treated Separately		Treated Separately
	B. NOT TREATED	UNIT EXISTING UNIT PROPOSED		Not Treated	Unit Proposed
	C. COMBINED AND TREATED		Combined and Treated		
4. SEQUENCE OF TREATMENT STEPS		<input checked="" type="checkbox"/>	Collection	Collection	<input checked="" type="checkbox"/> Collection
		<input checked="" type="checkbox"/>	Neutralization	Evaporation*	<input checked="" type="checkbox"/> Evaporation
		<input checked="" type="checkbox"/>	Dilution	Demineralization*	<input checked="" type="checkbox"/> Demineralization
		<input checked="" type="checkbox"/>	Discharge	Filtration	<input checked="" type="checkbox"/> Filtration
		<input checked="" type="checkbox"/>		Dilution	<input checked="" type="checkbox"/> Dilution
		<input checked="" type="checkbox"/>		Discharge	<input checked="" type="checkbox"/> Discharge

*High Level
Wastes Only

A. GENERAL INFORMATION

1. WILL ALL LABORATORY ANALYSES BE IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER"? Yes No N/A
2. WILL THE TREATMENT PROCESS PRODUCE FOR EACH WASTE ABOVE A SATISFACTORY EFFLUENT THAT WILL HAVE NO ADVERSE EFFECT UPON THE RECEIVING STREAM OR ITS USES? Yes No N/A

ONLY SEWERAGE AND INDUSTRIAL WASTE APPLICANTS COMPLETE ITEM 3.

3. GIVE EXPECTED PERCENTAGE REDUCTION OF:
- A. BOD (5 DAY 20° CENTIGRADE) _____ % N/A
- B. SUSPENDED SOLIDS _____ % N/A
- C. SETTLEABLE SOLIDS (SEWAGE ONLY) _____ % N/A

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12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

WATER POLLUTION CONTROL

For Department of Health Use Only

TABLE II - WASTE LOAD CHARACTERISTICS

Sample Or Data Location	Aux. Boiler WASTE: <u>Blowdown</u>		Rad-Waste Sys WASTE: <u>Discharge</u>		Combined WASTE: <u>Outfall</u>		Steam Gen. WASTE: <u>Blowdown</u>		
	LOCATION: <u>Waste Line</u> <u>Waste Stream E</u>		LOCATION: <u>Waste Line</u> <u>Waste Stream F</u>		LOCATION: <u>Waste Line</u> <u>Waste Streams</u> <u>A, B, C, D, E, F</u> <u>EXISTING & K</u>		LOCATION: <u>Waste Line</u> <u>Waste Stream K</u>		
	<input checked="" type="checkbox"/> EXISTING	<input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING	<input type="checkbox"/> PROPOSED	<input type="checkbox"/> EXISTING	<input checked="" type="checkbox"/> PROPOSED	<input type="checkbox"/> EXISTING	<input checked="" type="checkbox"/> PROPOSED	
	Waste Load		Waste Load		Waste Load		Waste Load		
	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	
	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	
1. WASTE FLOW	Mgd	S M 0.0006	S M 0.0006	S M 0.003	S M 0.003	S M	S M 21.6	S M 0.014	S M 0.014
2. COLOR		N/A	N/A	N/A	N/A		N/A	N/A	N/A
3. TEMPERATURE	Deg.F	200	Ambient	200	Amb		Amb	200	Amb
4. pH		S M 10.6	S M 6-8.5	S M 4.2 - 10.5	S M 6-8.5	S M	S M 6-8.5	S M 9.0	S M 6-8.5
5. ALKALINITY (Minus for Acid)	Mg/L	S M 127	S M 12	S M 25	S M 10	S M	S M 10	S M 25	S M 10
6. SOLIDS - SUSPENDED	Mg/L	S M 250	S M < 25	S M 1.0	S M < 0.01	S M	S M 36	S M 5	S M 0.01
7. SOLIDS - SUSPENDED	Lbs/Cap/Day	S M N/A	S M N/A	S M N/A	S M N/A	S M	S M N/A	S M N/A	S M N/A
8. SOLIDS - SUSPENDED	Lbs/Day	S M 1.25	S M < .125	S M 0.03	S M < .001	S M	S M 6493	S M 0.58	S M 0.01
9. SOLIDS - SETTLEABLE	Mi/L	S M N/A	S M N/A	S M N/A	S M N/A	S M	S M N/A	S M N/A	S M N/A
10. SOLIDS - DISSOLVED	Mg/L	M 1200	M 8	M 1.0	M < 0.005	M	M 368	M 125	M 3
11. IRON - DISSOLVED	Mg/L	M 0	M 0	M 0	M 0	M	M -	M 0	M 0
12. IRON (Total)	Mg/L	M 12	M 0.08	M 0	M 0	M	M -	M 0	M 0
13. MANGANESE	Mg/L	M N/A	M N/A	M N/A	M N/A	M	M N/A	M N/A	M N/A
14. ALUMINUM	Mg/L	M N/A	M N/A	M N/A	M N/A	M	M N/A	M N/A	M N/A
15. BOD (5 Day 20° C)	Mg/L	S M < 1	S M < 1	S M < 1	S M < 1	S M	S M < 1	S M < 1	S M < 1
16. BOD (5 Day 20° C)	Lbs/Cap/Day	S M N/A	S M N/A	S M N/A	S M N/A	S M	S M N/A	S M N/A	S M N/A
17. BOD (5 Day 20° C)	Lbs/Day Net Added	S M 0	S M 0	S M 0	S M 0	S M	S M 0	S M 0	S M 0

4-28

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12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

WATER POLLUTION CONTROL

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

For Department of Health Use Only

Sample or Data Location - Continued	Aux. Boiler WASTE: Blowdown		Rad-Waste WASTE: Discharge		Combined WASTE: Outfall		Steam Gen. WASTE: Blowdown	
	LOCATION: Waste Line Waste Stream E		LOCATION: Waste Line Waste Stream F		LOCATION: Waste Line Waste Streams A, B, C, D E, F & K		LOCATION: Waste Line Waste Stream K	
	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input type="checkbox"/> EXISTING <input checked="" type="checkbox"/> PROPOSED		<input type="checkbox"/> EXISTING <input checked="" type="checkbox"/> PROPOSED	
	Waste Load		Waste Load		Waste Load		Waste Load	
	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated
	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.
18 DISSOLVED OXYGEN Mg/L	N/A	S N/A	N/A	S N/A	S N/A	S N/A	N/A	S N/A
19 TURBIDITY Units	---	S-M ---	0	S-M 0	0	S-M 0	0	S 0
20 NITROGEN - AMMONIA Mg/L	S 0.5	S 0	S 0	S 0	S 0	S 0	S 0.5	S 0
21 NITROGEN - NITRITE Mg/L	N/A	S N/A	N/A	S N/A	S N/A	S N/A	N/A	S N/A
22 NITROGEN - NITRATE Mg/L	N/A	S N/A	N/A	S N/A	S N/A	S N/A	N/A	S N/A
23 PHOSPHATE (TOTAL SOLUBLE PO ₄) Mg/L	S 50 - 80	S 0.6	S 0	S 0	S 0	S ---	S 75	S <1.5
24 SULFATE Mg/L	M 648	M 4.5	M 0	M 0	M 0	M 216	M 0	M 0
OTHER (Specify) (Give Units)								
Sodium Mg/L	460	3	0	0	0	47	7	<0.03
Calcium Mg/L	0	0	0	0	0	54	0	0
Magnesium Mg/L	0	0	0	0	0	12	0	0
Silica (SiO ₂) Mg/L	20	0.5	0	0	0	11	5	<0.02
Chloride Mg/L	0	0	0	0	0	36	0	0

B. DESCRIPTION OF SAMPLING PROCEDURE

1. FOR EACH WASTE LOAD ON TABLE II, DESCRIBE BELOW THE METHOD AND DATE(S) OF SAMPLING.

Auxiliary Boiler : Raw waste from sample drawn 3/29/73. Treated waste from design data. This analysis using soft water feed; values are expected to be much lower when condensate is used for makeup.

All Other Waste Streams: Analyses are from design data

12/20/73

WATER POLLUTION CONTROL

For Department of Health Use Only

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

TABLE I - WASTE STATUS REPORT

TOTAL WASTE FLOW (MGD)		SOURCE OF WASTE:	SOURCE OF WASTE:	SOURCE OF WASTE:	SOURCE OF WASTE:
		Screen Washwater Waste Stream G	Clarifier Blowdown Waste Stream H	Filter Backwash Waste Stream J	
		<input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	<input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	<input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	<input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE
1. TYPE OF WASTE		River Debris	Solids	Solids	
2. FLOW	A. MGD (AVERAGE)	0.22	.0096	.0112	
	B. MGD (MAXIMUM)	1.10	.0096	.022	
3. WASTE DISCHARGE	A. TREATED SEPARATELY	By Screening			
	B. NOT TREATED				
	C. COMBINED AND TREATED		Combined and Treated	Combined and Treated	
SEQUENCE OF TREATMENT STEPS		<input checked="" type="checkbox"/> UNIT EXISTING	Screening	Collection	Collection
		<input checked="" type="checkbox"/> UNIT PROPOSED	Discharge	Settling	Settling
				Discharge	Discharge

A. GENERAL INFORMATION

1. WILL ALL LABORATORY ANALYSES BE IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER"? Yes No N/A
2. WILL THE TREATMENT PROCESS PRODUCE FOR EACH WASTE ABOVE A SATISFACTORY EFFLUENT THAT WILL HAVE NO ADVERSE EFFECT UPON THE RECEIVING STREAM OR ITS USES? Yes No N/A

ONLY SEWERAGE AND INDUSTRIAL WASTE APPLICANTS COMPLETE ITEM 3.

3. GIVE EXPECTED PERCENTAGE REDUCTION OF:
- A. BOD (5 DAY 20° CENTIGRADE) _____ % N/A
- B. SUSPENDED SOLIDS _____ 99 (min) %
- C. SETTLEABLE SOLIDS (SEWAGE ONLY) _____ % N/A

TABLE II - WASTE LOAD CHARACTERISTICS

Sample Or Data Location	WASTE: <u>Screen Washwater</u>		WASTE: <u>Clarifier Blowdown</u>		WASTE: <u>Filter Backwash</u>		WASTE: _____	
	LOCATION: <u>Waste Line</u> <u>Waste Stream G</u>		LOCATION: <u>Waste Line</u> <u>Waste Stream H</u>		LOCATION: <u>Waste Line</u> <u>Waste Stream J</u>		LOCATION: _____	
	<input checked="" type="checkbox"/> EXISTING	<input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING	<input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING	<input type="checkbox"/> PROPOSED	<input type="checkbox"/> EXISTING	<input checked="" type="checkbox"/> PROPOSED
	Waste Load		Waste Load		Waste Load		Waste Load	
	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated
	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.
1. WASTE FLOW Mg/L	S M 0.22	S M 0.22	S M .0096	S M .0096	S M .0112	S M .0112	S M	S M
2. COLOR	N/A	N/A	N/A	N/A	N/A	N/A		
3. TEMPERATURE Deg F	Ambient	Amb	Amb	Amb	Amb	Amb		
4. pH	S M	S M	S M 6-9	S M 6-9	S M 6-9	S M 6-9	S M	S M
5. ALKALINITY (Minus for Acid) Mg/L	S M	S M	S M 15	S M 15	S M 15	S M 15	S M	S M
6. SOLIDS - SUSPENDED Mg/L	S M	S M	S M 2200- 5500	S M < 25	S M 420	S M < 25	S M	S M
7. SOLIDS - SUSPENDED Lbs/Cap/Day	S	S	S M N/A	S M N/A	S M N/A	S M N/A	S	S
8. SOLIDS - SUSPENDED Lbs/Day	S M	S M	S M 385 -- 966	S M < 4	S M 39	S M < 5	S M	S M
9. SOLIDS - SETTLEABLE MI/L	S M	S M	S M Unknown	S M < 0.1	S M Unknown	S M < 0.1	S M	S M
10. SOLIDS - DISSOLVED Mg/L	S M	S M	S M 215	S M 215	S M 215	S M 215	S M	S M
11. IRON - DISSOLVED Mg/L	S M	S M	S M 0	S M 0	S M 0	S M 0	S M	S M
12. IRON (Total) Mg/L	S M	S M	S M 1500-4000	S M < 7	S M 300	S M < 7	S M	S M
13. MANGANESE Mg/L	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M	S M
14. ALUMINUM Mg/L	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M	S M
15. BOD (5 Day 20° C) Mg/L	S	S	S M < 1	S M < 1	S M < 1	S M < 1	S	S
16. BOD (5 Day 20° C) Lbs/Cap/Day	S	S	S M N/A	S M N/A	S M N/A	S M N/A	S	S
17. BOD (5 Day 20° C) Lbs/Day net added	S	S	S M 0	S M 0	S M 0	S M 0	S	S

Analyses same as river water
 but with leaves, twigs, grass,
 and other river debris removed

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 DATE PREPARED
 12/20/73

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF HEALTH
 SANITARY ENGINEERING
 WATER POLLUTION CONTROL
 MODULE 4 - WASTE LOAD AND CHARACTERISTICS

For Department of Health Use Only

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12/20/73

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

MODULE 4 - WASTE LOAD AND CHARACTERISTICS
WATER POLLUTION CONTROL

For Department of Health Use Only

Sample or Data Location - Continued	WASTE: <u>Screen Washwater</u>		WASTE: <u>Clarifier Blowdown</u>		WASTE: <u>Filter Backwash</u>		WASTE: _____	
	LOCATION: <u>Waste Line</u> <u>Waste Stream G</u>		LOCATION: <u>Waste Line</u> <u>Waste Stream H</u>		LOCATION: <u>Waste Line</u> <u>Waste Stream J</u>		LOCATION: _____	
	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	
	Waste Load		Waste Load		Waste Load		Waste Load	
Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	
<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	
18. DISSOLVED OXYGEN	Mg/L	S	Sat	S	Sat	S	Sat	S
19. TURBIDITY	Units	S	200	S-M	10	S	200	S-M
20. NITROGEN - AMMONIA	Mg/L	S	N/A	S	N/A	S	N/A	S
21. NITROGEN - NITRITE	Mg/L	S	N/A	S	N/A	S	N/A	S
22. NITROGEN - NITRATE	Mg/L	S	N/A	S	N/A	S	N/A	S
23. PHOSPHATE (TOTAL SOLUBLE PO ₄)	Mg/L	S	N/A	S	N/A	S	N/A	S
24. SULFATE	Mg/L	M	M 125	M	125	M	125	M
OTHER (Specify) _____	(Give Units)							

Analyses same as river water but with leaves, twigs, grass and other river debris removed

B. DESCRIPTION OF SAMPLING PROCEDURE

1. FOR EACH WASTE LOAD ON TABLE II, DESCRIBE BELOW THE METHOD AND DATE(S) OF SAMPLING.

All Waste Streams: Analyses are estimates from design data.

LIQUID WASTE DISCHARGES

ATTACHMENT TO MODULE 4

NONRADIOACTIVE LIQUID WASTES

Nonradioactive wastes result from the operation of the water treatment system, screen wash water system, main steam boiler, auxiliary boiler, and the cooling tower. The water treatment system is comprised of a clarifier, filters, demineralizer system, water softener, and a waste collection and neutralization sump. The water treatment, screen wash, and auxiliary boiler systems are provided by Unit No. 1. The analyses presented in Module 4 of these waste streams are based on waste quantities produced solely by Unit No. 2 operation.

As operation of the waste treatment system is not necessary for safety, redundancy of all equipment has not been provided; however, duplicate 100 percent capacity pumps have been provided for each system to permit continuous operation during pump maintenance.

The following is a description of operation of Unit No. 1 systems which are necessary for Unit No. 2 operation.

Clarifier and Clarifier Filters

River water supplied to this system is pumped by either of two water treating supply pumps to the clarifier. Each of these pumps has a capacity of 1,100 gpm. The clarifier has a normal design flow of 750 gpm and a maximum rise rate of 1.25 gpm per sq ft. The excess pump capability is furnished to

supply sufficient clarified water to permit backwashing of one filter while still maintaining the required filtered water flow during periods of maximum demand. Chemicals are added to the clarifier to permit coagulation of suspended material and the elimination of any organic matter that might be present. These chemicals include clay, lime, ferric sulfate, a coagulant aid, and chlorine. From the clarifier the water flows by gravity to a bank of three gravity filters which removes any residual suspended material that might have been carried through the the clarifier. The filter design flow rate is 330 gpm per filter at a flow rate of 2 gpm per sq ft. Flow from the filters then goes to the individual pump suction tanks of the makeup demineralizer water system and the station domestic water system. Clarifier blowdown and filter backwash are directed to the clarifier waste sump.

Demineralizer System and Waste Collection Sump

The demineralizer train consists of a cation unit, anion unit, and mixed bed demineralizer. At maximum usage, it is expected that the cation and the anion units will be regenerated every 24 hr. However, the anticipated regeneration schedule during normal station operation will be much less and probably on the order of once every seven days. The mixed bed demineralizer serves as a polisher for the cation and anion effluent and will be regenerated approximately every 30 days during maximum usage. Under normal conditions of operation, the regeneration schedule may be reduced to once every 60-90 days. Regenerant chemicals from the cation and anion units are composed of dissolved salts and excess sulfuric acid diluted with approximately 6,900 gal of water

and excess 50 percent liquid sodium hydroxide diluted with 2,700 gal of water, respectively. The wastes from the mixed bed regeneration will consist of dissolved salts and excess sulfuric acid or excess sodium hydroxide diluted with 2,800 gal of water. These wastes will flow to the collection sump for neutralization and mixing before being discharged at 100 gpm into the cooling tower blowdown.

The waste collection sump has a capacity of approximately 20,000 gal. The sump pump will be started manually by the operator or automatically by sump level controls. It will be interlocked with the recirculation and dump valves so that the pump will not start if the recirculation valve is closed or the dump valve is open. The recirculation valve is spring-to-open and the dump valve is spring-to-close, thereby maintaining recirculation in the event of air failure.

During recirculation, the pH of the waste stream will be automatically sampled. A pH recorder-controller will operate either an acid or caustic control valve to add chemicals as required. Each of these air-operated valves will be spring-to-close for fail-safe operation in the event of air failure. The acid and caustic valves will each be interlocked to a set of timers. Each set will contain an adjustable timer of short duration (2-5 min) for chemical addition and an adjustable timer of approximately 60 min duration for delay purposes. A signal from the pH controller opening either valve will also start the associated feed timer. When this feed timer times out, the valve will close and the delay timer will be started. The operation of either delay timer will prevent the opening of either acid or caustic feed valve. After the delay timer has timed out, the chemical addition will be

repeated as required. The dump to waste will be automatically initiated when the pH is in the 6.0 to 8.5 range. Interlocks are provided so that discharge of wastes that are not within the acceptable pH range are prohibited.

Water Softener

Water for the station domestic water system is pumped from the softener pump suction tank by either of two inline pumps, each having a capacity of 350 gpm. The water is passed to either the water softener, which contains cation resin in the sodium form, or to the filtered water storage tank. At maximum usage, the softener will be regenerated every 24 hr, although during normal operation it will probably require regeneration only once every seven to ten days. The regeneration wastes consist of undissolved salts and 182 gal of excess sodium chloride diluted with 75 gal of water. These wastes will be discharged directly into the circulating water system at a flow rate of 18 gpm.

The backwash water and fast rinse water are also discharged to the circulating water system. These waters are essentially filtered and softened river water.

Auxiliary Boiler

During reactor shutdown, the two auxiliary boilers located on Beaver Valley Power Station - Unit No. 1 will provide station heating. Normal operation consists of only one boiler operating at a time. Operation will be about six weeks per year except during construction. The auxiliary boiler does

not replace the reactor as a thermal source for electrical power generation. Boiler blowdown will be directed to the chemical waste sump.

Untreated Wastes

The only chemicals not subject to treatment are the brine used for softener regeneration and the chlorine used to control biological fouling. During periods of softener regeneration, the brine waste is sent directly to the circulating water system at a low flow rate. Periods of softener regeneration will be no more frequent than once every 24 hr at maximum softener usage and only once every seven to ten days during normal operation. Brine waste discharge to the circulating water system during these regeneration periods will occur for only 15 min at a flow rate of 18 gpm.

Chlorination is carried out periodically on the condenser circulating water but precautions have been taken such that the concentration of free residual chlorine at the discharge structure will not exceed 0.1 ppm. This is done by analyzing the circulating water system at the condenser outlet water box during periods of chlorination. It is not anticipated that any other treatment will be used.

Cooling Tower

Makeup to the cooling tower will be from the service water system. Based on a service water system average flow of 27,000 gpm and maximum tower evaporation and drift losses of 12,000 gpm, a minimum cooling tower blowdown

of 15,000 gpm will be available. This will result in a circulating water concentration of about 1.8* times, which is equivalent to an average total dissolved solids concentration of 387 ppm, based on average river water concentration.

Summary

As in the case of other power stations, various chemicals will be utilized for maintenance of station water quality, corrosion inhibition, regeneration of demineralizers and softeners, and prevention of biological fouling of the condenser and other tubing. Thus, the chemicals will usually include sulfuric acid, sodium hydroxide, chlorine, hydrazine, morpholine, tri- and di-sodium phosphate, potassium chromate, sodium hypochlorite, ammonium hydroxide, boric acid, lithium hydroxide, clay, lime, ferric sulfate, and sodium chloride. Sulfuric acid and sodium hydroxide are collected in the chemical waste sump. The acid and caustic will be neutralized. At the point of discharge to the river, the chemical concentrations are well within the waste water criteria specified by the Commonwealth of Pennsylvania Department of Environmental Resources and ORSANCO.

*The quality of makeup, evaporation, drift, and blowdown vary with the river stage, meteorological conditions, and systems requirements. The above figures result in a maximum expected concentration of 1.8 times the normal river water concentration.

RADIOACTIVE LIQUID WASTES

The essence of the liquid waste disposal system is batch control of all liquids and a combination of piping design and tank capacity to allow a high degree of operating flexibility. This principle provides a variety of disposal methods appropriate to the activity and chemical content of the waste received and allows the Applicant to continue to reduce waste activity until it is suitable for release.

Liquid waste from Unit No. 2 is collected in one of two 7,500 gal liquid waste drain tanks. Liquid waste accumulated in these tanks is pumped to the high level liquid waste drain tanks in Unit No. 1 and processed. The fluid may also be processed by the Unit No. 2 steam generator blowdown evaporators. The distillate is sent to the evaporator test tanks, and concentrated waste is sent to the solid waste system and eventually hauled offsite.

The two waste drain tanks, each with a 7,500 gal capacity located in Unit No. 2, receive and store a portion of the liquid waste from the vent and drain system. Waste liquids directed to the tanks are those resulting from operating or maintenance procedures and which have entered the vent and drain system for either reuse or disposal. The liquids from Unit No. 2 ultimately sent to waste disposal are only a small portion of the total vent and drain flow, since most of the drain liquids are recovered by the process systems.

Steam Generator Blowdown System

The steam generator blowdown system provides a common collection facility for the feedwater blowdown from all six steam generators in both Units Nos. 1 and 2. The function of the system is to permit continuous feedwater blowdown for controlling solids concentration in the steam generators. The system also provides the evaporation equipment necessary for reclaiming the distillate for reuse in the secondary system and concentrating the bottoms for disposal.

Blowdown from the steam generators will consist of approximately 14,400 gal per day total, after flashing, of heated, slightly alkaline liquid. This blowdown will be directed to the Unit No. 2 blowdown tank reboiler where 85 to 90 percent of the liquid can be evaporated. The remaining concentrated liquid will then be pumped to hold tanks where it will be collected for processing in the steam generator blowdown evaporators. Vapor from the reboiler and blowdown hold tank is vented to the main condensers.

Steam Generator Blowdown Hold Tanks

Two 50,000 gal steam generator blowdown hold tanks are provided on Unit No. 2 with level indicators. The tanks are stainless steel tanks designed to ASME Section VIII of the Boiler and Pressure Vessel Code.

Liquid Waste Drain Tanks

Two 7,500 gal liquid waste drain tanks are provided with level indicators on Unit No. 2. In addition, the liquid waste accumulated in these tanks can be pumped to two 5,000 gal high level liquid waste drain tanks on Unit No. 1, for final processing within Unit No. 1 liquid waste disposal system prior to discharge. These are stainless steel tanks designed according to Section VIII of the ASME Boiler and Pressure Vessel Code.

Evaporator and Auxiliaries

Two externally heated forced circulation evaporators with a feed capacity of 20 gpm each are provided with Unit No. 2 treatment system. The evaporator shell is fabricated from a high nickel alloy in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code. Internals in the steam phase are fabricated from an austenitic stainless steel. To increase efficiency, a distillation tower is mounted on top of the evaporator.

The external heat source is a shell and tube steam reboiler fabricated from a high nickel alloy in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code, and TEMA Standards.

Distillate is condensed in a water cooled shell and tube condenser fabricated from austenitic stainless steel in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code and TEMA Standards.

The condensed distillate is held in the distillate accumulator. This tank is fabricated from austenitic stainless steel in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code. A distillate cooler is provided to further cool the distillate. The distillate cooler is fabricated from austenitic stainless steel in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code and TEMA Standards.

Evaporator Test Tanks

Two evaporator test tanks, each of 18,000 gal capacity, with level indicators are provided on Unit No. 2. The tanks are designed according to ASME Section VIII.

Evaporator Ion Exchanger

Two evaporator ion exchangers are provided on Unit No. 2 for evaporator distillate cleanup. The ion exchangers are fabricated from austenitic stainless steel in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code.

Auxiliary and Waste Handling Building Sumps

All radioactive and potentially radioactive leakage or drainage collected in the auxiliary building and waste handling building sumps will be pumped to the liquid waste disposal system. The liquid is kept sufficiently segregated from

operating personnel and the public so as to pose no radiation hazard. Redundant sump pumps are provided in critical areas to ensure reliability of performance and function.

Pumps

Centrifugal frame mounted pumps with single or double mechanical seals are provided. External cooling and seal water are supplied to radioactive pump services as required.

Summary

All potentially radioactive liquid effluent discharge from the unit is passed through filters; processed liquid effluent can pass through demineralizers if necessary. A decontamination factor of 10^5 or better is expected from the evaporator ion exchanger combination used in the liquid waste disposal system.

Discharges can be directed to either Unit No. 1 or Unit No. 2 blowdown and will not be made if a cooling tower system is not in operation; therefore, dilution will always be available.

It is therefore concluded that the installed system ensures that the liquid effluent releases will be reduced to the lowest practicable limits and will not exceed the dose limits specified in 10CFR20 and the dose limits delineated in the Commonwealth of Pennsylvania Department of Environmental Resources Article V, "Radiological Health," dated March 1, 1972.

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**WATER POLLUTION CONTROL
MODULE 8 - PUMPING FACILITIES**

(Do Not Use This Module For Sewage Pumping Stations)

For Department of Health Use Only

TABLE I - LIST ALL THE PUMPS IN THE FACILITY. CLASSIFY EACH PUMP ACCORDING TO THE CLASSIFICATION KEY AND ANSWER ALL RELEVANT QUESTIONS.

NUMBER OF IDENTICAL PUMPS	CLASSIFICATION KEY (Indicate By Letter)	Classification Key				Check Columns That Apply To Each Pump						Pump Capacity		Wet Well Or Sump				
		INDICATE POINT OF SUCTION	MAXIMUM SUCTION HEAD (FT.)	SPECIFY POINT OF DISCHARGE	FORCE MAIN VELOCITY (FPS.)	EXISTING	PROPOSED	VARIABLE SPEED	CONSTANT SPEED	AUTOMATIC CONTROL	MANUAL CONTROL	PNEUMATIC EJECTOR	STANDBY OPERATION	(GPM.)	TDH (FT.)	TOTAL CAPACITY (GAL.)	EFFECTIVE CAPACITY (GAL.)	DETENTION PERIOD (MIN.)
3	G	River	24	Circulating Water Sys	9.2	X		X	X	X	X		9000	155			River Intake Structure	
2	G	River	9	Raw Water Header	7.3	X		X	X	X	X		16000	90			River Intake Structure	
2	H	Raw Water Header	28	River	8.7	X		X	X	X			770	210			Inline Pump	
2	B/E	Chemical Waste Sump	9	CoolingTwr Blowdown	2.6	X		X	X	X			100	23	20,000	15,000	Note 1	
1	A	Clarifier Waste Sump	5	Settling Basin	8.9	X		X	X	X			1400	70	1400	1350	Note 2	
2	E	LoLevel Waste Tk	6	CoolingTwr Blowdown	1.4	X		X	X	X			30	99	2000	1800	Note 3	
2	E	Contamnted Drain Tk	-6	CoolingTwr Blowdown	1.8	X		X	X	X			10	90	1300	1000	Note 3	
2	E	Evap Test Tk	3	CoolingTwr Blowdown	2.3	X		X	X	X			50	79	3000	2800	Note 3	
3	G	River	24	Circulating Water Sys	6.8	X		X	X	X	X		15,000	155			River Intake Structure	
2	E	Evap Test Tk	25	CoolingTwr Blowdown	4.7	X		X	X	X			100	118	3000	2800	Note 3	
<p>Notes: (1) Chemical Waste Sump used for recirculation and for pumping treated effluent wastewaters to the cooling tower blowdown, minimum retention time in sump is 60 minutes.</p> <p>(2) Clarifier Waste Sump serves only to collect wastes for pumping to settling basin.</p> <p>(3) Detention time unfixed - pump administratively controlled</p>																		

WATER POLLUTION CONTROL

MODULE 13 - SETTLING TANKS

For Department of Health Use Only

TABLE I IDENTIFY FUNCTION AND SEQUENCE IN THE PROCESS USED.		Blowdown Settling Basin	UNIT _____	UNIT _____	UNIT _____
		UNIT <input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED
		<input type="checkbox"/> Primary <input type="checkbox"/> Intermediate <input checked="" type="checkbox"/> Final	<input type="checkbox"/> Primary <input type="checkbox"/> Intermediate <input type="checkbox"/> Final	<input type="checkbox"/> Primary <input type="checkbox"/> Intermediate <input type="checkbox"/> Final	<input type="checkbox"/> Primary <input type="checkbox"/> Intermediate <input type="checkbox"/> Final
1.	CONSTRUCTION MATERIAL (Indicate)	Concrete			
DIMENSIONS	A. LENGTH (Ft)	25			
	B. WIDTH (Ft)	15			
	C. DIAMETER (Ft)	N/A			
	D. OWD Depth (Ft)	14.5			
	E. FREEBOARD (Ft)	2.5			
3.	CLEANING METHOD: A. MECHANICAL (Flight Travel Rate Or Tip Speed In Ft/Min)				
	B. NON-MECHANICAL	Manual			
	HYDRAULIC LOADING DURING RUN-OFF PERIOD	.021			
	A. FORWARD FLOW (Mgd)				
	B. RECIRCULATION FLOW (If Applicable) (Mgd)	None			
	C. TOTAL FLOW (A + B) (Mgd)	.021			
DESIGN INFORMATION	A. CAPACITY	(1) GALLONS	33,500		
		(2) TOTAL	COMPUTE THE TOTAL FOR ALL UNITS AND ENTER HERE		33,500
	B. DETENTION TIME (Hrs)	(1) AVERAGE	36		
		(2) MINIMUM	36		
	C. SURFACE SETTLING RATE (Gal/Day/Sq Ft)	(1) AVERAGE	58		
		(2) MAXIMUM	58		
	D. WEIR OVERFLOW RATE (Gal/Ft/Day)	(1) AVERAGE	840		
		(2) MAXIMUM	840		
A. WASTES ENTER BY	(1) PUMPING	From clarif waste sump			
	(2) GRAVITY				
B. WASTES LEAVE BY	(1) PUMPING				
	(2) GRAVITY	Overflow to River			

12/20/73

WATER POLLUTION CONTROL
MODULE 13 - SETTLING TANKS

For Department of Health Use Only

A. GENERAL INFORMATION

1. DESCRIBE METHOD OF SCUM REMOVAL AND DISPOSAL (If To Land or Earthen Basins, Complete Module 5)

None - no floating scum expected

2. DESCRIBE METHOD AND FREQUENCY OF SLUDGE REMOVAL AND METHOD AND LOCATION OF SLUDGE DISPOSAL:
(If To Land or Earthen Basins, Complete Module 5)

Anticipated frequency of sludge removal every 60 days. Pumped out
by certified contractor for off-site disposal.

3. IS THE INLET DESIGNED TO PROVIDE ADEQUATE FLOW DISTRIBUTION ACROSS EACH UNIT?

Yes No

4. ARE THE WEIRS ADJUSTABLE?

Yes No

ONLY SEWERAGE APPLICANTS Complete Items 5 Through 8 N/A

5. PROVISIONS FOR VIEWING AND SAMPLING SLUDGE:

6. IF SUBMERGED PORTS ARE USED ON INLETS, HAS PROVISION BEEN MADE TO ELIMINATE OR REMOVE FLOATING MATERIAL?

Yes No N/A

7. DOES EACH SLUDGE HOPPER HAVE AN INDIVIDUALLY VALVED WITHDRAWAL LINE?

Yes No

A. MINIMUM DIAMETER OF WITHDRAWAL LINES IS _____ INCHES.

B. HEAD FOR SLUDGE WITHDRAWAL IS _____ FEET.

8. THE SIDE WALLS OF:

A. PYRAMIDAL HOPPERS HAVE A MINIMUM SLOPE OF _____ VERTICAL TO _____ HORIZONTAL.

B. CONICAL HOPPERS HAVE A MINIMUM SLOPE OF _____ VERTICAL TO _____ HORIZONTAL.

C. DEPTH OF HOPPER IS _____ FEET.

D. HORIZONTAL DIMENSIONS OF HOPPER BOTTOM ARE _____ FEET BY _____ FEET.

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WATER POLLUTION CONTROL

Module 18 - Chemical Treatment (Including Feeders)
(Do Not Use To Describe Disinfection Facilities)

For Department of Health Use Only

A. CHEMICAL TREATMENT

1. TYPE OF PROCESS:

- Batch
- Continuous

- Neutralization
- Acid Cracking of Emulsion
- Oxidation
- Precipitation

- Reduction
- Other (Specify) _____

2. DESCRIBE PROCESS: Spent demineralizer regenerants are collected in a 20,000 gallon neutralization tank. Automatic controls introduce sulfuric acid or caustic as required to provide a tank effluent pH of 6 - 8.5. The discharge is continuously monitored and will automatically terminate should the pH reach a limiting value.

3. TIME REQUIRED FOR PROCESS IS 60 - 100 MINUTES.

Times are adjustable by operator since this is a batch process.

4. DETENTION TIME PROVIDED IN REACTION UNIT IS 120 - 1,400 MINUTES.

5. OF WHAT MATERIAL IS THE REACTION UNIT CONSTRUCTED? Concrete lined with acid resistant brick

6. IS THE MATERIAL IN ITEM 5 COMPATIBLE WITH THE RAW AND TREATED WASTE AND CHEMICALS USED?

Yes No

7. WILL THE PROCESS RESULT IN THE PRECIPITATION OF SOLIDS?

Yes No

A. IF YES, WILL THE SOLIDS BE RETAINED IN THE REACTION UNIT?

Yes No N/A

B. IF NO, WILL A SETTLING UNIT BE PROVIDED FOR SOLIDS REMOVAL?

Yes No N/A

C. IF SOLIDS WILL BE RETAINED IN THE REACTION UNIT, DESCRIBE METHOD AND FREQUENCY OF SOLIDS REMOVAL AND LOCATION OF SOLIDS DISPOSAL (If To Land, Complete Module 5):
N/A

8. WILL THE PROCESS INCREASE TOTAL SOLIDS?

Yes No

A. IF YES, SPECIFY INCREASE: 2600 MILLIGRAMS PER LITER.

9. WILL CHEMICALS USED IN THE TREATMENT PROCESS PRODUCE ODORS OR TOXIC GASES?

Yes No

A. IF YES, ARE MEASURES BEING TAKEN TO CONTROL HAZARDS AND NUISANCES TO EMPLOYEES AND SURROUNDING POPULATION?

Yes No N/A

B. IF METHODS ARE PROVIDED, INDICATE: N/A

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WATER POLLUTION CONTROL

Module 18 - Chemical Treatment (Including Feeders)
(Do Not Use To Describe Disinfection Facilities)

For Department of Health Use Only

A. CHEMICAL TREATMENT - CONTINUED

10. IS CHEMICAL STORAGE AREA LARGE ENOUGH TO STOCK AMPLE SUPPLY OF CHEMICALS?

Yes No

11. IS CHEMICAL STORAGE AREA PROTECTED TO PREVENT ACCIDENTAL DISCHARGE OF HAZARDOUS MATERIALS?

Yes No

12. EFFLUENT CHARACTERISTICS FROM CHEMICAL TREATMENT UNIT(S) WILL BE:

Neutralized Demineralizer Regenerants

pH 6.0 - 8.5
Turbidity 0
Total Dissolved Solids .. 36,300 - 39,700 Mg/L
Sulfate 23,700 - 26,800 Mg/L

See module 4

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WATER POLLUTION CONTROL

Module 18 - Chemical Treatment (Including Feeders)
(Do Not Use To Describe Disinfection Facilities)

For Department of Health Use Only

B. CHEMICAL FEEDERS AND CHEMICALS USED IN THE PROCESS

TABLE I

Feeder	Existing	Proposed	CHEMICAL NAME OR TRADE NAME	DOSAGE (MG/L)	APPLICATION POINT	CAPACITY		Manual	Auto	Starchy
						Lbs/Day	Range			
1.	X		50% Liquid Caustic	6,000	Neutralization Sump	Gravity	Feed	X	X	
2.	X		66% Sulfuric Acid	6,000	Neutralization Sump	Gravity	Feed	X	X	
3.										
4.										
5.										

Caustic or acid is added automatically provided
DESCRIBE METHOD OF CONTROL OF FEED RATE: sump pump is running and waste pH is not 6.0 to 8.5
respectively. Acid or caustic can only be added when pump is recirculating waste
back to the sump. Waste pH is measured by a pH recorder-controller which initiates
chemical feed. Amount of chemicals fed is limited by adjustable timers which:

- (a) Control time that the chemical valve is open, and
- (b) Provide timed period during which no chemicals can be added so as to
obtain a stable solution before the next pH adjustment is made.

A stable pH within acceptable range for adjustable timed period will then permit
dumping waste to receiving stream.

DESCRIBE LOCATIONS OF CONTROL POINTS IN FLOW STREAM:

pH recorder-controller and grab sample points located at the sump
pump discharge in common line to recirculation and overboard
discharge lines.

12/20/73

WATER POLLUTION CONTROL
MODULE 27 - HEATED WASTES

For Department of Health Use Only

A. GENERAL INFORMATION

1. NAME OF RECEIVING Stream
 Lake
 Estuary Ohio River

2. AT POINT OF DISCHARGE:

A. STREAM WIDTH AT MINIMUM 7-DAY, ONCE-IN-10-YEAR FLOW IS 470 FEET. (See Module 2, Page 6)
B. AVERAGE STREAM DEPTH AT MINIMUM 7-DAY, ONCE-IN-10-YEAR FLOW IS 7 FEET. (Back Channel)
C. IS THE STREAM SUITABLE FOR TROUT? Yes No

3. AT MINIMUM 7-DAY, ONCE-IN-10-YEAR FLOW (6500 Cfs): From ORSANCO Regulations

A. AVERAGE STREAM TEMPERATURE IS 57 DEGREES FAHRENHEIT. 1970 Average

(1) AT THIS FLOW AND TEMPERATURE, HEAT CAPACITY OF STREAM Below 87 Degrees F.
 Below 86 Degrees F. (Delaware Estuary)
 Below 58 Degrees F. (trout stream)
IS 43.9×10^9 BTU/HR.

4. MAXIMUM STREAM TEMPERATURE OF RECORD IS 86 DEGREES FAHRENHEIT. 8-3-57
A. AT THIS TEMPERATURE, THE AVERAGE FLOW OF RECORD IS 6880 CFS. 8-3-57 USGS Water Quality Records

(1) AT THIS FLOW AND TEMPERATURE, HEAT CAPACITY OF STREAM Below 87 Degrees F.
 Below 86 Degrees F. (Delaware Estuary)
 Below 58 Degrees F. (trout stream)
IS 15.45×10^8 BTU/HR.

5. SELECT, BETWEEN ITEMS 3 AND 4 ABOVE, WHICH IS LESS OR OTHER COMBINATIONS OF FLOW AND TEMPERATURE KNOWN TO BE MORE CRITICAL. (Flow: 6880 Cfs; Temp: 86 Degrees F.)

15.45×10^8 BTU/HR

6. HEAT TO BE REJECTED TO STREAM Above 87 Degrees F.
 Above 86 Degrees F. (Delaware Estuary)
 Above 58 Degrees F. (trout stream)
IS Zero BTU/HR.
After Complete Mixing

7. AT THE MOST CRITICAL CONDITION, THE TEMPERATURE OF WASTES AND THE RECEIVING STREAM, AFTER COMPLETE MIXING, WILL BE 86.2 DEGREES FAHRENHEIT.

8. PROVIDE SKETCH OF MIXING ZONE WITHIN WHICH THE ALLOWABLE TEMPERATURE OF 87 Degrees F.
WILL BE EXCEEDED. Attached 86 Degrees F. (Del. Estuary)
 58 Degrees F. (trout stream)

A. THE ESTIMATED DISTANCE REQUIRED TO ACHIEVE COMPLETE MIXING IS N/A FEET.

B. THE WIDTH OF THE MIXING ZONE WILL BE See Fig. 27-1 FEET.

C. IF DISCHARGE IS EXISTING, PROVIDE ACTUAL TEMPERATURE DATA. N/A

H710.046.27
 DATE PREPARED
 12/20/73

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF HEALTH
 SANITARY ENGINEERING

WATER POLLUTION CONTROL
 MODULE 27 - HEATED WASTES

For Department of Health Use Only

A. GENERAL INFORMATION - CONTINUED

9. WILL A PATHWAY FOR THE PROTECTION OF AQUATIC LIFE BE MAINTAINED IN THE STREAM IF THE PROPOSED QUANTITY OF HEAT IS REJECTED AT CRITICAL FLOW AND TEMPERATURE CONDITIONS? Yes No
10. WILL THE TEMPERATURE OF THE STREAM, AFTER MIXING, AT ANY TIME BE RAISED MORE THAN 5 DEGREES FAHRENHEIT BY THE HEATED DISCHARGE? Yes No
11. WILL THE TEMPERATURE OF THE STREAM, AFTER MIXING, AT ANY TIME BE RAISED MORE THAN 2 DEGREES FAHRENHEIT DURING ANY ONE-HOUR PERIOD BY THE HEATED DISCHARGE? Yes No
12. WILL THE QUANTITY OF HEAT REJECTED TO THE STREAM BE REDUCED OR CONTROLLED BY THE USE OF TEMPERATURE-REDUCING UNITS OR PRACTICES?
 Natural Draft Cooling Tower Yes No
13. WILL THE HEATED WASTE DISCHARGE CONTAIN OTHER WASTE CONSTITUENTS REQUIRING PERMIT, BUT FOR WHICH NO PERMIT IS IN FORCE? All other waste discharges requiring permit are covered in this application Yes No
14. ARE THERE ANY OTHER DISCHARGES OF HEATED WASTES TO THE SAME BODY OF WATER IN THE VICINITY? Shippingport Atomic Power Station
 Beaver Valley Power Station Unit No. 1 Yes No

TABLE I		UNIT <u>Cooling Tower</u>	UNIT _____	UNIT _____
IF TREATMENT UNITS WILL BE EMPLOYED, INDICATE:		<input checked="" type="checkbox"/> Existing <input type="checkbox"/> Proposed	<input type="checkbox"/> Existing <input type="checkbox"/> Proposed	<input type="checkbox"/> Existing <input type="checkbox"/> Proposed
TYPE (Lagoons, Cooling Towers, Spray Ponds, Etc.)		Cooling Tower		
ESSENTIAL DIMENSIONS (Length, Width, Area, Etc.)		501 Ft Height 446 Ft Diameter (Base)		
WATER APPLIED TO UNIT	Gpm	507,400 Design		
	Temperature (Deg. F.)	80 - 115°F		
WATER LEAVING UNIT	Gpm	480,400 Design		
	Temperature (Deg. F.)	55 - 90°F		
HEAT DISSIPATED BY UNIT	Btu/Hr	6.25 X 10 ⁹ Design		
TOTAL HEAT DISSIPATED BY ALL UNITS	Btu/Hr			6.25 X 10 ⁹

ATTACHMENT TO MODULE 27

The water quality standards governing heat discharges are those contained in Title 25 Pennsylvania Department of Environmental Resources (PDER) Rules and Regulations, and Pollution Control Standards No. 1-70 and 2-70, adopted by the Ohio River Valley Water Sanitation Commission (ORSANCO) on November 13, 1970. Both regulations allow for a 5 F rise in the entire river in the area of discharge. Since the combined discharge from Shippingport and Beaver Valley Unit 1 and 2 is several times less than required to create this situation, for the purpose of this discussion we will consider the characteristics of plumes defined by the 5 F isotherm, or the maximum allowable temperature, whichever is the limiting case.

The conditions that would have produced the largest plume existed on March 29, 1951. Blowdown temperature would have been 77 F with a flowrate of 76.5 cfs. The river flowrate was 49,600 cfs, as compared to the average for March of 76,700 cfs, and the ambient river temperature was 37 F.

Model studies were conducted to determine the thermal patterns in the river created by the combined discharge of Shippingport Power Station and Beaver Valley Power Station Units 1 and 2. Shippingport discharge was set at 254 cfs with a 14.5 F rise. The results of model study tests for a 40 F rise condition are plotted in Figure 27-1 based on 5,000 cfs river flow. The area depicted by the isotherm is very conservative, using a 49,600 cfs river flow, plume size would be significantly less.

Mixing Zone defines the limit of temperatures in excess of 5° above ambient for each water depth

DEPTH OF ISOTHERMS: 1 FT.

Mixing Zone Increase
Due To BV-2 Discharge

Limit of Mixing Zone Due to Discharge
From Shippingport and BV-1 Alone

BEAVER VALLEY INTAKE - 0.1°

SHIPPINGPORT INTAKE - 0.3°

SHIPPINGPORT DISCHARGE 14.9°
BEAVER VALLEY DISCHARGE 39.7°

DEPTH OF ISOTHERMS 3 FT.

Limit of Mixing Zone
All Units Operating

BEAVER VALLEY INTAKE

SHIPPINGPORT INTAKE

SHIPPINGPORT DISCHARGE
BEAVER VALLEY DISCHARGE

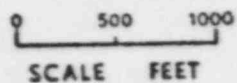
BEAVER VALLEY MODEL STUDY

Test No. 122 Stage 5

River Flow 5000 cfs

Shippingport Flow 254 cfs
 ΔT 15.2°

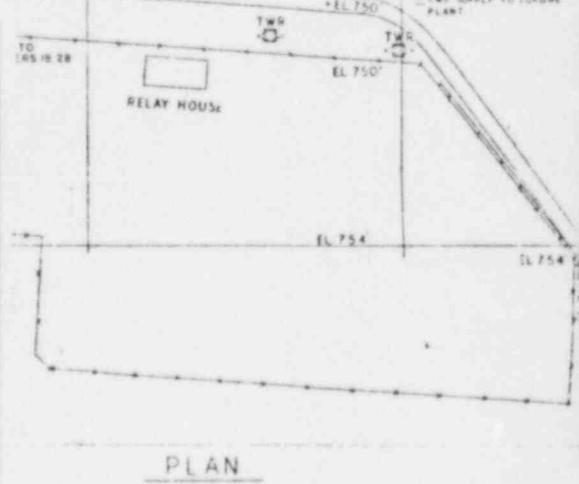
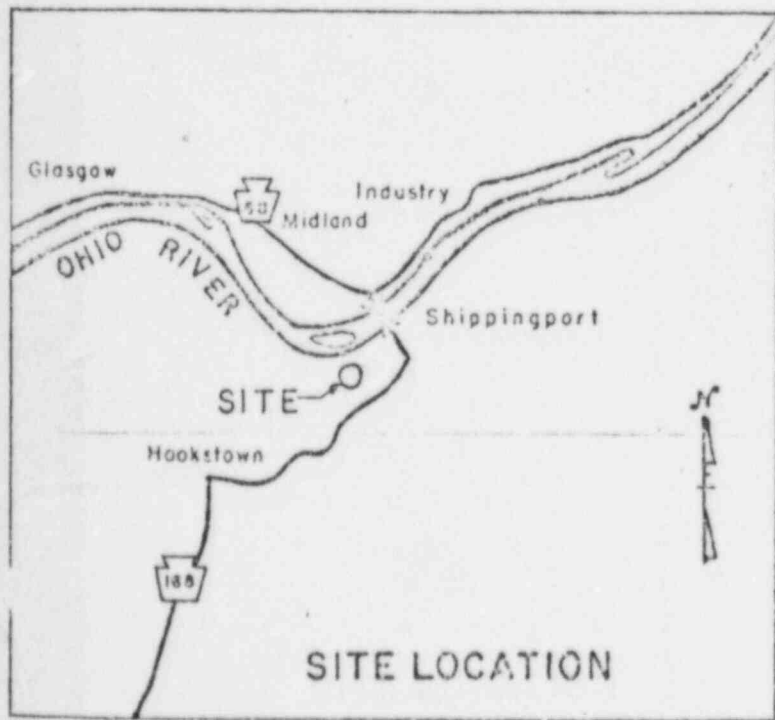
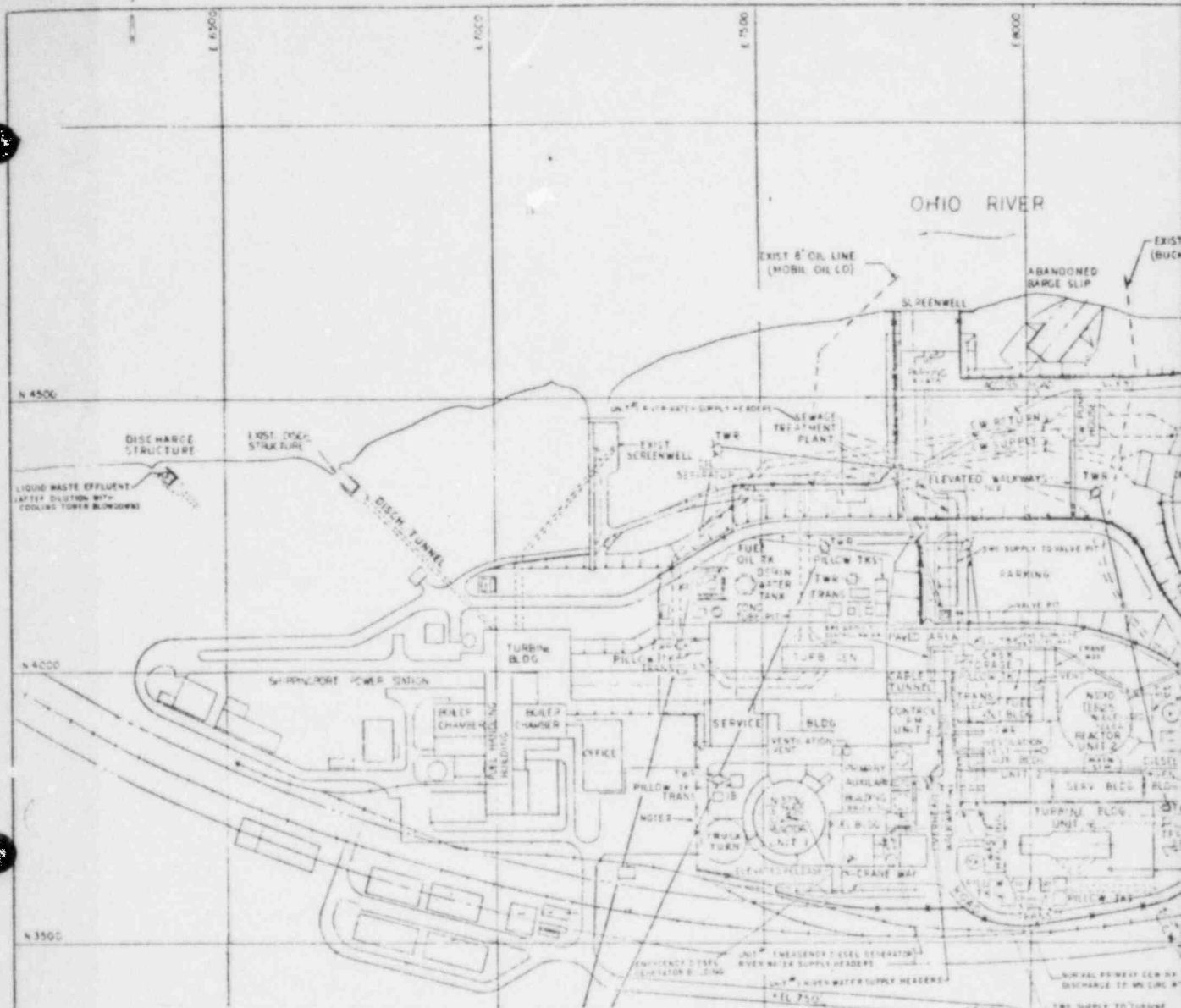
Beaver Valley Flow 72 cfs
 ΔT 39.8°

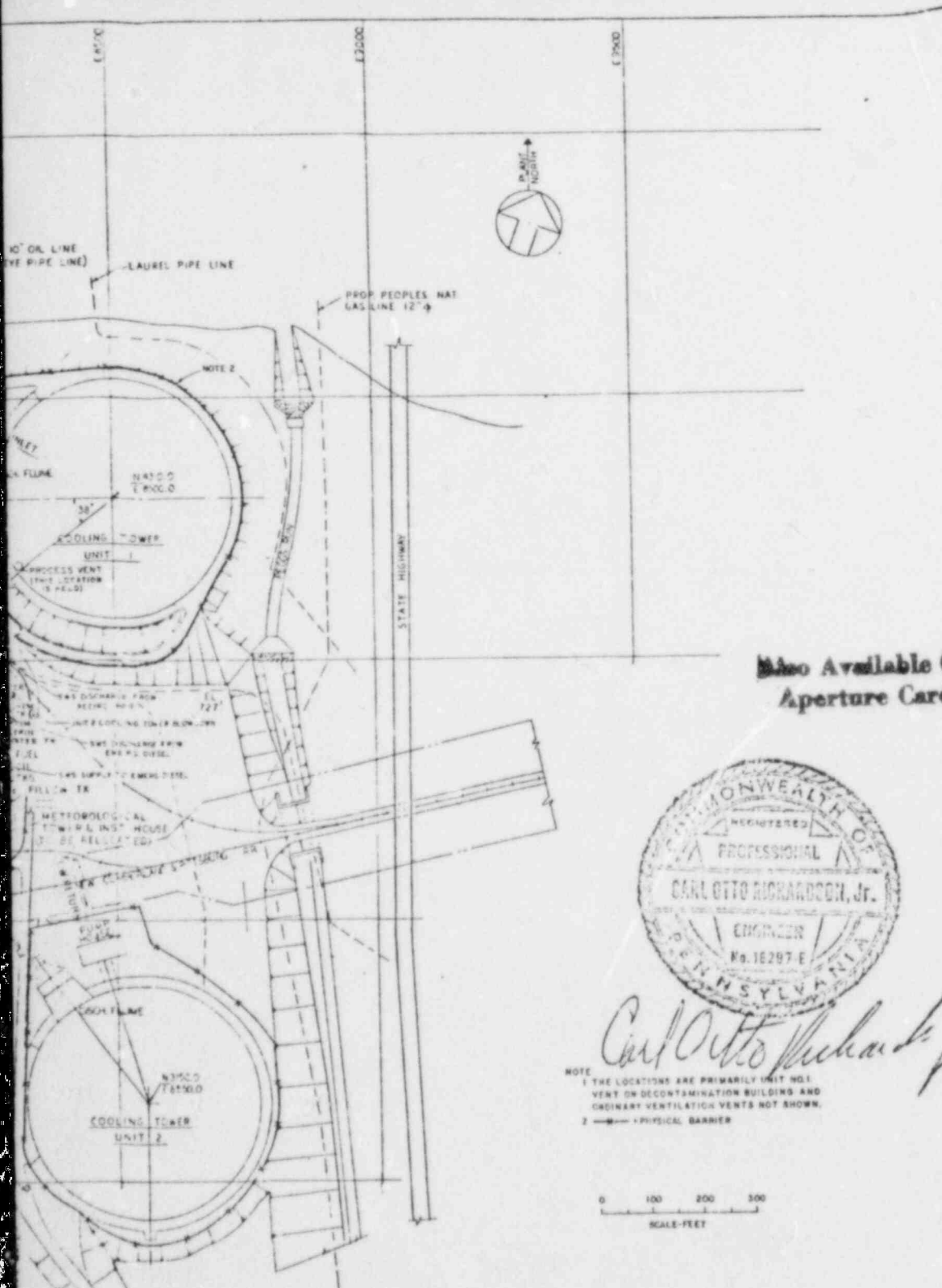


THERMAL DISCHARGE

MIXING ZONE

Figure 27-1





Also Available On
Aperture Card



Carl Otto Richardson, Jr.

NOTE
1 THE LOCATIONS ARE PRIMARILY UNIT NO. 1 VENT OR DECONTAMINATION BUILDINGS AND ORDINARY VENTILATION VENTS NOT SHOWN.
2 ——— PHYSICAL BARRIER

0 100 200 300
SCALE-FEET

FIG. 27-2
WATER-WASTEWATER FACILITIES
GENERAL ARRANGEMENT
BEAVER VALLEY POWER STATION
DUQUESNE LIGHT COMPANY

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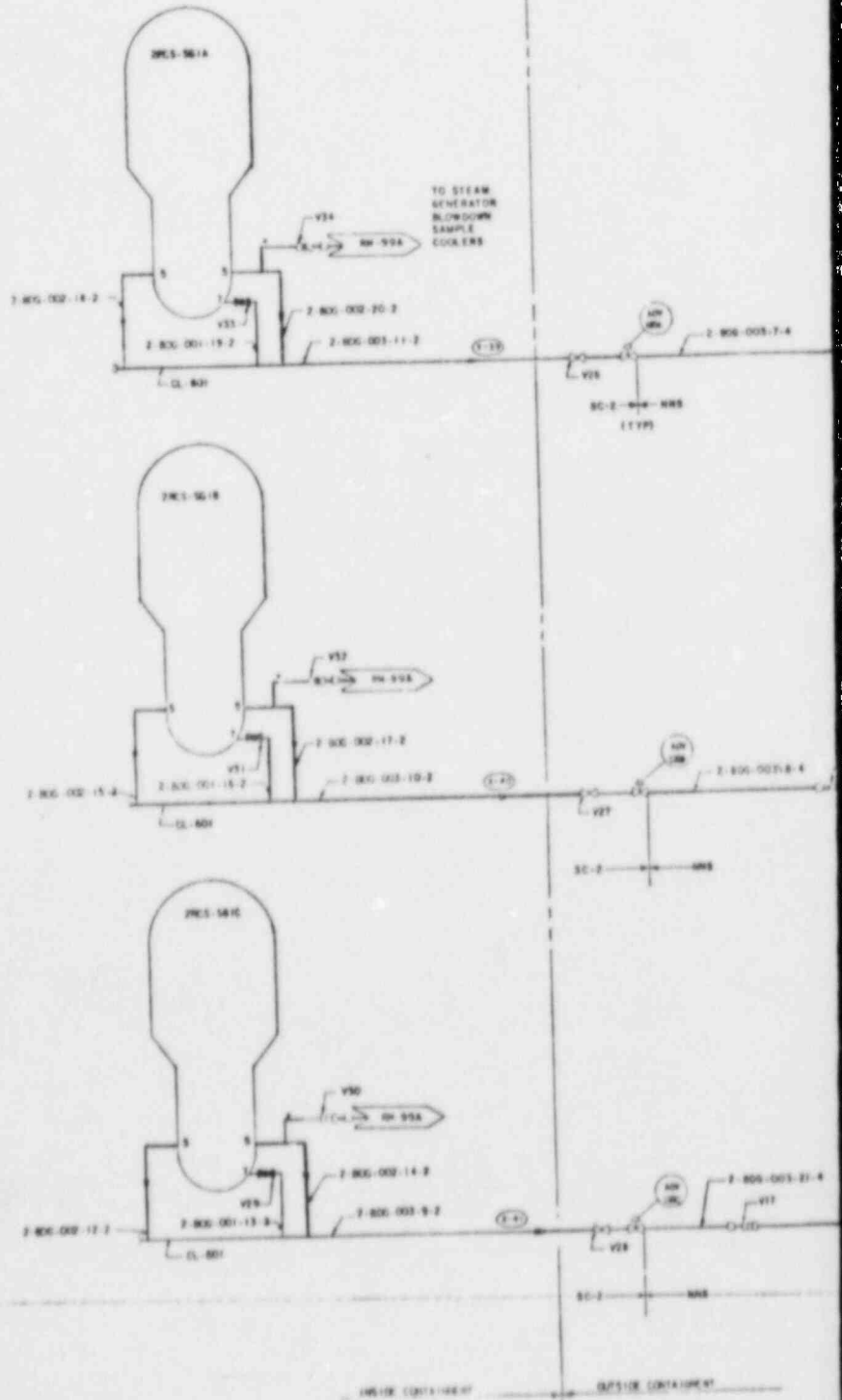
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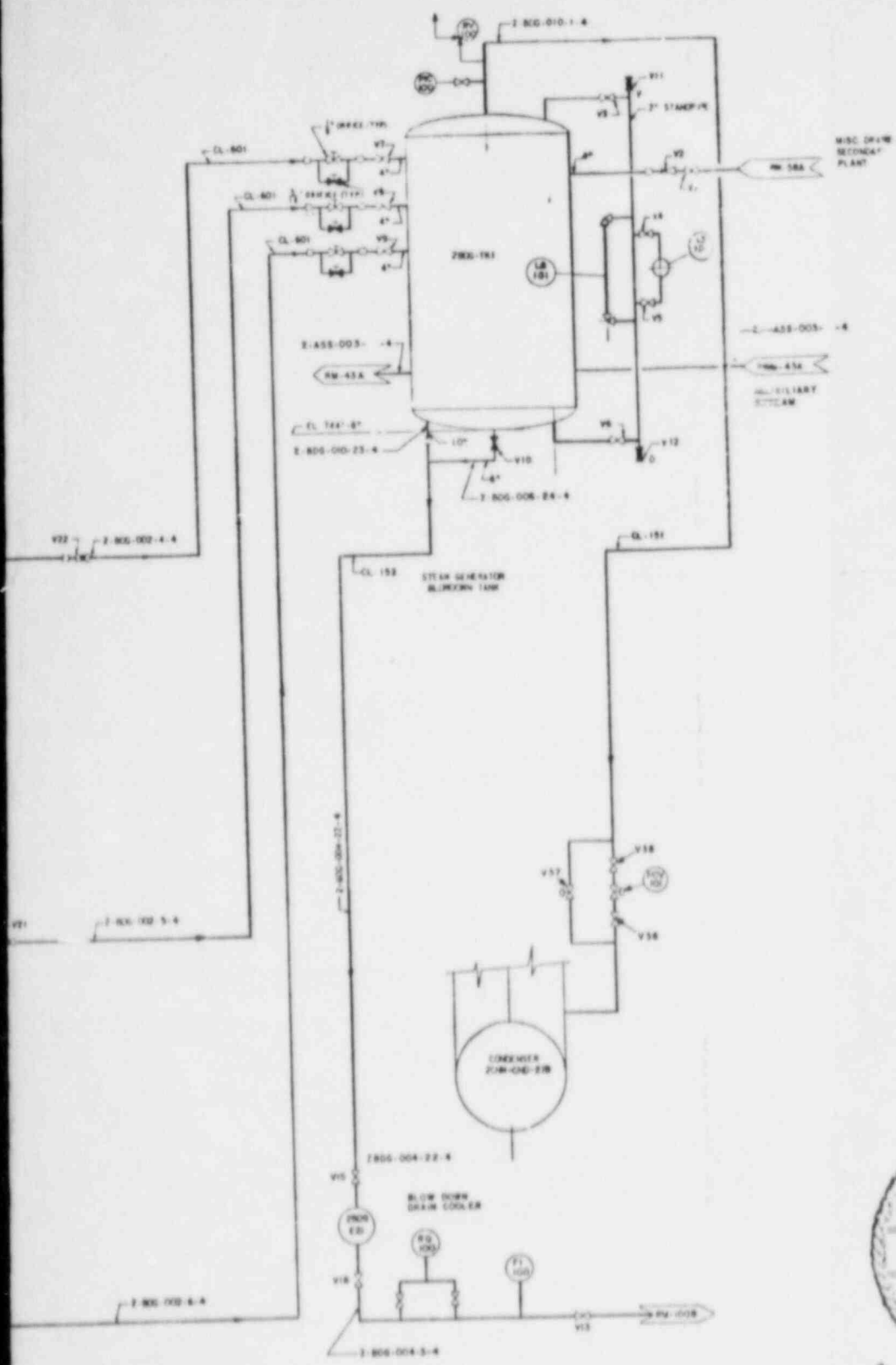
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STEAM
GENERATOR



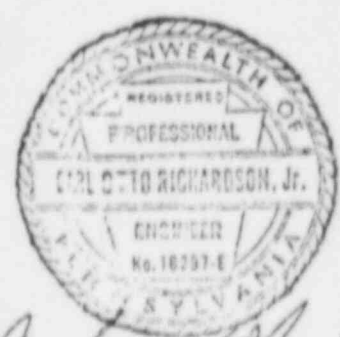
RM No. LEGEND

RM No.	FIG No.	RM No.	FIG No.	RM No.	FIG No.	RM No.	FIG No.	RM No.	FIG No.	RM No.	FIG No.	RM No.	FIG No.	RM No.	FIG No.
16A	103-1	18A	105-A	21D	99-3	22D	98-A	25A	99-2	32A	99-1	34B	97-2	37A	97-1
16A	103-1	21A	95-A	22A	94-1	22E	94-0	25A	92-1	32B	99-2	34C	97-3	37B	97-2
16B	103-2	21B	95-1	22B	94-2	22F	94-0	25B	92-2	33A	97-1	35A	94-1	38A	93-1
17A	103-3	21C	95-2	22C	94-3	25A	92-1	27A	95-1	34B	97-1	35B	94-2	38B	93-2



VALVE IDENTIFICATION	MARK NAME	PIPE SIZE	QUANTITY
V11, 12	VALVE C-3	1"	2
V13, 5	VALVE B-5	1"	2
V17, 18	VALVE B-5	2"	2
V2	VALVE B-5	2"	1
V7, 8, 9	VALVE B-5	2"	3
V10	VALVE A-3	2"	1
V11	VALVE A-3	2"	1
V14	VALVE A-3	2"	1
V15	VALVE A-3	2"	1
V16, V18, 20, 21, 24, 25, 27, 28	VALVE C-3	2"	9
V33, 19, 23	VALVE C-3	2"	3
V17, 27, 22	VALVE C-3	2"	3
V29, 31, 32	VALVE B-5	1"	3
V30, 32, 34	VALVE C-4	1"	3

Also Available On Aperture Card

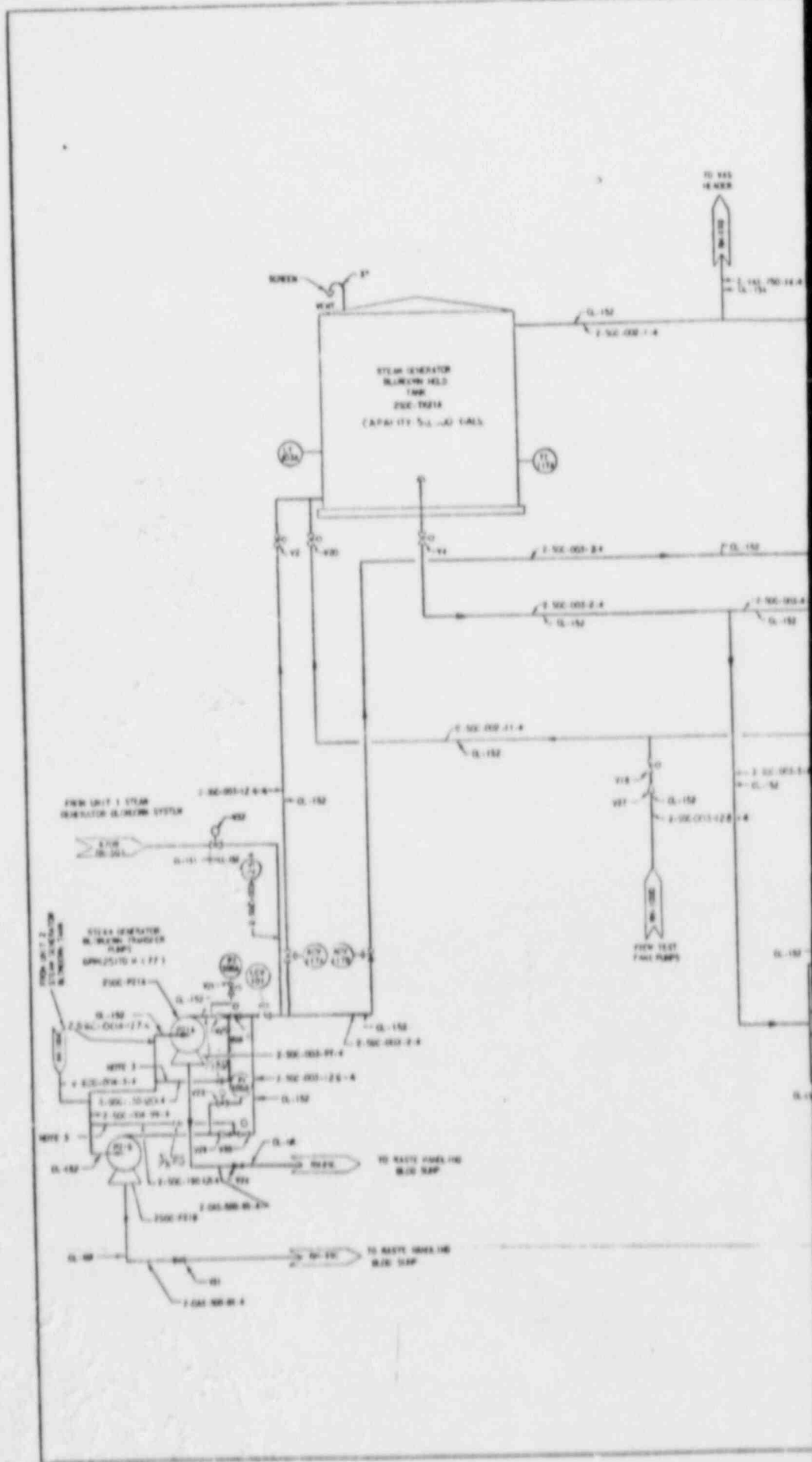


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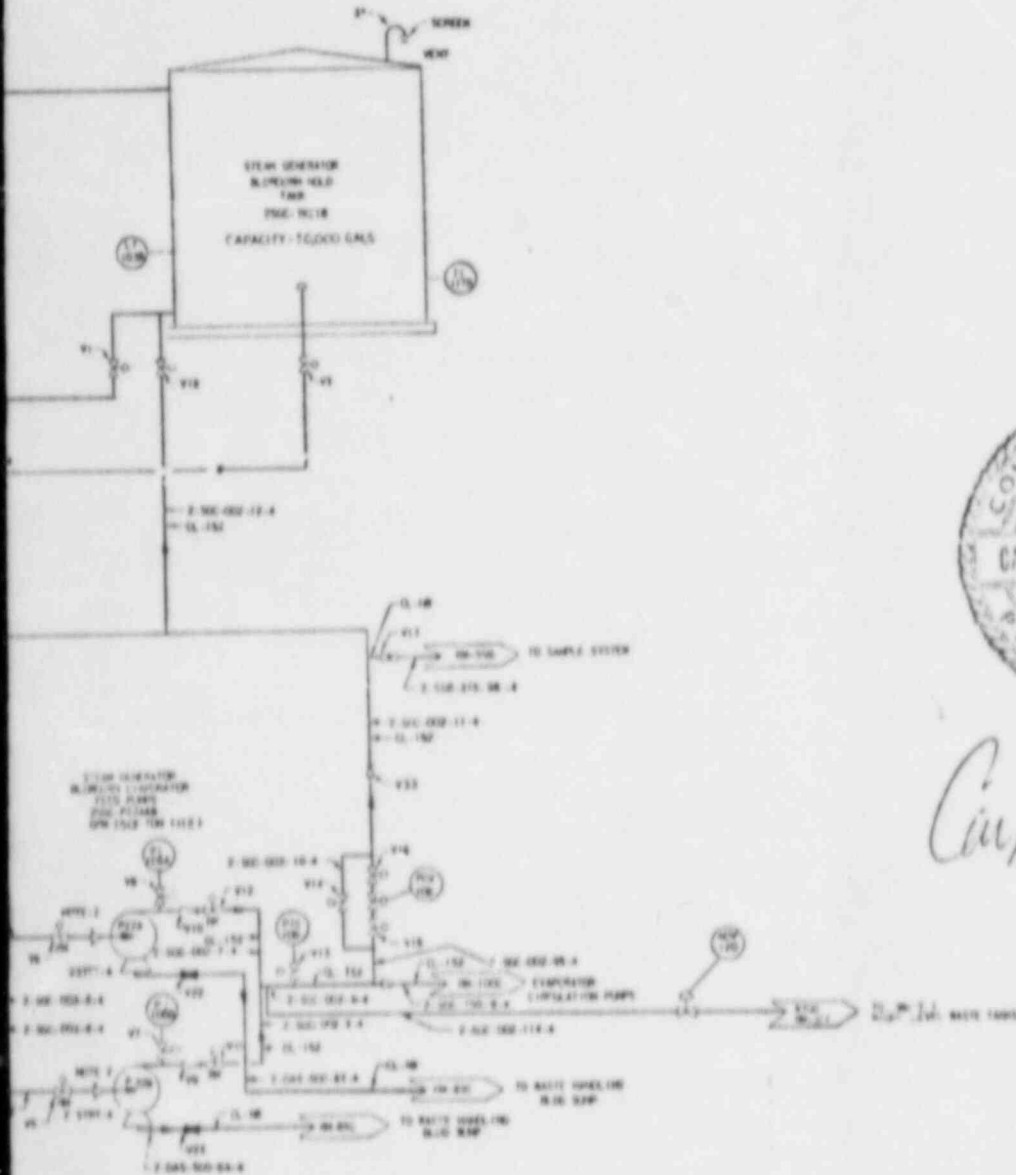
STEAM GENERATOR BLOWDOWN SYSTEM-SH.1
BEAVER VALLEY POWER STATION-UNIT 2

FIG. No.	RM No.	FIG. No.	RM No.	FIG. No.
6-1-1	434	11-1	500	11-2-6
6-1-1	511	11-2	513	9-15-1
6-1-1	508	11-24	524	6-10-1
6-1-2	500	11-25	533	6-10-1

8408210437-07



ITEM IDENTIFICATION	ITEM NUMBER	ITEM SIZE	QUANTITY
V11	40000-0-0	1"	1
V12, V13, V14	40000-0-0	1"	3
V15, V16, V17, V18, V19	40000-0-0	1"	5
V20, V21, V22, V23, V24, V25, V26, V27, V28, V29, V30, V31, V32, V33, V34, V35, V36, V37, V38, V39, V40, V41, V42, V43, V44, V45, V46, V47, V48, V49, V50, V51, V52, V53, V54, V55, V56, V57, V58, V59, V60, V61, V62, V63, V64, V65, V66, V67, V68, V69, V70, V71, V72, V73, V74, V75, V76, V77, V78, V79, V80, V81, V82, V83, V84, V85, V86, V87, V88, V89, V90, V91, V92, V93, V94, V95, V96, V97, V98, V99, V100	40000-0-0	1"	100
V101, V102, V103, V104, V105, V106, V107, V108, V109, V110, V111, V112, V113, V114, V115, V116, V117, V118, V119, V120, V121, V122, V123, V124, V125, V126, V127, V128, V129, V130, V131, V132, V133, V134, V135, V136, V137, V138, V139, V140, V141, V142, V143, V144, V145, V146, V147, V148, V149, V150, V151, V152, V153, V154, V155, V156, V157, V158, V159, V160, V161, V162, V163, V164, V165, V166, V167, V168, V169, V170, V171, V172, V173, V174, V175, V176, V177, V178, V179, V180, V181, V182, V183, V184, V185, V186, V187, V188, V189, V190, V191, V192, V193, V194, V195, V196, V197, V198, V199, V200	40000-0-0	1"	200



Also Available On Aperture Card



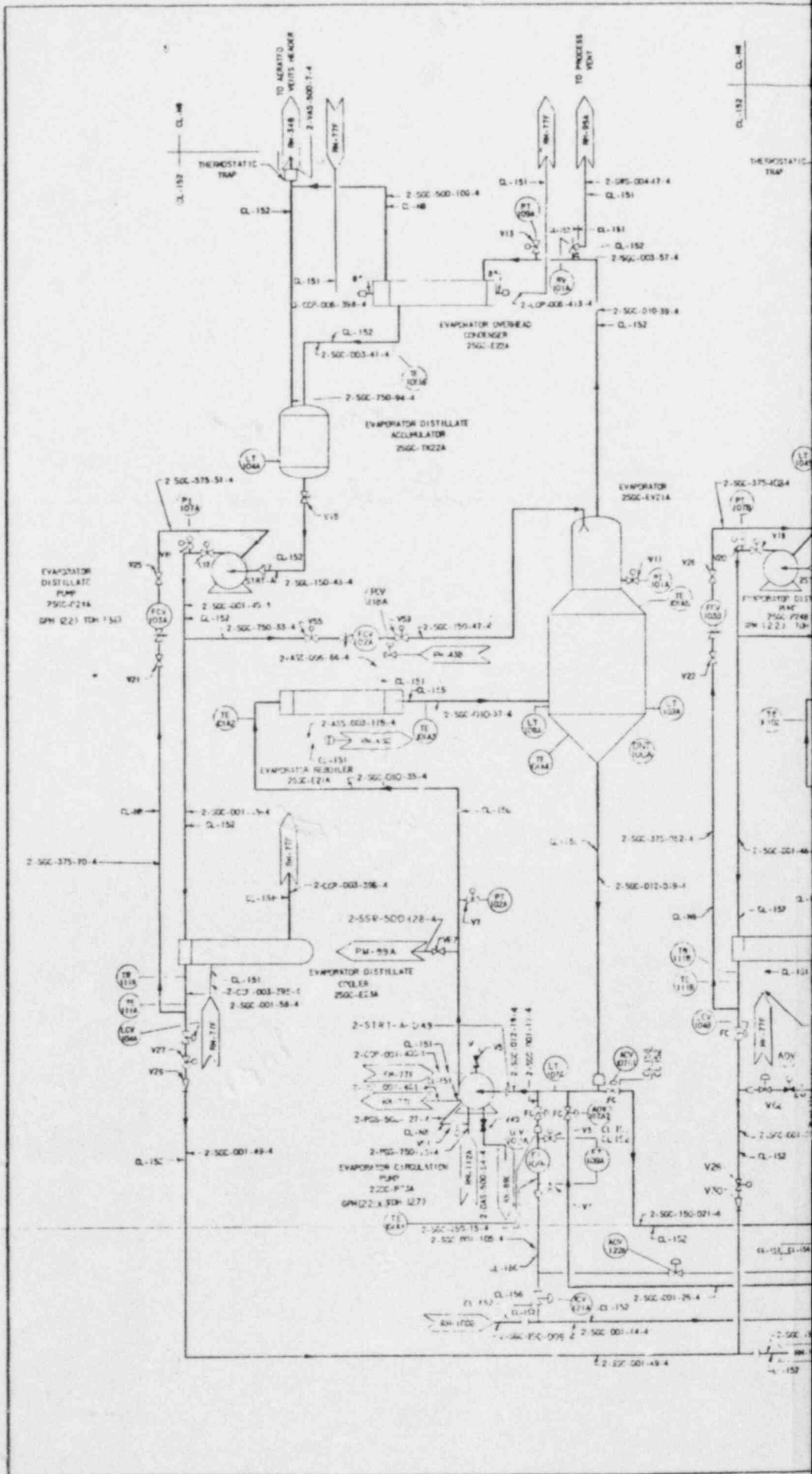
Cal. Otto Richardson, Jr.

- NOTES:
- THE ENTIRE EQUIPMENT AND PIPING SHALL INCLUDE A PURITY WHICH IS IDENTICAL TO THE SYSTEM OEE PROFILE FOR THE ASSOCIATED EQUIPMENT OR PIPE LINE DESIGN STANDARD NOTED SAMPLE 2000 111111.
 - TOPGRAPH STRAIGHTS WILL BE INSTALLED AFTER SYSTEM IS FLOWED.
 - ALL DISCHARGE LINES TO BE APPROX 4 FEET TO 10 FEET LONG.

- REFERENCE DINGS
- SAMPLE PIPING: 40-00000 (FIG. 9.0-11) (FIG. 9.0-12)
 - RELEASE EQUIP VENT & DRAIN PIPING: 40-00000 (FIG. 9.1-11) (FIG. 9.1-12)
 - STEAM GENERATOR BLOWDOWN PIPING: 8100-00-001

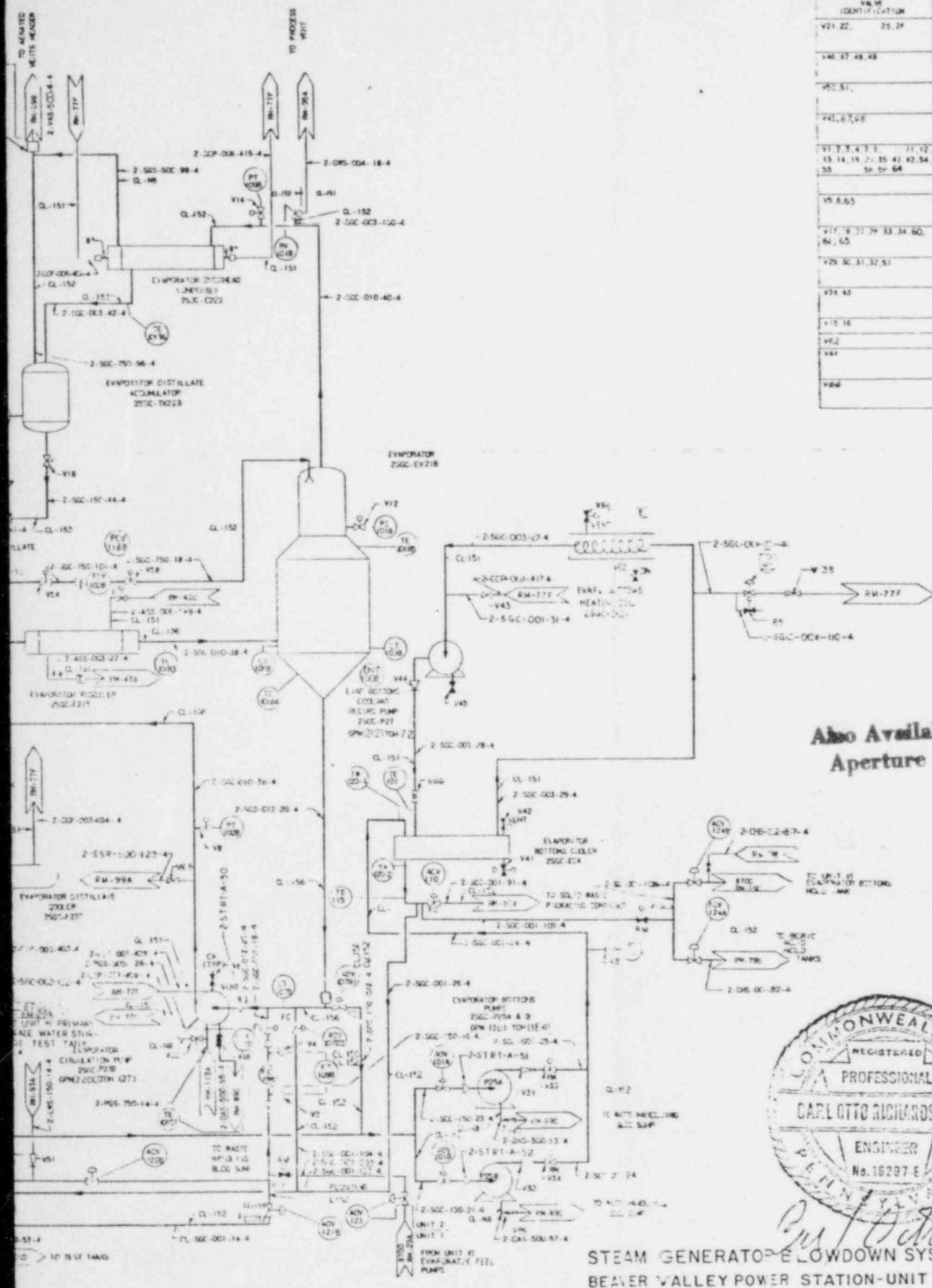
STEAM GENERATOR BLOWDOWN SYSTEM-SH. 2
BEAVER VALLEY POWER STATION-UNIT 2

8408210437-05



2-50C-001-49-4

2-50C-001-14-4



V.M. IDENTIFICATION	VALVE NUMBER	PIPE SIZE	QUANTITY
V21, 22,	25, 27	V0600-F-4	1
V40, 47, 48, 49		V0600-C-2	4
V50, 51,		V8015-Y-4	2
V41, 47, 48		V8000-S-4	1
V1, 2, 3, 4, 7, 8, 11, 12, 13, 14, 15, 21, 35, 41, 42, 54, 55, 56, 59, 64		V8015-Y-4	21
V5, 8, 63		V8000-S-4	3
V17, 18, 21, 29, 33, 34, 60, 61, 65		V8015-Y-4	9
V29, 30, 31, 32, 51		V8015-Y-4	4
V33, 43		V8000-S-4	2
V15, 16		V8015-Y-4	2
V6, 2		V8015-Y-4	1
V44		V0615-A-2	3
V66		V0615-A-4	1

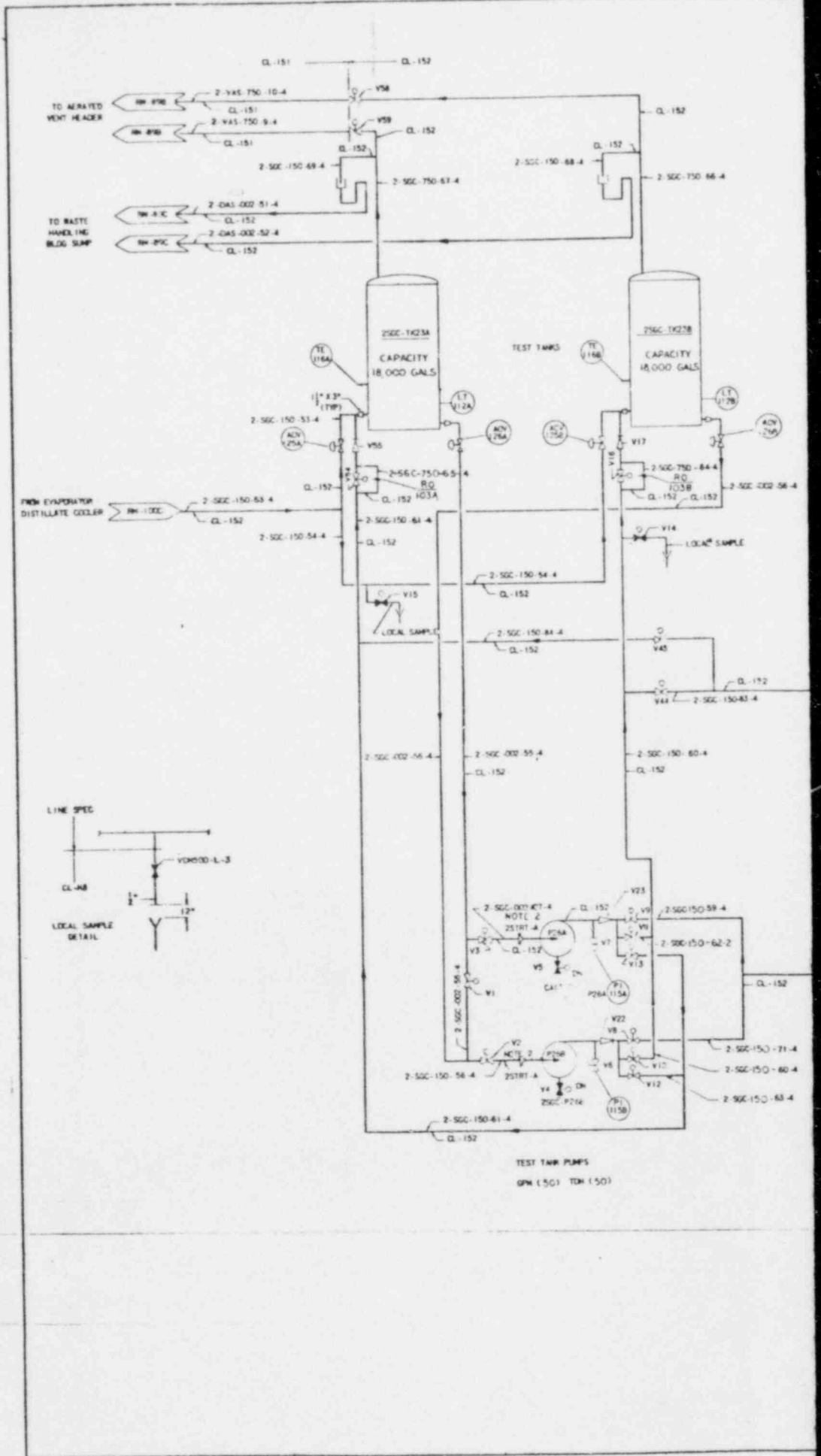
Also Available On Aperture Card



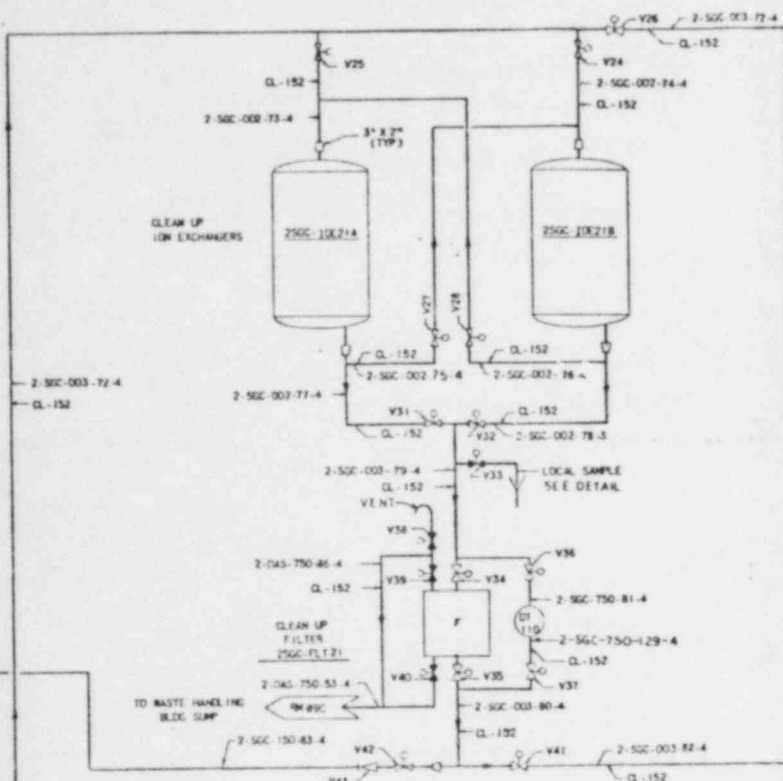
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STEAM GENERATOR SHUTDOWN SYSTEM - SH. 3
BEAVER VALLEY POWER STATION - UNIT 2

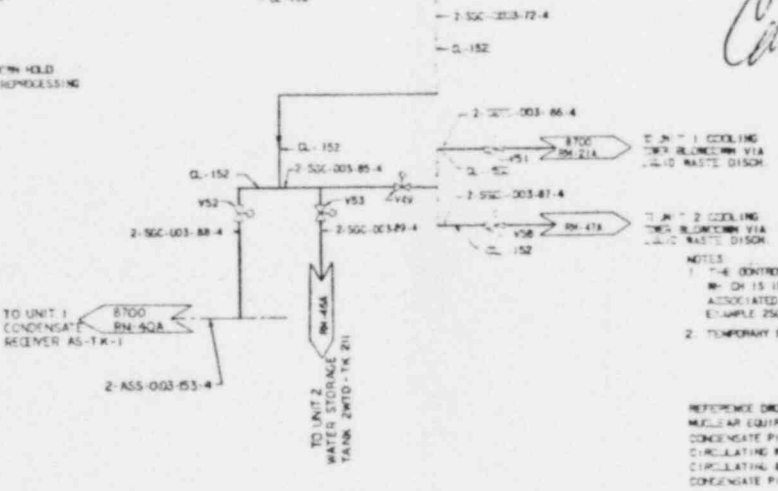
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VALVE IDENTIFICATION	NUM. NUMBER	PIPE SIZE	QUANTITY
V4.5	V81015-8-4	1"	2
V6.7, 14, 15, 33, 36, 37, 38, 39, 40, 58, 59	V85015-7-4	1"	12
V17, 23, 43, 56, 22	V85015-8-4	1 1/2"	5
V2, 8, 9, 10, 11, 12, 13, 18, 42, 44, 45, 46, 54	V85015-7-4	1 1/2"	13
V24, 25, 27, 28, 31, 32, 1, 3	V85015-7-4	2"	8
V26, 34, 35, 41, 48, 50, 51, 52, 53, 47	V85015-7-4	3"	10



Carl O. Richardson, Jr.



- NOTES:
1. THE CONTROL EQUIPMENT MARK NUMBERS SHALL INCLUDE A PREFIX WHICH IS IDENTICAL TO THE SYSTEM CODE PREFIX FOR THE ASSOCIATED EQUIPMENT OR PIPE LINE UNLESS OTHERWISE NOTED. EXAMPLE 256C-MO100A.
 2. TEMPORARY STRAINERS WILL BE REMOVED AFTER SYSTEM IS FLUSHED.

REFERENCE DMS: MW 89 B & C (FIG 9.7-2)
 NUCLEAR EQUIP VENT & DRAIN PIPING (FIG 9.7-3)
 CONDENSATE PIPING 8700-RN-17A
 CIRCULATING WATER SYSTEM 8700-RN-21A
 CIRCULATING & SERVICE WATER PIPING 8W-47A (FIG 10.3-4)
 CONDENSATE PIPING 8W-45A (FIG 10.3-5)

Also Available On
Aperture Card

STEAM GENERATOR
BLOWDOWN SYSTEM-SH.4
BEAVER VALLEY POWER STATION-UNIT 2

8408210437-07

POLLUTION INCIDENT PREVENTION PROGRAM

BEAVER VALLEY POWER STATION

DUQUESNE LIGHT COMPANY

1.0 Introduction

The Beaver Valley Power Station - Unit No. 2 will be constructed on the south bank of the Ohio River, adjacent to the Shippingport Power Station and Beaver Valley Power Station - Unit No. 1 in Beaver County, Pennsylvania, approximately 25 miles northwest of Pittsburgh. The station will incorporate a closed-cycle pressurized water nuclear steam supply system, a turbine generator, and their necessary auxiliaries.

The station is divided into two areas - the reactor plant and the turbine plant. Reactor plant liquid effluents are directed to a liquid waste disposal system consisting of high level waste drain tanks, evaporators, evaporator test tanks, demineralizer, filters, and pumps.

All radioactive wastes from the reactor plant are collected in holding tanks prior to processing. Depending on the degree of radioactivity, the waste water is cycled through the treatment process until the effluent is satisfactory for discharge to the Ohio River when diluted with the normal volume of cooling tower blowdown. The discharge rate is controlled by either of two parallel flow control valves. Excessive activity detected by the monitor overrides both valve controls and stops all discharge flow. Radiation control of all liquid wastes discharged to the cooling tower blowdown is accomplished by sampling and monitoring by Health Physics personnel and administrative procedures.

Nuclear Fuel

Unlike fossil-fueled power plants, the operation of a nuclear power station does not require stockpiling of fuel. When refueling becomes necessary, the operation is under the strict surveillance of the Atomic Energy Commission.

2.0 Chemicals and Oils

The station has various protective devices to guard against inadvertent spillage of liquids stored in the various tanks in the area.

Chemical

Various dry chemicals are used for water treatment and as boiler water additives. A typical inventory of these may contain sodium chloride, ferric sulfate, boric acid powder, sodium hydroxide crystals, lime, various forms of sodium phosphate and potassium chromate. Any chemical spillage will be swept up by attendants during periodic routine inspection. Any system leakage containing chromates will be collected in the waste drain tank. If chromate concentration reaches 0.05 mg/L, tank contents will be directed to the evaporator where the solids will eventually be packaged and hauled offsite. These chemicals, therefore, do not present a potential incident hazard.

Liquid chemicals include hydrazine, morpholine, lithium hydroxide, sulfuric acid, ammonium hydroxide, sodium hydroxide and corrshield K-10. Corrshield K-10 is a corrosion inhibiting agent and does not contain heavy metals or any toxic compounds.

Lithium hydroxide will be received and stored in polyethelene bottles. Hydrazine and morpholine will be received and stored in 35 gallon and 55 gallon drums respectively. These chemicals will be transferred by hand pump from these drums to measuring tanks. From the measuring tanks they then pass into the dilution tanks. Safety precautions required in this handling operation will be emphasized by plant supervisory personnel. The area will be routinely inspected to ensure against any leakage or spillage entering the floor drainage system.

An acid storage tank and a caustic storage tank, each with a capacity of 8,000 gal are located directly outside the water treatment area; these chemicals are used for demineralizer regeneration. Both tanks are located approximately 400 ft from the Ohio River. In the unlikely event of a tank rupture, the contents would be contained within a curbed basin. Overflow would be absorbed into the ground. Likewise, a rupture of the 4,435 gal chemical addition tank containing 50 percent sodium hydroxide located outside the service building would be absorbed in the ground.

Spent demineralizer regenerants, sulfuric acid, and sodium hydroxide are collected in a 20,000 gal neutralization sump, mixed and neutralized with either caustic or acid. Automatic control prevents discharge until the pH is in the range 6.0-8.5 and immediately terminates the discharge should the pH reach a limiting value.

Oil

Turbine oil is stored in the basement of the turbine building. Storage facilities consist of an oil reservoir, capacity 14,500 gal, which will contain the operating oil for the turbine generator; a storage tank, used for storage of turbine generator reservoir oil during maintenance; and a drum storage rack for make up oil which has been sized to accommodate thirty 55 gal drums. A 200 gal electro-hydraulic fluid reservoir is also located here. Leakage and minor spillage will enter the floor drainage system and be collected in the oil skimmer. The drainage system isolation valve will be normally shut thereby preventing a major spillage from entering the river. The plant attendant will periodically open this valve to flush the system and then shut the valve.

Fuel oil for the emergency diesel is stored in two underground tanks, located outside and east of the diesel generator building. The underground tanks are constructed in accordance with ASME Code Section VIII and receive a protective double paint coating on the exterior. These tanks are rated at zero leakage. A 50,000 gal fuel oil storage tank for auxiliary boiler feed is located outside the water treating area. This tank is diked, the capacity of the basin being sufficient to contain the full volume of the tank. Surveillance will be provided during filling of the tank.

Electrical transformers (one main and four station service), are equipped with low level alarms which will be activated if there is a loss of oil. A pit at the main transformer contains slag and is of sufficient volume to contain oil resulting from simultaneous rupture of both station service transformers, each containing 3,750 gal, or 80 percent of the main transformer, containing 43,000 gal. The other two transformers containing 4,800 gal each have individual slag pits of adequate size to fully contain oil from a rupture. In no event would the excess oil reach the river; it would be absorbed into the ground.

3.0 Procedures and Training

Breakdown of Waste Treatment Equipment

The waste water treatment facilities for the removal of radioactive material are so designed that the effluent from the treatment process may be recycled until it is satisfactory for discharge. Should a breakdown occur in any of the primary transfer pumps, redundant pumps are provided and could assure the pumping operation. If a failure occurs in this system which could result in a discharge of unacceptable waste water, the processes producing these wastes would be shutdown.

Should a failure occur in the automated neutralization process of the non-radioactive water treatment system, manual operation would be performed with no loss of efficiency. If a pump failure occurs, there would be no discharge.

Maintenance and Inspection

Maintenance employees perform repair service as needed. Plant operators continuously monitor the condition of the equipment and the oil levels of the machinery. Inspections will be performed by maintenance personnel as well as operators. This serves as a cross-check.

Personnel Training

Employees involved in the handling of materials, their storage and disposal, as well as those employees involved with the waste disposal are instructed on the hazards of accidental spills, the importance of preventative measures, and the procedures for notifying supervisory personnel of any pollution incidents.

4.0 External Factors

Should a power failure occur, the waste treatment facilities would be shut down and there would be no discharge.

All plant structures are located above the Ohio River "Standard Project Flood" with the exception of the intake and discharge structures. Flooding of these structures will not affect operation of the plant or treatment facilities.

Vandalism will be prevented by a cyclone fence which will encompass the station. The plant grounds are guarded 24 hours a day.

5.0 Pollution Incident History

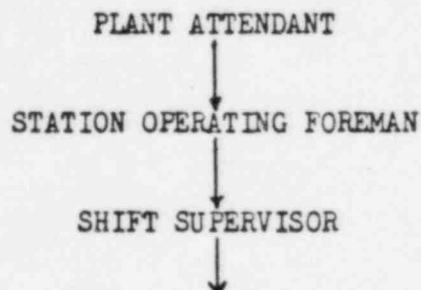
A study of the Shippingport Atomic Power Station, which represents a plant similar in design and operation to Beaver Valley Power Station, indicates that the facility has had two minor pollution incidents.

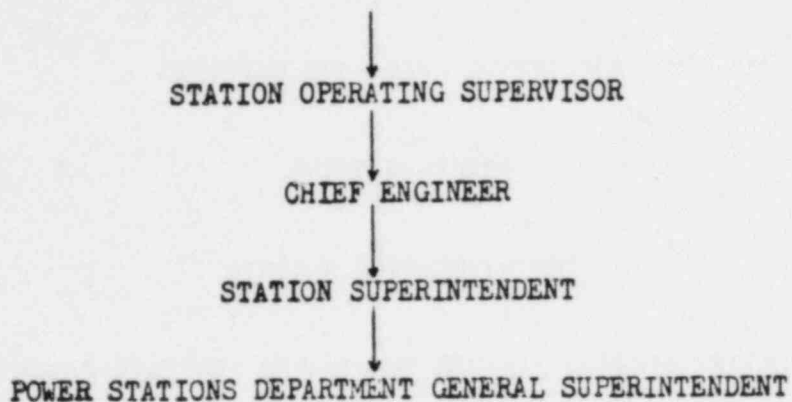
The first incident involved the inadvertent discharge of the contents of the neutralization tank before a batch neutralization was complete. The equivalent of 120 lb of 100 percent caustic was discharged to the river over a 20 min period. The second incident involved an inadvertent discharge from the neutralization tank before neutralization was complete. The equivalent of 26 gal of sulfuric acid was discharged to the river over a period of 20 min.

These incidents occurred because the neutralization tank was designed for manual discharge operation. Since this incident, Shippingport has been fitted with automatic controls. Such an incident would be improbable at Beaver Valley Power Station because the neutralization tank is automatically monitored and controlled. Discharge cannot be initiated until the pH is in the range of 6.0-8.5, and should it drift out of this range, the discharge will automatically terminate.

6.0 Notification of Pollution Incidents

All station employees are instructed as to their responsibilities to prevent stream pollution. In case of a nonradioactive pollution incident, the Stations Chain-of-Command is:





Upon notification, the Station Superintendent will direct the Station Operating Supervisor to notify the Pennsylvania Department of Environmental Resources and downstream water users. In the case of Beaver Valley, this is:

Midland Water Authority

Midland, Pennsylvania 15159

Telephone: 643-4920

Generally, the water company will determine if the spill may cause them any problems, and will notify other downstream water users.

In case of an incident involving radioactivity, the Beaver Valley Emergency Preparedness Plan would be implemented. This is a plan prepared by company personnel in cooperation with the Atomic Energy Commission and Westinghouse Electric Corporation. It is continuously updated and is intended to cover all possible incidents.

7.0 Cleanup Service and Equipment

The Duquesne Light Company maintains a fleet of trucks, including an oil tanker, and other service equipment which are available to all of its plants when the need arises. Additional cleanup crews are available upon request.

PROOF OF PUBLICATION

The Beaver County Times, a daily newspaper of general circulation, published by BEAVER NEWSPAPERS, INC., a Pennsylvania corporation, 400 Fair Avenue, West Bridgewater, Beaver County, Pennsylvania, was established in 1946, and has been issued regularly, except legal holidays since said date.

The attached advertisement, which is exactly as printed and published, appeared in the regular issue on 11/9, 16, 23 & 30, 1973

BEAVER NEWSPAPERS, INC.

STATE OF PENNSYLVANIA,
COUNTY OF BEAVER,

SS:

By James R. Miller

Before me, a Notary Public in and for such county and state, personally appeared James R. Miller Secretary-Treasurer of BEAVER NEWSPAPERS, INC.; that neither affiant nor said corporation is interested in the subject matter of the attached advertisement; and that all of the allegations of the foregoing statement including those as to the time, place and character of publication are true.

Sworn to and subscribed before me
this 30th day of November 1973

Merrill L. Shoop

The costs of advertising and proof, 52.65
has been paid.

NOTARY PUBLIC

My Commission Expires January 23, 1977
West Bridgewater Boro., Pa. Beaver County

BEAVER COUNTY TIMES

BEAVER NEWSPAPERS, INC.

By _____

P.O. BOX 400

BEAVER, PA. 15009

NOTICE OF INTENTION
TO APPLY FOR A PERMIT TO
DISCHARGE INDUSTRIAL WASTE

NOTICE is hereby given that an application will be submitted to the Pennsylvania Department of Environmental Resources on behalf of Duquesne Light Company, The Cleveland Electric Illuminating Company, Ohio Edison Company, Pennsylvania Power Company and The Toledo Edison Company for a permit for the discharge of industrial wastes into the Ohio River from the Beaver Valley Power Station - Unit No. 2 located in Shippingport Borough, Beaver County, Pennsylvania, and owned as tenants in common by Duquesne Light Company, The Cleveland Electric Illuminating Company, Ohio Edison Company, Pennsylvania Power Company and The Toledo Edison Company. All plans, designs, and data relevant to such application will be forthwith filed with said Department, the said application being made under the provisions of the Act of June 22, 1937, P. L. 1937, as amended.

DUQUESNE LIGHT CO.
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219
11.9, 16, 23, 30

DOCUMENT/ PAGE PULLED

ANO. 8408210437

NO. OF PAGES 1

REASON:

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435 Sixth Avenue
Pittsburgh, Pennsylvania
15219

~~6~~
RDS
(412) 471-4300

January 16, 1974

Mr. Howard G. Luley, P.E.
Regional Sanitary Engineer
Commonwealth of Pennsylvania
Department of Environmental Resources
600 Kossman Building
100 Forbes Avenue
Pittsburgh, Pennsylvania 15222

ATTENTION: MR. CARL BENDER

Beaver Valley Power Station - Unit No. 2
Shippingport Borough, Beaver County
Industrial Waste Permit Application No. 0473211
OFE 10080 CWO 718

Dear Mr. Luley:

Submitted herewith are two copies of the following data and revisions which were requested by Mr. Carl Bender on January 9, 1974:

Introduction - Pg. 2
Module 2 - Pg. 2-2
Module 2 - Pg. 2-3
Module 4 - Pg. 4-1
Module 4 - Pg. 4-2
Module 4 - Pg. 4-3
Module 4 - Pg. 4-1a
Module 4 - Pg. 4-2a
Module 4 - Pg. 4-3a
Module 4 - Pg. 4-1c
Module 4 - Pg. 4-2c
Module 4 - Pg. 4-3c

Fig. 4-1
Fig. 4-2

Attachment to Module 4 - Pg. 4-1
- Pg. 4-4
- Pg. 4-7
- Pg. 4-8
- Pg. 4-9
- Pg. 4-11

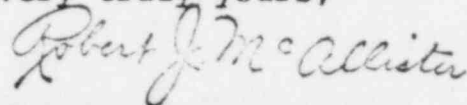
Module 26-E - Pg. 26-E-1

Mr. Howard G. Luley, P.E.
January 16, 1974
Page 2

For your information, we are also enclosing two copies of Module 27 and the attachment to Module 27 which were submitted with the Beaver Valley Power Station, Unit No. 1 Industrial Waste Permit Application No. 0473208.

We hope the above information will facilitate your review of the above referenced permit application. If you have any questions, please call.

Very truly yours,



ROBERT J. McALLISTER
Structural Engineer

Enclosures

cc: Mr. Walter A. Lyon - w/encl.

bcc: Messrs. C. O. Richardson
S. L. Pernick ✓
C. N. Dunn - 2
R. G. Knight
T. B. McAuliffe
J. H. Latshaw
H. A. VanWassen

ALL WITH ATTACH.

BVPS-2 will share the following systems related to industrial waste management with Unit No. 1:

Intake structure

Discharge structure

Water supply and treatment systems

Auxiliary steam boilers

Radioactive liquid waste system

Steam generator blowdown system

The first five systems were installed with BVPS-1. The steam generator system will be installed on BVPS-2 and is designed to process blowdown from both units. The radioactive liquid waste and steam generator blowdown systems are interconnected between stations to provide operational flexibility and additional capacity if required. BVPS-2 is expected to be a duplicate of Unit 1; however, Unit 2 is in the early stages of design, therefore equipment and capacities may change as regulations and requirements develop. Unit 1 amended application No. 0473208 was submitted May 7, 1973.

The application attached hereto consists of completed water pollution control forms, Modules 2, 4, 8, 13, 18, 26E and 27. Also included is an attachment to Module 4 entitled "Liquid Waste Discharges", a description of the waste treatment system. A report on the pollution prevention program is included, as well as an erosion and sedimentation control plan covering the earthwork activities at the site.

DATE PREPARED
Revised
1-9-74

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

A. DOCUMENTATION REQUIRED - CONTINUED

MODULE NUMBER	TITLE	NUMBER OF PAGES	
15	TRICKLING FILTERS	1	<input type="checkbox"/> Yes
16	AERATION TANKS OR BASINS	2	<input type="checkbox"/> Yes
17	WASTE STABILIZATION PONDS	2	<input type="checkbox"/> Yes
18	CHEMICAL TREATMENT (INCLUDING FEEDERS)	3	<input checked="" type="checkbox"/> Yes
19	MIXING AND FLOCCULATION FACILITIES	1	<input type="checkbox"/> Yes
20	SAND FILTERS	1	<input type="checkbox"/> Yes
21	DISINFECTION	2	<input type="checkbox"/> Yes
22	SPRAY IRRIGATION	1	<input type="checkbox"/> Yes
23	PHYSICAL ABSORPTION, ION EXCHANGE, AND CONTACT UNITS	2	<input type="checkbox"/> Yes
24	FLOTATION AND OIL SEPARATION	2	<input type="checkbox"/> Yes
25	DEEP WELL DISPOSAL	3	<input type="checkbox"/> Yes
26	SLUDGE TREATMENT AND DISPOSAL		
	A. SEPARATE DIGESTION TANKS AND SLUDGE THICKENING TANKS	1	<input type="checkbox"/> Yes
	C. WET OXIDATION	1	<input type="checkbox"/> Yes
	D. SLUDGE DRYING BEDS	1	<input type="checkbox"/> Yes
	E. LAND DISPOSAL OF SLUDGE	1	<input checked="" type="checkbox"/> Yes
	F. SLUDGE LAGOONS	1	<input type="checkbox"/> Yes
	G. FILTERS AND CENTRIFUGES	1	<input type="checkbox"/> Yes
	H. INCINERATION	1	<input type="checkbox"/> Yes
	I. DEEP MINE DISPOSAL	2	<input type="checkbox"/> Yes
27	HEATED WASTES (Cooling Tower Blowdown)	2	<input checked="" type="checkbox"/> Yes

H710.046.7

DATE PREPARED

Revised
1-16-74

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

B. REQUIRED DATA

1. THE FRONT COVER OR FLYLEAF OF EACH SET OF DRAWINGS AND SPECIFICATIONS MUST BEAR THE SIGNATURE AND SEAL OF THE REGISTERED PROFESSIONAL ENGINEER OR SURVEYOR BY OR UNDER WHOM PREPARED. EACH DRAWING MUST BEAR AN IMPRINT OR REASONABLE FACSIMILE OF SUCH SEAL.

2. SUPPORTING INFORMATION:

A. 2 COPIES OF DESIGNER'S PLANS, MODULES, AND SPECIFICATIONS
(3 COPIES REQUIRED FOR PROJECTS IN DELAWARE RIVER BASIN)

Yes

B. SCHEMATIC FLOW DIAGRAM OF WASTE TREATMENT PLANT (See Note)
(ON APPROX. 8 1/2 X 11" PAPER, ACCOMPANYING MODULES)

Yes

C. UNITED STATES GEOLOGICAL SURVEY TOPOGRAPHIC MAP SHOWING EXACT POINT OF DISCHARGE AND TREATMENT PLANT LOCATION

Yes

D. HAVE YOU APPLIED FOR WATER AND POWER RESOURCES BOARD APPROVAL FOR STREAM ENCHROACHMENTS?

Yes No N/A

E. HAVE YOU SUBMITTED A LIST OF NAMES, TITLES, AND ADDRESSES OF ALL PARTNERS IN THE CASE OF A PARTNERSHIP OR ALL OFFICERS IN THE CASE OF A CORPORATION, UNINCORPORATED ASSOCIATION, INCORPORATED ASSOCIATION, PARTNERSHIP, OR OTHER ENTITY?

Yes No N/A

F. HAVE YOU APPLIED FOR BUREAU OF AIR POLLUTION CONTROL APPROVAL FOR STREAM ENCHROACHMENTS?

Yes No N/A

3. SPECIFY THE FOLLOWING:

PLANS: Waste Water Schematic NO. OF SHEETS 1 DATE 1/14/74
Title/Description

PLANS: Radioactive Liquid Waste Disposal System NO. OF SHEETS 1 DATE 1/14/74
Title/Description

PLANS: General Arrangement NO. OF SHEETS 1 DATE 12/20/73
Title/Description

PLANS: Steam Generator Blowdown System NO. OF SHEETS _____ DATE 12/20/73
Title/Description

B. SPECIFICATIONS (IF APPLICABLE): N/A
Title

NUMBER OF VOLUMES _____ DATE _____

C. OTHER (SPECIFY TYPE AND NUMBER):

U.S.G.S. Map, Hookstown, Pa. Quadrangle

Note: Because of the complexity of the attached drawings, they were not reduced to 8 1/2 X 11.

H710.045.4

DATE PREPARED

Rev. 1-14-74

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

WATER POLLUTION CONTROL

For Department of Health Use Only

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

TABLE I - WASTE STATUS REPORT

TOTAL WASTE FLOW (MGD)		Unit No. 2 Cooling Tower Blowdown	SOURCE OF WASTE: Make-up DM	SOURCE OF WASTE: Mixed Bed DM	SOURCE OF WASTE: Softener
		Waste Stream A <input type="checkbox"/> PRESENT <input checked="" type="checkbox"/> FUTURE	Waste Stream B <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	Waste Stream C <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	Waste Stream D <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE
1. TYPE OF WASTE		Heat	Acid & Caustic Regenerants	Acid & Caustic Regenerants	Brine Regenerants
2. FLOW	A. MGD (AVERAGE)	21.6	0.013 Once every 3 days	0.003 Once every 60-90 days	0.003 Once every 3 days
	B. MGD (MAXIMUM)	28.1	0.013 Once per day	0.003 Once every 7 days	0.003 Once per day
3. WASTE DISCHARGE	A. TREATED SEPARATELY				
	B. NOT TREATED	Not Treated			Not Treated
	C. COMBINED AND TREATED		Combined and Treated	Combined and Treated	
SEQUENCE OF TREATMENT STEPS		<input checked="" type="checkbox"/> Discharge			
		<input checked="" type="checkbox"/>	Collection	Collection	Dilution
		<input checked="" type="checkbox"/>	Neutralization	Neutralization	Discharge
		<input checked="" type="checkbox"/>	Dilution	Dilution	
		<input checked="" type="checkbox"/>	Discharge	Discharge	

A. GENERAL INFORMATION

1. WILL ALL LABORATORY ANALYSES BE IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER"? Yes No N/A
2. WILL THE TREATMENT PROCESS PRODUCE FOR EACH WASTE ABOVE A SATISFACTORY EFFLUENT THAT WILL HAVE NO ADVERSE EFFECT UPON THE RECEIVING STREAM OR ITS USES? Yes No N/A

ONLY SEWERAGE AND INDUSTRIAL WASTE APPLICANTS COMPLETE ITEM 3.

3. GIVE EXPECTED PERCENTAGE REDUCTION OF:
- A. BOD (5 DAY 20° CENTIGRADE) _____ % N/A
- B. SUSPENDED SOLIDS _____ % N/A
- C. SETTLEABLE SOLIDS (SEWAGE ONLY) _____ % N/A

TABLE II - WASTE LOAD CHARACTERISTICS

Sample Or Data Location		Unit No. 2							
		WASTE: Cooling Tower Blowdown		WASTE: Make-Up DM		WASTE: Mixed Bed DM		WASTE: Softener	
INDUSTRIAL WASTE APPLICANTS COMPLETE ALL APPLICABLE ITEMS.		LOCATION: Waste Line Waste Stream A		LOCATION: Waste Line Waste Stream B		LOCATION: Waste Line Waste Stream C		LOCATION: Waste Line Waste Stream D	
		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED
SEWAGE APPLICANTS COMPLETE ONLY ITEMS CODED "S."		Waste Load		Waste Load		Waste Load		Waste Load	
		Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated
MINE DRAINAGE APPLICANTS COMPLETE ONLY ITEMS CODED "M."		<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.
		1. WASTE FLOW	Mgd	S M 21.6	S M 21.6	S M 0.013 1/3days	S M 0.013 1/3days	S M 0.003 Once/3mon	S M 0.003 Once/3mon
2. COLOR		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3. TEMPERATURE	Deg. F	55 - 90	55 - 90	Ambient	Amb	Amb	Amb	Amb	
4. pH		S M	S M	S M 2-3	S M 6-8.5	S M 9-10	S M 6-8.5	S M 6-8.5	S M
5. ALKALINITY (Minus for Acid)	Mg/L	S M	S M	S M -5700	S M 20	S M 7600	S M 50	S M 10	S M
6. SOLIDS - SUSPENDED	Mg/L	S M	S M	S M <25	S M <25	S M <25	S M <25	S M <25	S M
7. SOLIDS - SUSPENDED	Lbs/Cap/Day	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M N/A	S M
8. SOLIDS - SUSPENDED	Lbs/Day	S M	S M	S M <2.7 Lbs/wk	S M <2.7 Lbs/wk	S M <0.62 Lbs/Quar	S M <0.62 Lbs/Quar	S M <0.62 Lbs/wk	S M
9. SOLIDS - SETTLEABLE	MI/L	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M N/A	S M
10. SOLIDS - DISSOLVED	Mg/L	S M	S M	S M 31,700	S M 212	S M 22,705	S M 152	S M 199,400	S M
11. IRON - DISSOLVED	Mg/L	S M	S M	S M 25	S M 0.2	S M .05	S M <.05	S M .05	S M
12. IRON (Total)	Mg/L	S M	S M	S M 28	S M 0.22	S M .05	S M <.05	S M .05	S M
13. MANGANESE	Mg/L	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M N/A	S M
14. ALUMINUM	Mg/L	S M	S M	S M N/A	S M N/A	S M N/A	S M N/A	S M N/A	S M
15. BOD (5 Day 20° C)	Mg/L	S	S	S <1	S <1	S <1	S <1	S <1	S
16. BOD (5 Day 20° C)	Lbs/Cap/Day	S	S	S N/A	S N/A	S N/A	S N/A	S N/A	S
17. BOD (5 Day 20° C) Net Added	Lbs/Day	S	S	S 0	S 0	S 0	S 0	S 0	S

RIVER WATER
 CONCENTRATED 1.8 TIMES
 DISCHARGED
 WITHOUT TREATMENT

See Main Outfall Analysis

HJ10,004 A
 DATE PREPARED
 Rev. 1-14-74
 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF HEALTH
 SANITARY ENGINEERING
 WATER POLLUTION CONTROL
 MODULE 4 - WASTE LOAD AND CHARACTERISTICS
 For Department of Health Use Only

H710.046.4
 DATE PREPARED
 Rev. 1-14-74

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

WATER POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF HEALTH
 SANITARY ENGINEERING

For Department of Health Use Only

Sample or Data Location - Continued	Unit No. 2 Cooling Tower Blowdown							
	WASTE: <u>Make-up DM</u>		WASTE: <u>Mixed bod DM</u>		WASTE: <u>Softener</u>			
	LOCATION: <u>Waste Line</u> Waste Stream A		LOCATION: <u>Waste Line</u> Waste Stream B		LOCATION: <u>Waste Line</u> Waste Stream C		LOCATION: <u>Waste Line</u> Waste Stream D	
	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED
Waste Load		Waste Load		Waste Load		Waste Load		
Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	
<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	
18. DISSOLVED OXYGEN	Mg/L	Sat	S Sat	Sat	S Sat	Sat	S	
19. TURBIDITY	Units	< 10	S-M < 10	< 10	S-M < 10	< 10	S	
20. NITROGEN - AMMONIA	Mg/L	S N/A	S N/A	S N/A	S N/A	S N/A	S	
21. NITROGEN - NITRITE	Mg/L	N/A	S N/A	N/A	S N/A	N/A	S	
22. NITROGEN - NITRATE	Mg/L	N/A	S N/A	N/A	S N/A	N/A	S	
23. PHOSPHATE (TOTAL SOLUBLE PO ₄)	Mg/L	S N/A	S N/A	S N/A	S N/A	S N/A	S	
24. SULFATE	Mg/L	M 20,800	M 140	M 15340	M 102	M 125	M	
OTHER (Specify)	(Give Units)							
Sodium	Mg/L	9,100	60	7340	50	44,350		
Calcium	Mg/L	860	6	9	.05	23,700		
Magnesium	Mg/L	200	1.3	2	.01	5,500		
Silica	Mg/L	170	1	8	.05	8		
Chloride	Mg/L	570	4	6	.04	125,860		

RIVER WATER
CONCENTRATED 1.8 TIMES

DISCHARGED
WITHOUT TREATMENT

See Main
Outfall Analysis

B. DESCRIPTION OF SAMPLING PROCEDURE

1. FOR EACH WASTE LOAD ON TABLE II, DESCRIBE BELOW THE METHOD AND DATE(S) OF SAMPLING.

Cooling Tower Blowdown: N/A

Deminerlizer and Softener
Wastes:

These analyses are calculated from design data.
 Treated DM regenerants are diluted with cooling
 tower blowdown prior to discharge.

DATE PREPARED

Rev. 1-14-74

WATER POLLUTION CONTROL

For Department of Health Use Only

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

TABLE I - WASTE STATUS REPORT

TOTAL WASTE FLOW (MGD)		SOURCE OF WASTE: Auxiliary Boiler Blowdown Waste Stream E <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	SOURCE OF WASTE: Rad-Waste Sys Discharge Waste Stream F <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	SOURCE OF WASTE: Combined Outfall Waste Stream <input checked="" type="checkbox"/> A, AA, B, C, D, <input type="checkbox"/> FUTURE E, F, & K	SOURCE OF WASTE: Steam Generator Blowdown Waste Stream K <input type="checkbox"/> <input checked="" type="checkbox"/> FUTURE
1. TYPE OF WASTE		Alkalinity	Potentially Radioactive	Combined	Alkalinity
2. FLOW	A. MGD (AVERAGE)	0.0006	0.002	43.2	0.006
	B. MGD (MAXIMUM)	0.0012	0.004	56.2	0.006
3. WASTE DISCHARGE	A. TREATED SEPARATELY		Treated Separately		Treated Separately
	B. NOT TREATED	UNIT EXISTING UNIT PROPOSED		Not Treated	Unit Proposed
	C. COMBINED AND TREATED		Combined and Treated		
4. SEQUENCE OF TREATMENT STEPS		<input checked="" type="checkbox"/>	Collection	Collection	<input checked="" type="checkbox"/> Collection
		<input checked="" type="checkbox"/>	Neutralization	Evaporation*	<input checked="" type="checkbox"/> Evaporation
		<input checked="" type="checkbox"/>	Dilution	Deminerlization*	<input checked="" type="checkbox"/> Deminerlization
		<input checked="" type="checkbox"/>	Discharge	Filtration	<input checked="" type="checkbox"/> Filtration
		<input checked="" type="checkbox"/>		Dilution	<input checked="" type="checkbox"/> Dilution
		<input checked="" type="checkbox"/>		Discharge	<input checked="" type="checkbox"/> Discharge

*High Level
Wastes Only

A. GENERAL INFORMATION

1. WILL ALL LABORATORY ANALYSES BE IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER"? Yes No N/A
2. WILL THE TREATMENT PROCESS PRODUCE FOR EACH WASTE ABOVE A SATISFACTORY EFFLUENT THAT WILL HAVE NO ADVERSE EFFECT UPON THE RECEIVING STREAM OR ITS USES? Yes No N/A

ONLY SEWERAGE AND INDUSTRIAL WASTE APPLICANTS COMPLETE ITEM 3.

3. GIVE EXPECTED PERCENTAGE REDUCTION OF:
- A. BOD (5 DAY 20° CENTIGRADE) _____ % N/A
- B. SUSPENDED SOLIDS _____ % N/A
- C. SETTLEABLE SOLIDS (SEWAGE ONLY) _____ % N/A

TABLE II - WASTE LOAD CHARACTERISTICS

Sample Or Data Location	WASTE: Aux. Boiler Blowdown		WASTE: Rad-Waste Sys Discharge		WASTE: Combined Outfall		WASTE: Steam Gen. Blowdown	
	LOCATION: Waste Line Waste Stream E		LOCATION: Waste Line Waste Stream F		LOCATION: Waste Line Waste Streams A, AA, B, C, D, F, E EXISTING E & K		LOCATION: Waste Line Waste Stream K	
	<input checked="" type="checkbox"/> EXISTING	<input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING	<input type="checkbox"/> PROPOSED	<input checked="" type="checkbox"/> EXISTING	<input type="checkbox"/> PROPOSED	<input type="checkbox"/> EXISTING	<input checked="" type="checkbox"/> PROPOSED
	Waste Load		Waste Load		Waste Load		Waste Load	
	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated
	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.
1. WASTE FLOW Mg/d	S M 0.0006	S M 0.0006	S M 0.002	S M 0.002	S M	S M 43.2	S M 0.006	S M 0.006
2. COLOR	N/A	N/A	N/A	N/A		N/A	N/A	N/A
3. TEMPERATURE Deg. F	200	Ambient	200	Amb		Amb	200	Amb
4. pH	S M 10.6	S M 6-8.5	S M 4.2 - 10.5	S M 6-8.5	S M	S M 6-8.5	S M 9.0	S M 6-8.5
5. ALKALINITY (Minus for Acid) Mg/L	S M 127	S M 12	S M 25	S M 10	S M	S M 10	S M 25	S M 10
6. SOLIDS - SUSPENDED Mg/L	S M 250	S M < 25	S M 1.0	S M < 0.01	S M	S M 36	S M 5	S M 0.01
7. SOLIDS - SUSPENDED Lbs/Cap/Day	S M N/A	S M N/A	S M N/A	S M N/A	S M	S M N/A	S M N/A	S M N/A
8. SOLIDS - SUSPENDED Lbs/Day	S M 1.25	S M < .125	S M 0.02	S M < .001	S M	S M 12970	S M 0.25	S M < 0.01
9. SOLIDS - SETTLEABLE Mi/L	S M N/A	S M N/A	S M N/A	S M N/A	S M	S M N/A	S M N/A	S M N/A
10. SOLIDS - DISSOLVED Mg/L	M 1200	M 8	M 1.0	M < 0.005	M	M 368	M 125	M 3
11. IRON DISSOLVED Mg/L	M 0	M 0	M 0	M 0	M	M -	M 0	M 0
12. IRON (Total) Mg/L	M 12	M 0.08	M 0	M 0	M	M -	M 0	M 0
13. MANGANESE Mg/L	M N/A	M N/A	M N/A	M N/A	M	M N/A	M N/A	M N/A
14. ALUMINUM Mg/L	M N/A	M N/A	M N/A	M N/A	M	M N/A	M N/A	M N/A
15. BOD (5 Day 20° C) Mg/L	S < 1	S < 1	S < 1	S < 1	S	S < 1	S < 1	S < 1
16. BOD (5 Day 20° C) Lbs/Cap/Day	S N/A	S N/A	S N/A	S N/A	S	S N/A	S N/A	S N/A
17. BOD (5 Day 20° C) Lbs/Day Net Added	S 0	S 0	S 0	S 0	S	S 0	S 0	S 0

4-28

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DATE PREPARED
Rev. 1-14-74

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

WATER POLLUTION CONTROL

For Department of Health Use Only

H710065-4
DATE PREPARED
Rev. 1-14-74

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING
MODULE 4 - WASTE LOAD AND CHARACTERISTICS
WATER POLLUTION CONTROL

For Department of Health Use Only

Sample or Data Location - Continued	WASTE: <u>Aux. Boiler Blowdown</u>		WASTE: <u>Rad-Waste Discharge</u>		WASTE: <u>Combined Outfall</u>		WASTE: <u>Steam Gen. Blowdown</u>	
	LOCATION: <u>Waste Line Waste Stream E</u>		LOCATION: <u>Waste Line Waste Stream F</u>		LOCATION: <u>Waste Line Waste Streams A, AA, B, C, D, E, F & K</u>		LOCATION: <u>Waste Line Waste Stream K</u>	
	<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input type="checkbox"/> EXISTING <input type="checkbox"/> PROPOSED		<input type="checkbox"/> EXISTING <input checked="" type="checkbox"/> PROPOSED	
	Waste Load		Waste Load		Waste Load		Waste Load	
Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	
<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.	
18 DISSOLVED OXYGEN Mg/L	N/A	S N/A	N/A	S N/A	S N/A	N/A	S N/A	
19 TURBIDITY Units	---	S-M ---	0	S-M 0	---	0	S- 0	
20 NITROGEN - AMMONIA Mg/L	S 0.5	S 0	S 0	S 0	S 0	S 0.5	S 0	
21 NITROGEN - NITRITE Mg/L	N/A	S N/A	N/A	S N/A	S N/A	N/A	S N/A	
22 NITROGEN - NITRATE Mg/L	N/A	S N/A	N/A	S N/A	S N/A	N/A	S N/A	
23 PHOSPHATE (TOTAL SOLUBLE PO ₄) Mg/L	S 50 - 80	S 0.6	S 0	S 0	S 0	S 75	S <1.5	
24 SULFATE Mg/L	M 64.8	M 4.5	M 0	M 0	M 0	M 216	M 0	
OTHER (Specify) (Give Units)								
Sodium Mg/L	460	3	0	0	47	7	<0.03	
Calcium Mg/L	0	0	0	0	54	0	0	
Magnesium Mg/L	0	0	0	0	12	0	0	
Silica (SiO ₂) Mg/L	20	0.5	0	0	11	5	<0.02	
Chloride Mg/L	0	0	0	0	36	0	0	

B. DESCRIPTION OF SAMPLING PROCEDURE

1. FOR EACH WASTE LOAD ON TABLE II, DESCRIBE BELOW THE METHOD AND DATE(S) OF SAMPLING.
Auxiliary Boiler : Raw waste from sample drawn 3/29/73. Treated waste from design data. This analysis using soft water feed; values are expected to be much lower when condensate is used for makeup.
All Other Waste Streams: Analyses are from design data

DATE PREPARED

1/14/74

WATER POLLUTION CONTROL

For Department of Health Use Only

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

TABLE I - WASTE STATUS REPORT

TOTAL WASTE FLOW (MGD)		SOURCE OF WASTE: Unit No. 1 Cooling Tower Blowdown Waste Stream AA <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE		SOURCE OF WASTE: Unit No. 1 Cooling Tower Emerg. Outfall Waste Stream <input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE		SOURCE OF WASTE: <input type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE		SOURCE OF WASTE: <input type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE		
1. TYPE OF WASTE		Heat		Combined						
2. FLOW	A. MGD (AVERAGE)	21.6		0						
	B. MGD (MAXIMUM)	28.1		.615 Approx. once/yr						
3. WASTE DISCHARGE	A. TREATED SEPARATELY									
	B. NOT TREATED	UNIT EXISTING	Not Treated		Not Treated					
	C. COMBINED AND TREATED	UNIT PROPOSED								
4. SEQUENCE OF TREATMENT STEPS	<input checked="" type="checkbox"/>		Discharge							

A. GENERAL INFORMATION

1. WILL ALL LABORATORY ANALYSES BE IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER"? Yes No N/A

2. WILL THE TREATMENT PROCESS PRODUCE FOR EACH WASTE ABOVE A SATISFACTORY EFFLUENT THAT WILL HAVE NO ADVERSE EFFECT UPON THE RECEIVING STREAM OR ITS USES? Yes No N/A

ONLY SEWERAGE AND INDUSTRIAL WASTE APPLICANTS COMPLETE ITEM 3.

3. GIVE EXPECTED PERCENTAGE REDUCTION OF: A. BOD (5 DAY 20° CENTIGRADE) _____ % N/A
 B. SUSPENDED SOLIDS _____ % N/A
 C. SETTLEABLE SOLIDS (SEWAGE ONLY) _____ % N/A

TABLE II - WASTE LOAD CHARACTERISTICS

Sample Or Date Location	Unit No. 1 Cool. WASTE: Tower Blowdn.		Cooling Tower WASTE: Emer. Outfall		WASTE: _____		WASTE: _____	
	LOCATION: Waste Line Waste Stream AA		LOCATION: Waste Line		LOCATION: _____		LOCATION: _____	
	<input checked="" type="checkbox"/>	EXISTING	<input checked="" type="checkbox"/>	EXISTING	<input type="checkbox"/>	EXISTING	<input type="checkbox"/>	EXISTING
	<input type="checkbox"/>	PROPOSED	<input type="checkbox"/>	PROPOSED	<input type="checkbox"/>	PROPOSED	<input type="checkbox"/>	PROPOSED
	Waste Load		Waste Load		Waste Load		Waste Load	
	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated
	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.	<input type="checkbox"/> Actual <input type="checkbox"/> Est.
1. WASTE FLOW Mgd	S M 21.6	S M 21.6	S M	S M	S M	S M	S M	S M
2. COLOR	N/A	N/A						
3. TEMPERATURE Deg F	55 - 90	55 - 90						
4. pH	S M	S M	S M	S M	S M	S M	S M	S M
5. ALKALINITY (Minus for Acid) Mg/L	S M	S M	S M	S M	S M	S M	S M	S M
6. SOLIDS - SUSPENDED Mg/L	S M	S M	S M	S M	S M	S M	S M	S M
7. SOLIDS - SUSPENDED Lbs/Cap/Day	S M	S M	S M	S M	S M	S M	S M	S M
8. SOLIDS - SUSPENDED Lbs/Day	S M	S M	S M	S M	S M	S M	S M	S M
9. SOLIDS - SETTLEABLE MI/L	S M	S M	S M	S M	S M	S M	S M	S M
10. SOLIDS - DISSOLVED Mg/L	S M	S M	S M	S M	S M	S M	S M	S M
11. IRON - DISSOLVED Mg/L	S M	S M	S M	S M	S M	S M	S M	S M
12. IRON (Total) Mg/L	S M	S M	S M	S M	S M	S M	S M	S M
13. MANGANESE Mg/L	S M	S M	S M	S M	S M	S M	S M	S M
14. ALUMINUM Mg/L	S M	S M	S M	S M	S M	S M	S M	S M
15. BOD (5 Day 20° C) Mg/L	S	S	S	S	S	S	S	S
16. BOD (5 Day 20° C) Lbs/Cap/Day	S	S	S	S	S	S	S	S
17. BOD (5 Day 20° C) Lbs/Day	S	S	S	S	S	S	S	S

Concentrated River Water 1.8 times

Discharged Without Treatment

See Inain Outfall Analyses

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
SANITARY ENGINEERING
WATER POLLUTION CONTROL
MODULE 4 - WASTE LOAD AND CHARACTERISTICS

For Department of Health Use Only

1/14/74

WATER POLLUTION CONTROL

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

For Department of Health Use Only

Sample or Data Location - Continued	Unit No. 1 Cool. Tower Blowdn.		Cooling Tower Emor. Outfall		WASTE: LOCATION:		WASTE: LOCATION:			
	LOCATION: Waste Line		LOCATION: Waste Line		EXISTING PROPOSED		EXISTING PROPOSED			
	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated		
Actual	Est.	Actual	Est.	Actual	Est.	Actual	Est.	Actual	Est.	
INDUSTRIAL WASTE APPLICANTS COMPLETE ALL APPLICABLE ITEMS.	X		X		X		X		X	
SEWAGE APPLICANTS COMPLETE ONLY ITEMS CODED "S."	S		S		S		S		S	
MINE DRAINAGE APPLICANTS COMPLETE ONLY ITEMS CODED "M."	M		M		M		M		M	
18. DISSOLVED OXYGEN	Mg/L									
19. TURBIDITY	Units									
20. NITROGEN - AMMONIA	Mg/L	S								
21. NITROGEN - NITRITE	Mg/L	S								
22. NITROGEN - NITRATE	Mg/L	S								
23. PHOSPHATE (TOTAL SOLUBLE PO ₄)	Mg/L	S								
24. SULFATE	Mg/L	M								
OTHER (Specify)	(Give Units)									
		River Water Concentrated 1.0 Times		Discharged Without Treatment		See Main Outfall Analyses				

B. DESCRIPTION OF SAMPLING PROCEDURE

1. FOR EACH WASTE LOAD ON TABLE II, DESCRIBE BELOW THE METHOD AND DATE(S) OF SAMPLING.

N/A

repeated as required. The dump to waste will be automatically initiated when the pH is in the 6.0 to 8.5 range. Interlocks are provided so that discharge of wastes that are not within the acceptable pH range are prohibited.

Water Softener

Water for the station domestic water system is pumped from the softener pump suction tank by either of two inline pumps, each having a capacity of 350 gpm. The water is passed to either the water softener, which contains cation resin in the sodium form, or to the filtered water storage tank. At maximum usage, the softener will be regenerated every 24 hr, although during normal operation it will probably require regeneration only once every seven to ten days. The regeneration wastes consist of undissolved salts and 182 gal of excess sodium chloride diluted with 75 gal of water. These wastes will be discharged directly into the circulating water system at a flow rate of 18 gpm.

The backwash water and fast rinse water are also discharged to the circulating water system. These waters are essentially filtered and softened river water.

Auxiliary Boiler

During reactor shutdown, the two auxiliary boilers located on Beaver Valley Power Station - Unit No. 1 will provide station heating. Normal operation consists of only one boiler operating at a time. Operation will be about three months per year except during construction. The auxiliary boiler does

RADIOACTIVE LIQUID WASTES

The essence of the liquid waste disposal system is batch control of all liquids and a combination of piping design and tank capacity to allow a high degree of operating flexibility. This principle provides a variety of disposal methods appropriate to the activity and chemical content of the waste received and allows the Applicant to continue to reduce waste activity until it is suitable for release.

Liquid waste accumulated by Unit No. 2 is normally pumped to the high level liquid waste drain tanks in Unit No. 1 and processed (Fig. 4-2). As an option the fluid may also be processed by the Unit No. 2 steam generator (S/G) blowdown evaporators (S/G Blowdown System Sheet 3 Flag RM-93A).

Two waste drain tanks, each with a 7,500 gal capacity located in Unit No. 2, receive and store a portion of the liquid waste from the vent and drain system. Waste liquids directed to the tanks are those resulting from operating or maintenance procedures and which have entered the vent and drain system for either reuse or disposal. The liquids from Unit No. 2 ultimately sent to waste disposal are only a small portion of the total vent and drain flow, since most of the drain liquids are recovered by the process systems.

Steam Generator Blowdown System

The steam generator blowdown system provides a common collection facility for the feedwater blowdown from all six steam generators in both Units. The function of the system is to permit continuous feedwater blowdown for controlling solids concentration in the steam generators. The system also provides the evaporation equipment necessary for reclaiming the distillate for reuse in the secondary system and concentrating the bottoms for disposal.

Blowdown from the three Unit No. 2 steam generators will consist of approximately 14,400 gal per day total, after flashing, of heated, slightly alkaline liquid. This blowdown will be directed to the Unit No. 2 blowdown tank reboiler where 85 to 90 percent of the liquid can be evaporated. The remaining concentrated liquid will then be pumped to steam generator blowdown hold tanks where it will normally be collected for processing in the steam generator blowdown evaporators. Vapor from the reboiler and blowdown hold tank is vented to the main condensers. Liquid in the steam generator blowdown hold tanks can also be directed to the Unit No. 1 High Level Waste Tanks and processed. (S/G Blowdown System Sheet-2 Flag 8700 RM-30A)

Steam Generator Blowdown Hold Tanks

Two 50,000 gal steam generator blowdown hold tanks are provided on Unit No. 2 with level indicators. The tanks are stainless steel tanks designed to ASME Section VIII of the Boiler and Pressure Vessel Code.

Liquid Waste Drain Tanks

Two 7,500 gal liquid waste drain tanks are provided with level indicators on Unit No. 2. In addition, the liquid waste accumulated in these tanks can be pumped to two 5,000 gal high level liquid waste drain tanks on Unit No. 1, for final processing within Unit No. 1 liquid waste disposal system prior to discharge. These are stainless steel tanks designed according to Section VIII of the ASME Boiler and Pressure Vessel Code.

Evaporator and Auxiliaries

Two externally heated forced circulation evaporators with a feed capacity of 20 gpm each are provided with the Unit No. 2 steam generator blowdown treatment system. The evaporator shell is fabricated from a high nickel alloy in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code. Internals in the steam phase are fabricated from an austenitic stainless steel. To increase efficiency, a distillation tower is mounted on top of the evaporator.

The external heat source is a shell and tube steam reboiler fabricated from a high nickel alloy in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code, and TEMA Standards.

Distillate is condensed in a water cooled shell and tube condenser fabricated from austenitic stainless steel in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code and TEMA Standards.

operating personnel and the public so as to pose no radiation hazard. Redundant sump pumps are provided in critical areas to ensure reliability of performance and function.

Pumps

Centrifugal frame mounted pumps with single or double mechanical seals are provided. External cooling and seal water are supplied to radioactive pump services as required.

Summary

All potentially radioactive liquid effluent discharge from the unit is passed through filters; processed liquid effluent can pass through demineralizers if necessary. A decontamination factor of 10^5 or better is expected from the evaporator ion exchanger combination used in the liquid waste disposal system.

Discharges can be directed to either Unit No. 1 or Unit No. 2 blowdown lines as needed for dilution prior to discharge to the river.

Rad-waste facilities will be maintained and operated as required in such a manner so as to release liquid waste quantities and concentrations which would result in a maximum annual average dose to an offsite individual as prescribed in paragraph C of Appendix I to 10CFR50.

It is therefore concluded that the installed system ensures that the liquid effluent releases will be reduced to the lowest practicable limits and will not exceed the dose limits specified in 10CFR20 and the dose limits delineated in the Commonwealth of Pennsylvania Department of Environmental Resources Article V, "Radiological Health", dated March 1, 1972.

DATE PREPARED

1-9-74

WATER POLLUTION CONTROL
SLUDGE TREATMENT AND DISPOSAL FACILITIES
MODULE 26E - LAND DISPOSAL OF SLUDGE

For Department of Health Use Only

(Also Complete Module 5)

TABLE V		Darlington SITE <u>PA</u>	SITE _____	SITE _____
		<input checked="" type="checkbox"/> Existing <input type="checkbox"/> Proposed	<input type="checkbox"/> Existing <input type="checkbox"/> Proposed	<input type="checkbox"/> Existing <input type="checkbox"/> Proposed
WASTE	1. A. INDICATE TYPE OF SLUDGE OR PROCESS PRODUCING SLUDGE	Sludge from Clarifier settling basin - river silt, clay if found necessary.		
	B. EXTENT OF SITE USE	(1) HOURS PER DAY (2) DAYS PER WEEK	Fe ₂ (SO ₄) ₃ ; Ca(OH) ₂	
	C. VOLUME (Gpd Or Cu Ft/Day)	Unknown		

A. GENERAL INFORMATION

1. DESCRIBE METHOD OF TRANSPORTING SLUDGE TO SITE AND STATE WHO WILL BE RESPONSIBLE FOR TRANSPORTING SLUDGE TO SITE:

A. NAME OF HAULER Industrial Waste Division of CENCO*

B. ADDRESS Fallston, PA

2. DISCUSS IN DETAIL THE METHOD OF OPERATION AT THE SITE TO PREVENT NUISANCE AND ODOR CONDITIONING AND WATER POLLUTION: Unknown

3. IS THE SITE ALSO USED FOR SANITARY LAND FILL OPERATIONS?

Yes No

A. IF YES, HAS THE LANDFILL BEEN APPROVED BY THE DEPARTMENT OF HEALTH?

Yes No

B. SPECIFY THE NAME OF THE PARTY OPERATING THE LANDFILL AND DISPOSAL OPERATION:

Industrial Waste Division of CENCO

4. SPECIFY NAME AND ADDRESS OF OWNER OF SITE: Industrial Waste Division of CENCO,

Fallston, PA

*This hauler is for construction phase. The hauler for the operational phase has not been selected.

LIQUID WASTE DISCHARGES

ATTACHMENT TO MODULE 4

NONRADIOACTIVE LIQUID WASTES

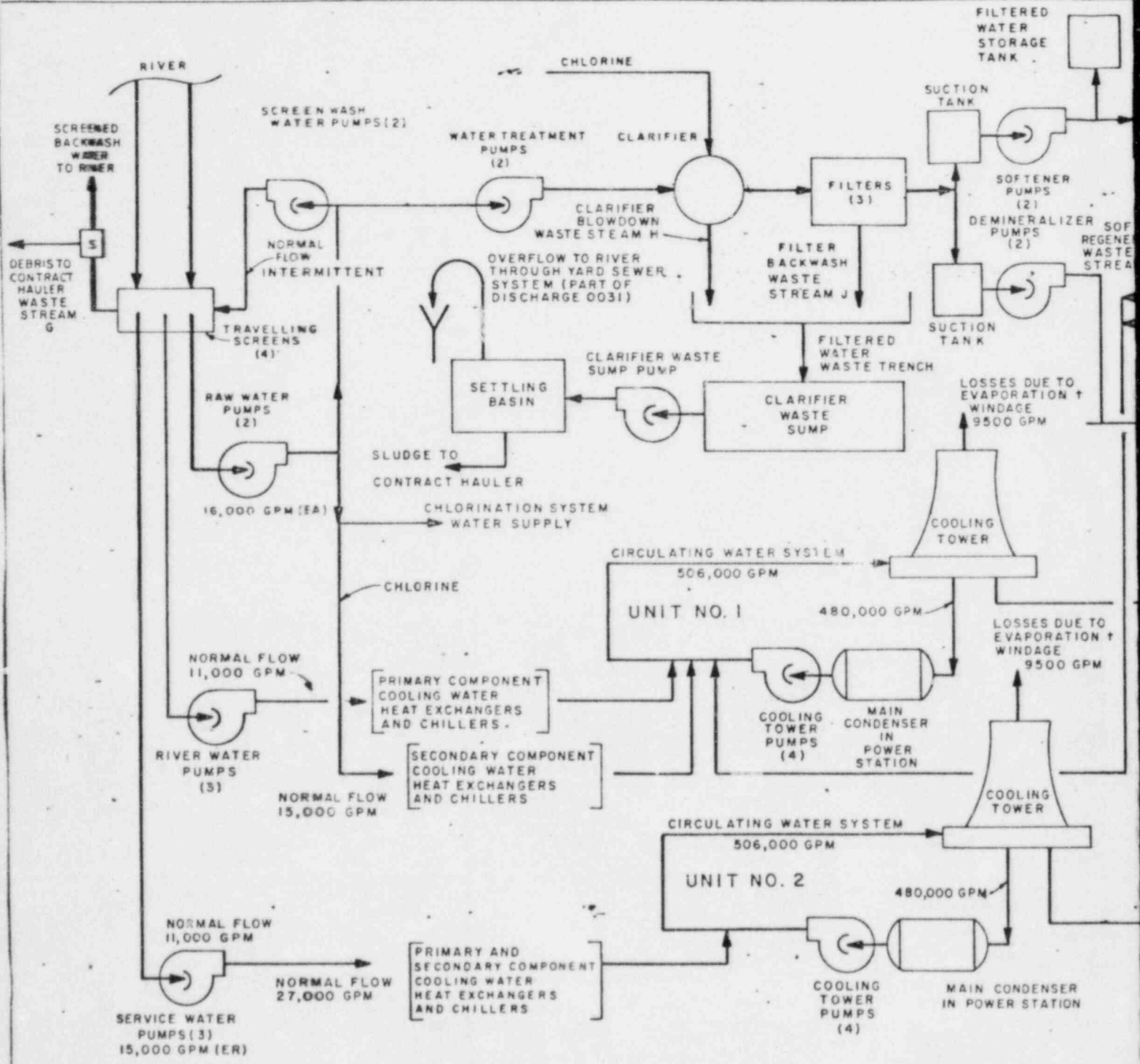
Nonradioactive wastes result from the operation of the water treatment system, screen wash water system, auxiliary boiler, and the cooling tower. The water treatment system is comprised of a clarifier, filters, demineralizer system, water softener, and a waste collection and neutralization sump. The water treatment, screen wash, and auxiliary boiler systems are provided by Unit No. 1.

As operation of the waste treatment system is not necessary for safety, redundancy of all equipment has not been provided; however, duplicate 100 percent capacity pumps have been provided for each system to permit continuous operation during pump maintenance.

The following is a description of the operation of non-radioactive liquid waste systems.

Clarifier and Clarifier Filters

River water supplied to this system is pumped by either of two water treating supply pumps to the clarifier. Each of these pumps has a capacity of 1,100 gpm. The clarifier has a normal design flow of 750 gpm and a maximum rise rate of 1.25 gpm per sq ft. The excess pump capability is furnished to



SCREENED BACKWASH WATER TO RIVER

SCREEN WASH WATER PUMPS (2)

WATER TREATMENT PUMPS (2)

CLARIFIER

FILTERS (3)

FILTERED WATER STORAGE TANK

SUCTION TANK

SOFTENER PUMPS (2)

DEMINERALIZER PUMPS (2)

SOF REGEN WASTE STREAM

SUCTION TANK

DEBRISTO CONTRACT HAULER WASTE STREAM G

NORMAL FLOW INTERMITTENT

CLARIFIER BLOWDOWN WASTE STREAM H

FILTER BACKWASH WASTE STREAM J

OVERFLOW TO RIVER THROUGH YARD SEWER SYSTEM (PART OF DISCHARGE 0031)

TRAVELLING SCREENS (4)

SETTLING BASIN

CLARIFIER WASTE SUMP

LOSSES DUE TO EVAPORATION + WINDAGE 9500 GPM

RAW WATER PUMPS (2)

SLUDGE TO CONTRACT HAULER

CHLORINATION SYSTEM WATER SUPPLY

CLARIFIER WASTE SUMP

COOLING TOWER

16,000 GPM (EA)

CIRCULATING WATER SYSTEM 506,000 GPM

UNIT NO. 1

480,000 GPM

LOSSES DUE TO EVAPORATION + WINDAGE 9500 GPM

NORMAL FLOW 11,000 GPM

PRIMARY COMPONENT COOLING WATER HEAT EXCHANGERS AND CHILLERS

COOLING TOWER PUMPS (4)

MAIN CONDENSER IN POWER STATION

RIVER WATER PUMPS (3)

NORMAL FLOW 15,000 GPM

SECONDARY COMPONENT COOLING WATER HEAT EXCHANGERS AND CHILLERS

CIRCULATING WATER SYSTEM 506,000 GPM

UNIT NO. 2

480,000 GPM

COOLING TOWER

NORMAL FLOW 11,000 GPM

PRIMARY AND SECONDARY COMPONENT COOLING WATER HEAT EXCHANGERS AND CHILLERS

COOLING TOWER PUMPS (4)

MAIN CONDENSER IN POWER STATION

SERVICE WATER PUMPS (3) 15,000 GPM (ER)

NORMAL FLOW 27,000 GPM

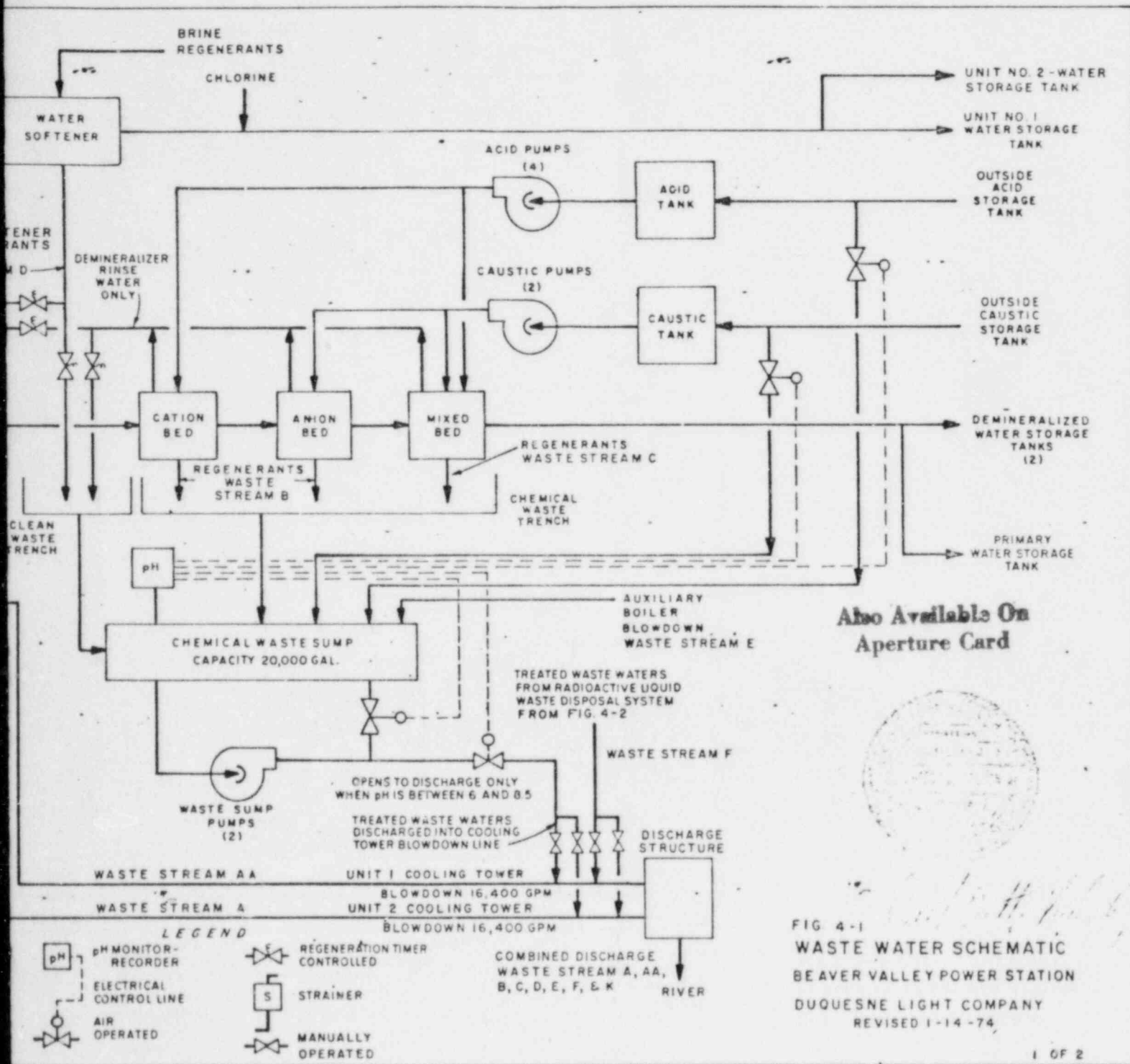
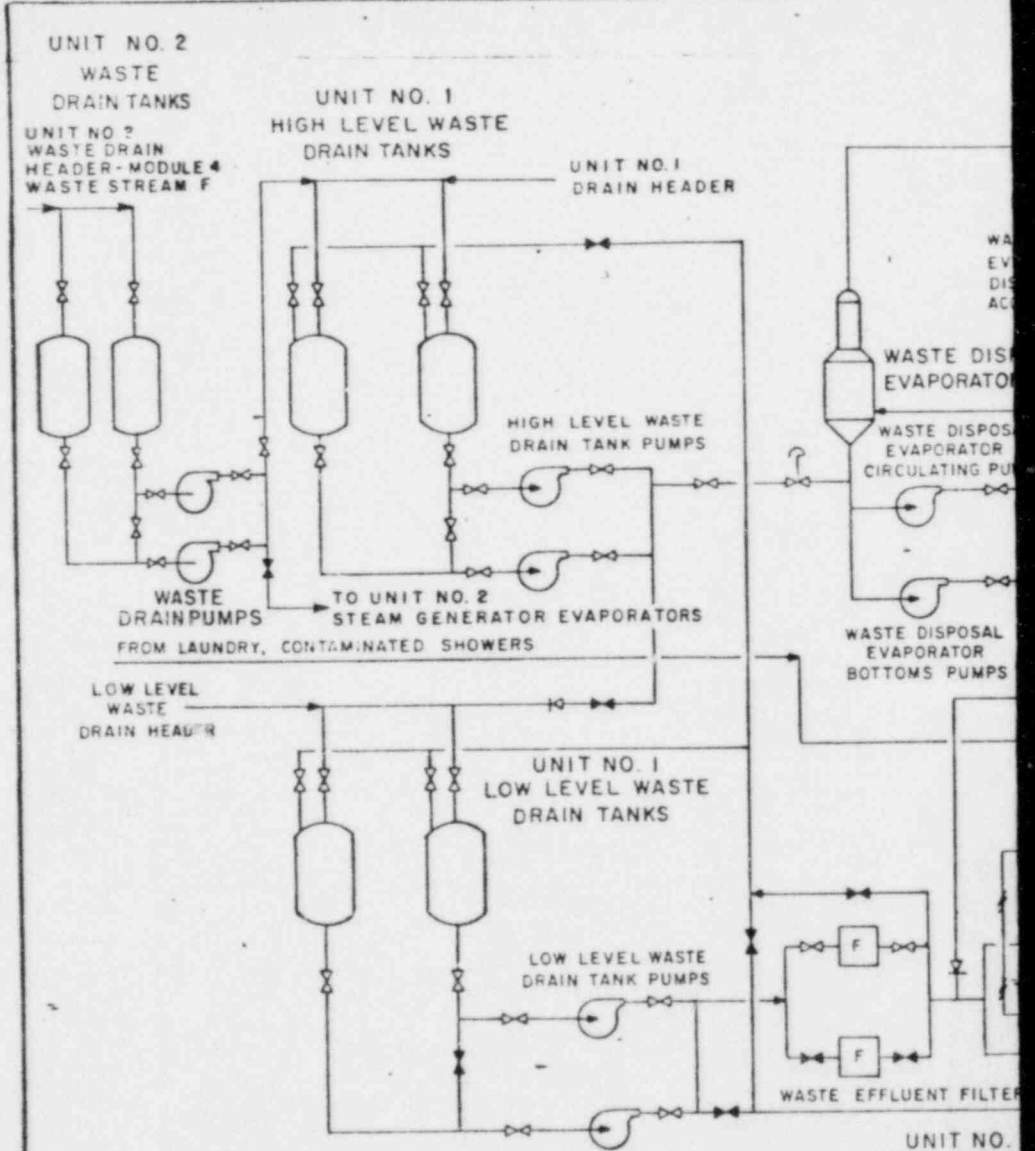


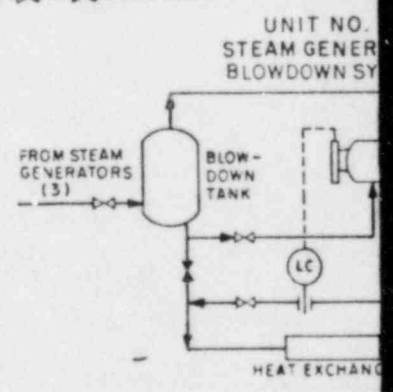
FIG 4-1
WASTE WATER SCHEMATIC
BEAVER VALLEY POWER STATION
DUQUESNE LIGHT COMPANY
REVISED 1-14-74

8408210437-09

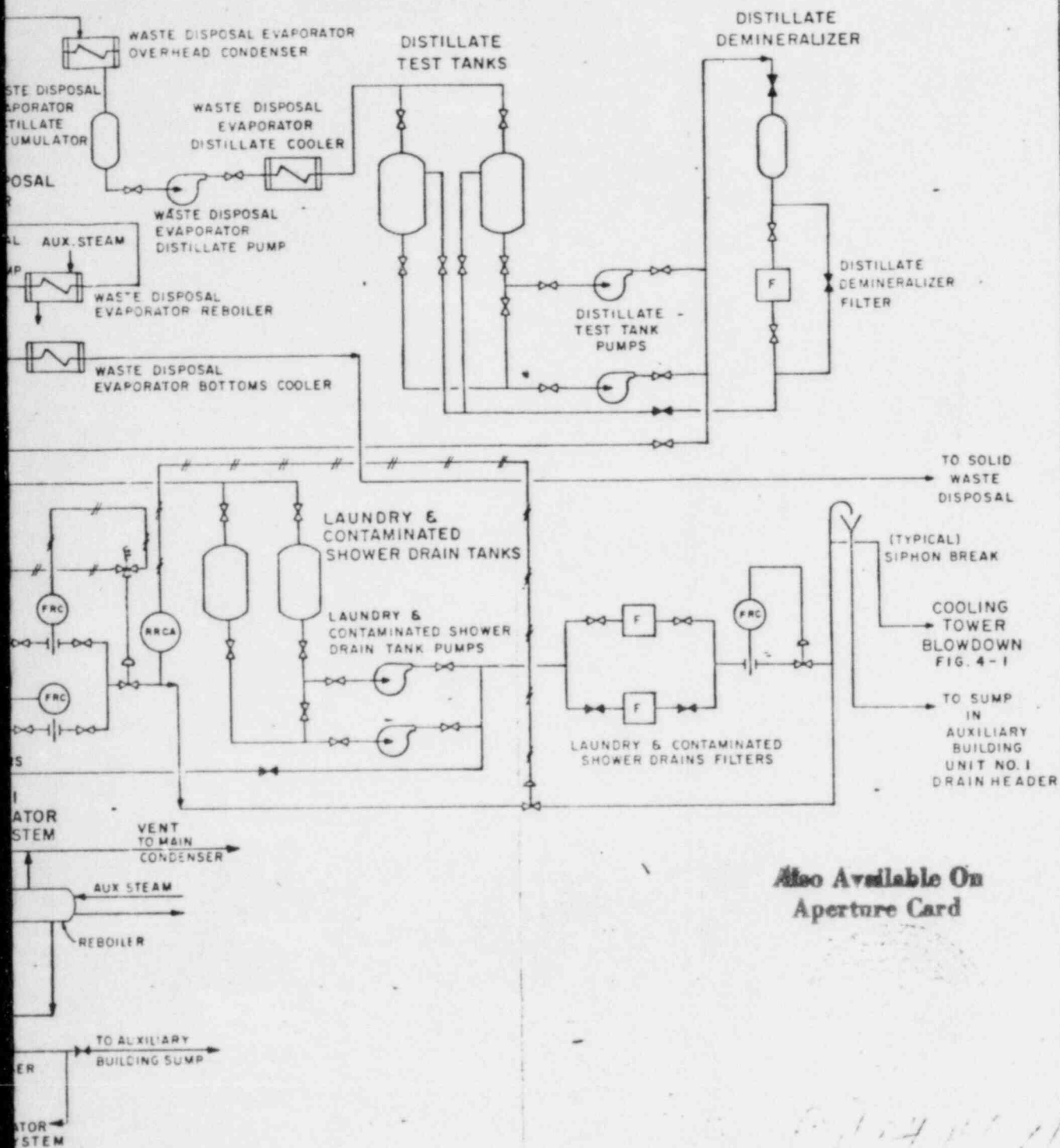


LEGEND

- NORMALLY CLOSED
- NORMALLY OPEN
- AIR OPERATED
- RESTRICTION ORIFICE
- LEVEL CONTROLLER
- FILTER
- SAFETY VALVE
- FLOW RECORDER CONTROLLER
- SOLENOID OPERATED



TO UNIT NO. 2
STEAM GENERATOR
BLOWDOWN SYSTEM
SHEET 2



Also Available On
Aperture Card

FIGURE 4-2
RADIOACTIVE LIQUID
WASTE DISPOSAL SYSTEM
BEAVER VALLEY POWER STATION
REVISED 1-14-74

8408210437 -10

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT

5

NO. 0473211

WATER QUALITY MANAGEMENT PERMIT

<p>A. PERMITTEE (Name and Address)</p> <p>Duquesne Light Co. 430 Sixth Avenue Pittsburgh, Pennsylvania 15219</p>	<p>B. PROJECT LOCATION</p> <p>Municipality <u>Pittsburgh</u></p> <p>County <u>Deer</u></p>
<p>C. TYPE OF FACILITY OR ESTABLISHMENT</p> <p>Nuclear Electric generating station</p>	<p>D. NAME OF MINE, OPERATION OR AREA SERVED</p> <p>Deer Valley Stations 1 and 2</p>

<p>E. THIS PERMIT APPROVES</p> <p>1. Plans For Construction of</p> <p>a. <input type="checkbox"/> PUMP STATIONS; SEWERS AND APPURTENANCES</p> <p>b. <input type="checkbox"/> SEWAGE TREATMENT FACILITIES</p> <p>c. <input type="checkbox"/> MINE DRAINAGE TREATMENT FACILITIES</p> <p>d. <input type="checkbox"/> INDUSTRIAL WASTE TREATMENT FACILITIES</p> <p>e. <input type="checkbox"/> OUTFALL & HEADWALL</p> <p>f. <input type="checkbox"/> STREAM CROSSING</p>	<p>2. The Discharge of:</p> <p>a. <input checked="" type="checkbox"/> TREATED</p> <p><input type="checkbox"/> UNTREATED</p> <p>b. <input type="checkbox"/> INDUSTRIAL WASTE</p> <p><input type="checkbox"/> MINE DRAINAGE</p> <p><input type="checkbox"/> SEWAGE</p>	<p>3. The Operation of:</p> <p><input type="checkbox"/> MINE MAXIMUM AREA TO BE DEEP MINED _____</p> <p><input type="checkbox"/> DAM</p> <p>4. An Erosion and Sedimentation Control Plan <input type="checkbox"/></p> <p>PROJECT AREA IS _____ ACRES.</p>
<p>5. Nature of Discharge or Impoundment:</p> <p><input type="checkbox"/> DISCHARGE TO SURFACE WATER <input type="checkbox"/> DISCHARGE TO GROUND WATER</p> <p><input checked="" type="checkbox"/> IMPOUNDMENT <u>Ohio River</u></p> <p>(Name of Stream to which discharged or drainage area on which ground water discharge takes place or impoundment is located).</p>		

F. You are hereby authorized to construct, operate or discharge, as indicated above, provided that you comply with the following:

- All representations regarding operations, construction, maintenance and closing procedures as well as all other matters set forth in your application and its supporting documents (Application No. 0473211 dated December 24, 1973), and amendments dated January 9, 14, and 17, 1974. Such application, its supporting documents and amendments are hereby made a part of this permit.
- Conditions numbered All of the Industrial Waste Standard Conditions dated October 1, 1971 which conditions are attached hereto and are made a part of this permit.
- Special condition(s) designated A, B, C, D, E, F, G, H, I. which are attached hereto and are made a part of this permit.

G. The Authority granted by this permit is subject to the following further qualifications:

- If there is a conflict between the application or its supporting documents and amendments and the standard or special conditions, the standard or special conditions shall apply.
- Failure to comply with the Rules and Regulations of the Department or the terms or conditions of this permit shall void the authority given to the permittee by the issuance of the permit.
- This permit is issued pursuant to the Clean Streams Law, The Act of June 22, 1937, P.L. 1987 as amended and/or the Water Obstruction Act of June 25, 1913, P.L. 555 as amended. Issuance of this permit shall not relieve the permittee of any responsibility under any other law.

PERMIT ISSUED DEPARTMENT OF ENVIRONMENTAL RESOURCES

DATE APR 11 1974 BY Ernest F. Giovannitti, Chief

TITLE Division of Industrial Waste & Erosion Regulation

Industrial Wastes
Permit No. 0473211

This permit is issued subject to all Rules and Regulations now in force, and the following Special Conditions:

- A. The effluent discharged to the waters of the Commonwealth shall not be acid, shall have a pH of not less than 6.0 nor greater than 9.0, and shall not contain more than 7.0 mg/l of dissolved iron.
- B. Within six months after the herein approved waste treatment works are constructed and placed in operation, the permittee shall submit to the Department evidence of the efficiency and adequacy of such works in treating the waste discharges from this establishment.
- C. All bio-degradable wastes shall be given a minimum of secondary treatment or its equivalent for industrial wastes. Secondary treatment is that treatment which shall accomplish the following:
 - (1) Reduce the organic waste load as measured by the biochemical oxygen demand test by at least 85% during the period May 1 to October 31 and by at least 75% during the remainder of the year based on a five consecutive day average of values.
 - (2) Remove practically all of the suspended solids.
 - (3) Provide effective disinfection to control disease producing organisms.
 - (4) Provide satisfactory disposal of sludge.
 - (5) Reduce the quantities of oils, greases, acids, alkalis, toxic, taste and odor producing substances, color and other substances inimical to the public interest to levels which shall not pollute the receiving stream.

An equivalent of the treatment prescribed above shall be required for non-biodegradable wastes.

- D. The sides of the settling basins shall be maintained constantly at an elevation of at least 24 inches above the highest water level in the basins.
- E. The solid waste disposal site proposed for use in disposing the nonradioactive sludges indicated in the application is approved only for the construction phase of this project. The site proposed for use during the operational phase of the project shall be approved by the Division of Solid Waste Management at least six months prior to the use of the site.

X With respect to the concentrations of radioactivity released from the site (in this case including Shippingport, Beaver Valley No. 1 and Beaver Valley No. 2 Reactors), this permit issued subject to the following limitations:

- a. Releases of radioactive material shall be kept to the lowest practicable level.

refer to addendum dated July 11, 1975

Industrial Wastes
Permit No. 0473211

- b. With the exception of the thyroid, the annual dose equivalent above natural background to the total body or any organ, of any exposed individual who is a member of the public shall be less than 5 millirems from all releases including water.
 - c. The annual dose equivalent above natural background to the thyroid of any exposed individual who is a member of the public shall be less than 15 millirems from all releases including water.
 - d. The total quantity above natural background of all radionuclides, excepting tritium and dissolved noble gases, discharged to the aquatic environment from the site shall be less than 5 curies per year for each 1000 megawatts of nuclear generating capacity at the site.
 - e. The total quantity above natural background of tritium discharged from the site shall be less than 600 curies per year for each 1000 megawatts of nuclear electrical generating capacity at the site.
- G. It is required that a sampling schedule be maintained and that records thereof be kept together with records of the operation of the waste disposal system, and that such data be submitted in duplicate reports to the Department of Environmental Resources, covering such particular matters and at such intervals as the Department may direct. The permittee shall provide means for measuring the total volume as well as variations in the rate of discharge of all waste water. Equipment to automatically record such information must be provided promptly if directed by the Department of Environmental Resources.
- The Department of Environmental Resources may require additional sampling, analyses and testing of the surface and underground waters in the vicinity of the plant, and particularly in the receiving stream at points above and below the plant in order to determine the effects of radioactivity on these waters.
- H. Any solid or liquid waste material including radioactive material must be so handled that nuisance is not created, and must be disposed of in a safe and sanitary manner to the satisfaction of the Department of Environmental Resources in accordance with the provisions of the Pennsylvania Department of Environmental Resources Radiation Protection Regulation 433 and any subsequent regulations of the Pennsylvania Department of Environmental Resources.
 - I. The permittee is hereby directed to immediately notify the Pennsylvania Department of Environmental Resources whenever there is a spill or an accidental discharge of radioactive material, and shall advise that Department promptly concerning the pertinent facts and probable danger. The permittee shall maintain rosters of Pennsylvania Department of Environmental Resources personnel and downstream users of river water who shall be notified. The necessary information for such rosters shall be furnished to the permittee by this Department. In the event of any such accidental discharge, the Department shall determine whether or not downstream users shall be notified, and by whom. Moreover, the permittee is required to see to the training and supervision of all operating personnel, in order to prevent the discharge of such material, fluid or solid, to the waters of the Commonwealth or to the site, without adequate treatment.

DUQUESNE LIGHT COMPANY
ENGINEERING AND CONSTRUCTION DIVISION
STRUCTURAL ENGINEERING DEPARTMENT

July 16, 1975

BEAVER VALLEY POWER STATION
INDUSTRIAL WASTE PERMIT NO. 0473211
OFE 8700 CO 3468
OFE 10080 CO 6289

Mr. C. N. Dunn:

Attached for your information and use are two (2) copies of an addendum to Industrial Waste Permit No. 0473211. This addendum replaces Special Condition "F" of the original permit and its contents appear to be consistent with Duquesne's letter of March 24, 1975 to PDER which requested revision of Special Condition "F".

Robert J. McAllister
ROBERT J. McALLISTER

JHL
WAR

cc: L. J. Amorosi - S&W
C. O. Richardson - S&W
S. L. Pernick
H. A. VanWassen
F. J. Bissert
R. G. Knight
R. D. Scherer
T. B. McAuliffe (original)
J. H. Latshaw
T. J. Munsch

All With Attachments

COMMONWEALTH OF PENNSYLVANIA



DEPARTMENT OF ENVIRONMENTAL RESOURCES

Bureau of Water Quality Management
600 Kossman Building
100 Forbes Avenue
Pittsburgh, Pennsylvania 15222

July 11, 1975

REC'D JUL 15 1975

CERTIFIED MAIL

In reply refer to:

Industrial Waste Permit No. 0473211
Duquesne Light Company
Beaver Valley Power Station - Units No. 1 and No. 2
Shippingport Borough
Beaver County

Mr. Robert J. McAllister, Structural Engineer
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pa. 15219

Dear Mr. McAllister:

In response to your letter of March 24, 1975 an addendum to the special conditions of the subject Permit is enclosed. It is considered a part of the Permit and should be attached to it.

To avoid confusion, Special Condition "F" in your copy of the Permit should be crossed out and reference made to the enclosed addendum.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Howard G. Luley".

Howard G. Luley, P.E.
Regional Sanitary Engineer

HGL/WRS/jc

cc: Central File
Bureau of Radiological Health
File
T-File

Industrial Waste Permit No. 0473211
Duquesne Light Company
Beaver Valley Power Station - Units No. 1 and No. 2
Shippingport Borough
Beaver County
July 11, 1975

Addendum to the subject permit, issued April 11, 1974.

F. With respect to the concentrations of radioactivity released from Beaver Valley No. 1 and Beaver Valley No. 2 reactors (the site), this permit is issued subject to the following limitations:

1. Releases of radioactive material shall be kept to the lowest practicable level.
2. The annual dose equivalent above background * to the whole body, or any organ of an individual in an unrestricted area shall not exceed 5 millirems from liquid releases including all aquatic pathways.
3. The annual dose equivalent above background to an individual in an unrestricted area from gaseous releases shall not exceed:
 1. to the whole body, an immersion dose of 10 millirems except that the skin dose shall not exceed 20 millirems; and
 2. an internal dose of 15 millirems from radioiodines and radioactive material in particulate form through all atmospheric pathways.
4. The total quantity above background of all radionuclides, excepting tritium and dissolved gases, discharged to the aquatic environment shall be less than 5 curies per year for each unit.

* Background means that quantity of radioactive material in the effluents that did not originate in the reactors.



Duquesne Light

435 Sixth Avenue
Pittsburgh, Pennsylvania
15219

(412) 471-4300

February 18, 1976

Mr. Howard G. Luley
Regional Sanitary Engineer
Commonwealth of Pennsylvania
Department of Environmental Resources
600 Kossman Building
100 Forbes Avenue
Pittsburgh, PA 15222

BEAVER VALLEY POWER STATION
INDUSTRIAL WASTE PERMIT NO. 0473211
REVISION TO PERMIT APPLICATION
OF 8700 CWO 629

Dear Mr. Luley:

On April 11, 1974, the Pennsylvania Department of Environmental Resources (PDER) issued Industrial Waste (IW) Permit No. 0473211. This permit covers the discharge of treated industrial wastes from the Beaver Valley Power Station, Units No. 1 and No. 2. Subsequent to permit issuance, the U. S. Nuclear Regulatory Commission (NRC - formerly Atomic Energy Commission) made safety-related determination which resulted in the need for an auxiliary river water system. To meet that need, Duquesne Light Company proposed the installation of an Auxiliary Intake Structure (AIS). The NRC approved Duquesne's proposal and further required in Facility Operating License No. DPR-66 that installation be completed and operational status be achieved by December 31, 1976. To assure operational status, the AIS system will be periodically tested. The test operation of the AIS will result in several discharges not presently covered by IW Permit No. 0473211. Therefore, Duquesne Light Company, on its own behalf and as agent for Ohio Edison Company, Pennsylvania Power Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, is submitting the appropriate documents to describe the new discharges.

The discharges from the AIS will be similar in nature to those discharges from the main intake structure. Basically, two waste streams will be involved. These are the screen backwash discharge and the test line discharge. The screen backwash discharge will be that river water used to remove debris from the traveling screens. The traveling screen debris will in turn be removed from

Mr. Howard G. Luley
February 18, 1976
Page 2

the backwash water by screening and disposed of by a contract hauler. The test line discharge will be screened river water which will be pumped by the river water or service water pumps back to the river during the periodic testing. Testing is expected to occur once per week for one to three hours.

In the event the main intake structure is inoperative, water will be directed to Units 1 and 2 as needed using the AIS river water or service water pumps. Since this water will be used for the primary component cooling water heat exchangers and chillers, no new discharges will be involved as these systems are covered by IW Permit No. 0473211. The AIS screen backwash discharge, however, will occur under this condition.

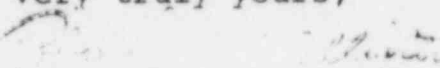
To enable PDER to properly evaluate the proposed discharge and systems, Duquesne Light Company is submitting three (3) copies of the following documents for your review:

1. Revised "Introduction" - Pg. 2
2. Revised Module Page 2-3
3. Revised Module Page 2-4
4. Revised Module Page 2-9
5. Revised "Supplement to Module Two - List of Officers"
6. New Module Pages 4-1C, 4-2C, 4-3C, and 8-1a
7. Revised "Waste Water Schematic"

Kindly void the appropriate superseded pages and insert the above in their place in your copies of the application for IW Permit No. 0473211.

Should you have any questions concerning this submittal or require additional information, please contact this office.

Very truly yours,


ROBERT J. McALLISTER
Structural Engineer

Attachments

bcc: All With Attachments
H. W. Thomas (S&W)
C. O. Richardson (S&W)
H. A. VanWassen
S. L. Pernick
G. W. Moore
T. J. Munsch
R. G. Knight
F. J. Bissert
R. D. Scherer
T. B. McAuliffe
J. H. Latshaw

BVPS-2 will share the following systems related to industrial waste management with Unit No. 1:

- Intake structure
- Auxiliary Intake Structure
- Discharge Structure
- Water Supply and Treatment Systems
- Auxiliary Steam Boilers
- Radioactive Liquid Waste System
- Steam Generator Blowdown System

The first six systems were or are being installed with BVPS-1*. The steam generator system will be installed on BVPS-2 and is designed to process blowdown from both units. The radioactive liquid waste and steam generator blowdown systems are interconnected between stations to provide operational flexibility and additional capacity if required. BVPS-2 is expected to be a duplicate of Unit 1; however, Unit 2 is in the early stages of design, therefore equipment and capacities may change as regulations and requirements develop. Unit 1 amended application No. 0473208 was submitted May 7, 1973.

The application attached hereto consists of completed water pollution control forms, Modules 2, 4, 8, 13, 18, 26E and 27. Also included is an attachment to Module 4 entitled "Liquid Waste Discharges", a description of the waste treatment system. A report on the pollution prevention program is included, as well as an erosion and sedimentation control plan covering the earthwork activities at the site.

*The systems in the Auxiliary Intake Structure will be operational by December 31, 1976.

DATE PREPARED
Revised
1/30/76

WATER-POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

B. REQUIRED DATA

1. THE FRONT COVER OR FLYLEAF OF EACH SET OF DRAWINGS AND SPECIFICATIONS MUST BEAR THE SIGNATURE AND SEAL OF THE REGISTERED PROFESSIONAL ENGINEER OR SURVEYOR BY OR UNDER WHOM PREPARED. EACH DRAWING MUST BEAR AN IMPRINT OR REASONABLE FACSIMILE OF SUCH SEAL.

2. SUPPORTING INFORMATION:

- A. 2 COPIES OF DESIGNER'S PLANS, MODULES, AND SPECIFICATIONS (3 COPIES REQUIRED FOR PROJECTS IN DELAWARE RIVER BASIN) Yes
- B. SCHEMATIC FLOW DIAGRAM OF WASTE TREATMENT PLANT (See Note) (ON APPROX. 8 1/2 x 11" PAPER, ACCOMPANYING MODULES) Yes
- C. UNITED STATES GEOLOGICAL SURVEY TOPOGRAPHIC MAP SHOWING EXACT POINT OF DISCHARGE AND TREATMENT PLANT LOCATION Yes
- D. HAVE YOU APPLIED FOR WATER AND POWER RESOURCES BOARD APPROVAL FOR STREAM ENCROACHMENTS? Yes No N/A
- E. HAVE YOU SUBMITTED A LIST OF NAMES, TITLES, AND ADDRESSES OF ALL PARTNERS IN THE CASE OF A PARTNERSHIP OR ALL OFFICERS IN THE CASE OF A CORPORATION, UNINCORPORATED ASSOCIATION, INCORPORATED ASSOCIATION, PARTNERSHIP, OR OTHER ENTITY? Yes No N/A
- F. HAVE YOU APPLIED FOR BUREAU OF AIR POLLUTION CONTROL APPROVAL FOR STREAM ENCROACHMENTS? Yes No N/A

3. SPECIFY THE FOLLOWING:

PLANS: Waste Water Schematic NO. OF SHEETS 2 DATE 1/30/76
Title/Description

PLANS: Radioactive Liquid Waste Disposal System NO. OF SHEETS 1 DATE 1/14/74
Title/Description

PLANS: General Arrangement NO. OF SHEETS 1 DATE 12/20/73
Title/Description

PLANS: Steam Generator Blowdown System NO. OF SHEETS _____ DATE 12/20/73
Title/Description

B. SPECIFICATIONS (IF APPLICABLE): N/A
Title

NUMBER OF VOLUMES _____ DATE _____

C. OTHER (SPECIFY TYPE AND NUMBER):

U.S.G.S. Map, Hookstown, Pa. Quadrangle

Note: Because of the complexity of the attached drawings, they were not reduced to 8 1/2 x 11.

DATE PREPARED

1/30/76

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

B. REQUIRED DATA - CONTINUED

4. ARE THE PLANS:

A. CLEAR, LEGIBLE, AND DRAWN TO SCALE?

Yes No

B. WITHIN MAXIMUM SIZE OF 36 INCHES BY 50 INCHES?

Yes No

C. CLASS OF CONSTRUCTION

1. TYPE:

- NEW
- REPLACEMENT OF EXISTING FACILITY
- ADDITION AND/OR MODIFICATION TO EXISTING FACILITY

D. PLANT STATUS

1. IS THE INDUSTRIAL ESTABLISHMENT:

- PROPOSED?
- EXISTING?

2. TYPE OF INDUSTRIAL ESTABLISHMENT (USE STANDARD CODE OF UNITED STATES OFFICE OF STATISTICAL STANDARDS):

CODE 4911 DESCRIPTION Electrical Companies and Systems

A. TYPE OF PRODUCT: Electrical Energy

B. DAILY PRODUCTION: 851.9 MWh

C. DAYS PER YEAR OF PRODUCTION: 335

D. LENGTH OF WORKING DAY: 24 HOURS 7 DAYS PER WEEK
45 additional normal

E. NUMBER OF EMPLOYEES Approximately 70 additional Refueling

3. TYPE OF OWNERSHIP:

- INDIVIDUAL
- CORPORATION
- PARTNERSHIP
- OTHER (SPECIFY) _____

4. HAS THIS APPLICATION BEEN FILED AS A RESULT OF A SANITARY WATER BOARD ORDER?

Yes No

5. HAS THIS APPLICATION BEEN FILED AS THE RESULT OF A VIOLATION NOTICE?

Yes No

6. THE DATE OF THE ORDER OR VIOLATION NOTICE IS _____

N/A

7. LIST BY NUMBER AND DATE ANY PREVIOUSLY ISSUED PERMITS RELEVANT TO THIS INDUSTRIAL ESTABLISHMENT:

Sewage 0472411 12/06/72
Sewage 076947 6/25/69

IW 0470208 2/25/71
IW 0473203 4/17/74
IW 0470203 6/26/70

*See Attachment page 2-4a

DATE PREPARED
Revised
1/30/76

WATER POLLUTION CONTROL
INDUSTRIAL WASTES
MODULE 2 - GENERAL INFORMATION

For Department of Health Use Only

H. PROCESS WATER - CONTINUED

TABLE II

SOURCE	NAME	AVERAGE WATER USE (MGD)
PUBLIC SUPPLY		
WELLS		
RIVER, STREAM, OR LAKE	Ohio River	39.8
OTHER (SPECIFY)		

I. SEAL AND SIGNATURE OF PROFESSIONAL ENGINEER OR SURVEYOR RESPONSIBLE FOR THIS APPLICATION

1. SIGNATURE OF PROFESSIONAL ENGINEER
(Or Surveyor Where Permitted By Law)

Carl Otto Rehnberg, Jr.

2. SEAL OF PROFESSIONAL ENGINEER
(Or Surveyor Where Permitted By Law)



SUPPLEMENT TO MODULE TWO

List of Officers
of
DUQUESNE LIGHT COMPANY
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219

John M. Arthur	- Chairman of the Board and Chief Executive Officer
Stanley G. Schaffer	- President
Earl J. Woolever	- Vice President Engineering and Construction Division
William F. Gilfillan, Jr.	- Vice President Sales Division
Clifford N. Dunn	- Vice President Operations Division
Charles M. Atkinson	- Vice President Fiscal Division
John A. Knepper	- Treasurer and Controller
Howard W. Staas	- Secretary

Revised 12/29/75

ER BWQ 51.4

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
WATER QUALITY MANAGEMENT

WATER POLLUTION CONTROL

DATE PREPARED 12/29/75
DATE REVISED

For Department Use Only

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

TABLE I - WASTE STATUS REPORT

TOTAL WASTE FLOW (MGD)		SOURCE OF WASTE: Auxiliary Screen and Strainer Washwater	SOURCE OF WASTE: Auxiliary Intake Test Discharge	SOURCE OF WASTE:	SOURCE OF WASTE:
		<input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	<input checked="" type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	<input type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE	<input type="checkbox"/> PRESENT <input type="checkbox"/> FUTURE
1. TYPE OF WASTE		River Debris	River Water		
2. FLOW	A. MGD (AVERAGE)	0.038	0.900		
	B. MGD (MAXIMUM)	.115	2.70		
3. WASTE DISCHARGE	A. TREATED SEPARATELY	By Screening			
	B. NOT TREATED	UNIT EXISTING	UNIT PROPOSED	Not Treated	
	C. COMBINED AND TREATED				
SEQUENCE OF A TREATMENT STEPS		<input checked="" type="checkbox"/>	Screening	Discharge	
		<input checked="" type="checkbox"/>	Discharge		

A. GENERAL INFORMATION

1. WILL ALL LABORATORY ANALYSES BE IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER"? Yes No N/A
2. WILL THE TREATMENT PROCESS PRODUCE FOR EACH WASTE ABOVE A SATISFACTORY EFFLUENT THAT WILL HAVE NO ADVERSE EFFECT UPON THE RECEIVING STREAM OR ITS USES? Yes No N/A

ONLY SEWERAGE AND INDUSTRIAL WASTE APPLICANTS COMPLETE ITEM 3.

3. GIVE EXPECTED PERCENTAGE REDUCTION OF:
- A. BOD (5 DAY 20° CENTIGRADE) _____ % N/A
- B. SUSPENDED SOLIDS _____ % N/A
- C. SETTLEABLE SOLIDS (SEWAGE ONLY) _____ % N/A

DATE PREPARED

12/29/75

DATE REVISED

WATER POLLUTION CONTROL

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

For Department Use Only

TABLE II - WASTE LOAD CHARACTERISTICS

Sample Or Data Location	Auxiliary Intake Screen and Strainer		Auxiliary Intake Washwater		Auxiliary Intake Waste Line Waste Stream L		Auxiliary Intake Waste Line Waste Stream M		Auxiliary Intake Test Discharge		WASTE:		LOCATION:	
	WASTE:		WASTE:		WASTE:		WASTE:		WASTE:		PRESENT		FUTURE	
	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated
INDUSTRIAL WASTE APPLICANTS COMPLETE ALL APPLICABLE ITEMS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SEWAGE APPLICANTS COMPLETE ONLY ITEMS CODED "S"	S	M	S	M	S	M	S	M	S	M	S	M	S	M
MINE DRAINAGE APPLICANTS COMPLETE ONLY ITEMS CODED "M"	M		M		M		M		M		M		M	
1. WASTE FLOW Mgd	0.038	0.038	N/A	N/A	0.038	0.038	N/A	N/A						
2. COLOR Deg F	Ambient	Ambient	Ambient	Ambient	Ambient	Ambient	Ambient	Ambient						
3. TEMPERATURE Deg F	Ambient	Ambient	Ambient	Ambient	Ambient	Ambient	Ambient	Ambient						
4. pH														
5. ALKALINITY (Minus for Acid) Mg/L														
6. SOLIDS - SUSPENDED Mg/L														
7. SOLIDS - SUSPENDED Lbs/Cap/Day														
8. SOLIDS - SUSPENDED Lbs/Day														
9. SOLIDS - SETTLEABLE M/L														
10. SOLIDS - DISSOLVED Mg/L														
11. IRON - DISSOLVED Mg/L														
12. IRON (Total) Mg/L														
13. MANGANESE Mg/L														
14. ALUMINUM Mg/L														
15. BOD (5 Day 20° C) Mg/L														
16. BOD (5 Day 20° C) Lbs/Cap/Day														
17. BOD (5 Day 20° C) Lbs/Day														

DATE PREPARED

12/29/75

DATE REVISED

WATER POLLUTION CONTROL

MODULE 4 - WASTE LOAD AND CHARACTERISTICS

For Department Use Only

Sample or Data Location - Continued	Auxiliary Intake WASTE Test Discharge		Auxiliary Intake WASTE Test Discharge		Auxiliary Intake WASTE Test Discharge		Auxiliary Intake WASTE Test Discharge	
	LOCATION: Waste Line Waste Stream M		LOCATION: Waste Line Waste Stream M		LOCATION: Waste Line Waste Stream M		LOCATION: Waste Line Waste Stream M	
	PRESENT	FUTURE	PRESENT	FUTURE	PRESENT	FUTURE	PRESENT	FUTURE
INDUSTRIAL WASTE APPLICANTS COMPLETE ALL APPLICABLE ITEMS	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
SEWAGE APPLICANTS COMPLETE ONLY ITEMS CODED "S."	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
MINE DRAINAGE APPLICANTS COMPLETE ONLY ITEMS CODED "M."	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
18. DISSOLVED OXYGEN	Mg/L							
19. TURBIDITY	Units							
20. NITROGEN - AMMONIA	Mg/L							
21. NITROGEN - NITRITE	Mg/L							
22. NITROGEN - NITRATE	Mg/L							
23. PHOSPHATE (TOTAL SOLUBLE PO ₄)	Mg/L							
24. SULFATE	Mg/L							
25. OIL	Mg/L							
OTHER (Specify)	(Give Units)							
Waste Load		Waste Load		Waste Load		Waste Load		
Raw	Treated	Raw	Treated	Raw	Treated	Raw	Treated	
Actual	Est.	Actual	Est.	Actual	Est.	Actual	Est.	
Analysis same as river water but with leaves, twigs, grass and other river debris removed.		Analysis same as river water.		Analysis same as river water but with leaves, twigs, grass and other river debris removed.		Analysis same as river water but with leaves, twigs, grass and other river debris removed.		

B. DESCRIPTION OF SAMPLING PROCEDURE

1. FOR EACH WASTE LOAD ON TABLE II, DESCRIBE BELOW THE METHOD AND DATE(S) OF SAMPLING.

12/29/75

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
WATER QUALITY MANAGEMENT

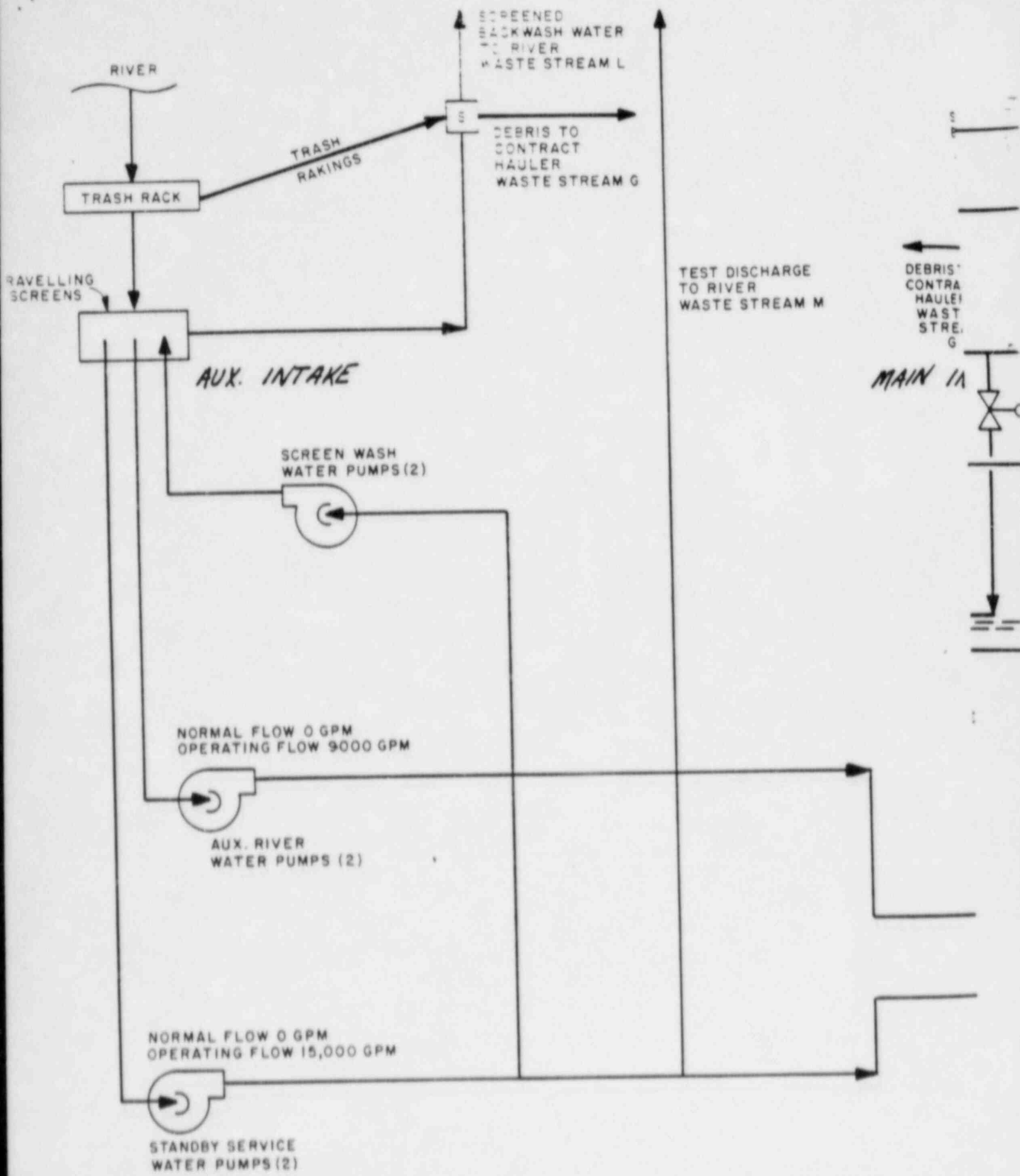
WATER POLLUTION CONTROL
MODULE 8 - PUMPING FACILITIES

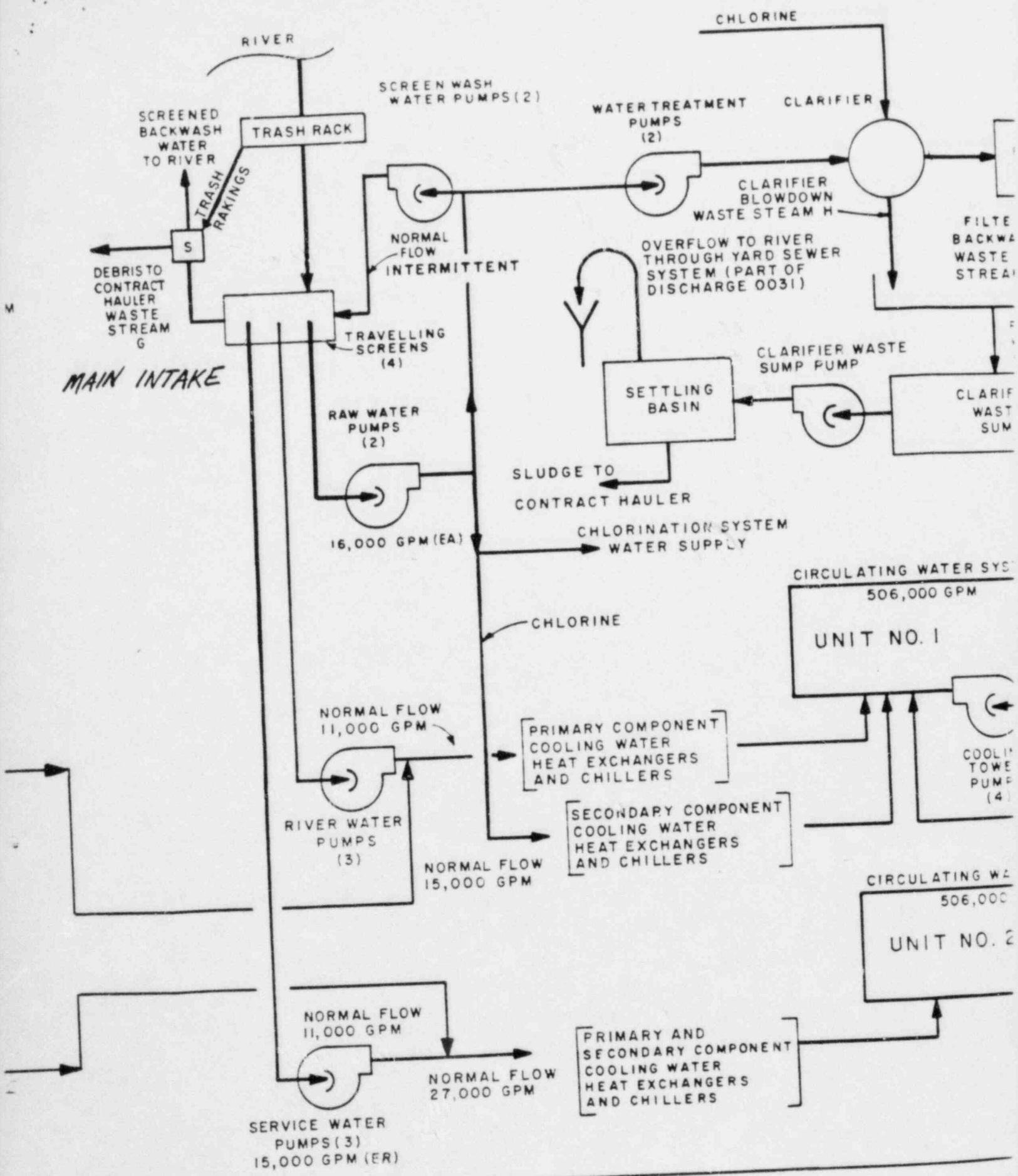
For Department Use Only

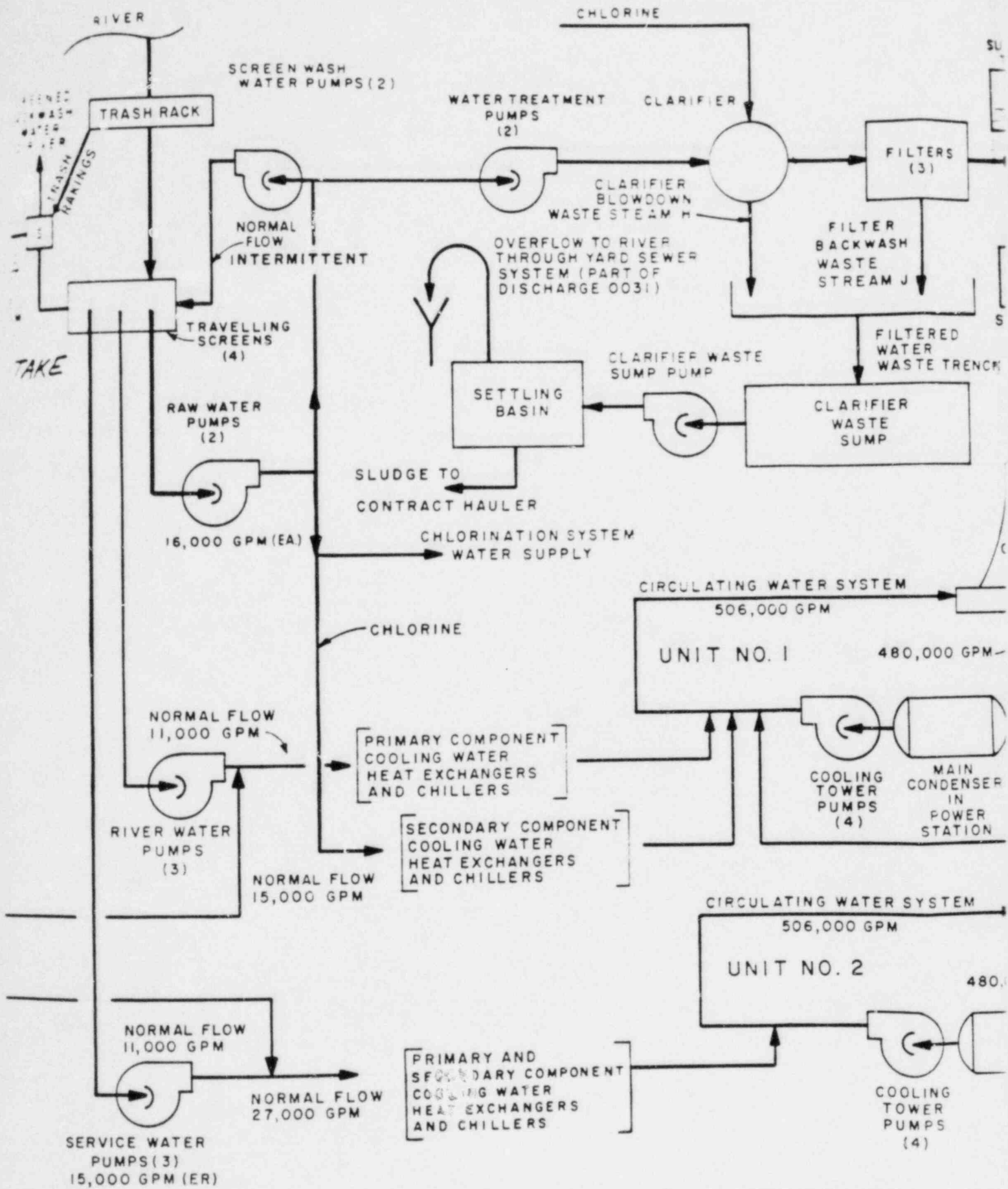
(Do Not Use This Module For Sewage Pumping Stations)

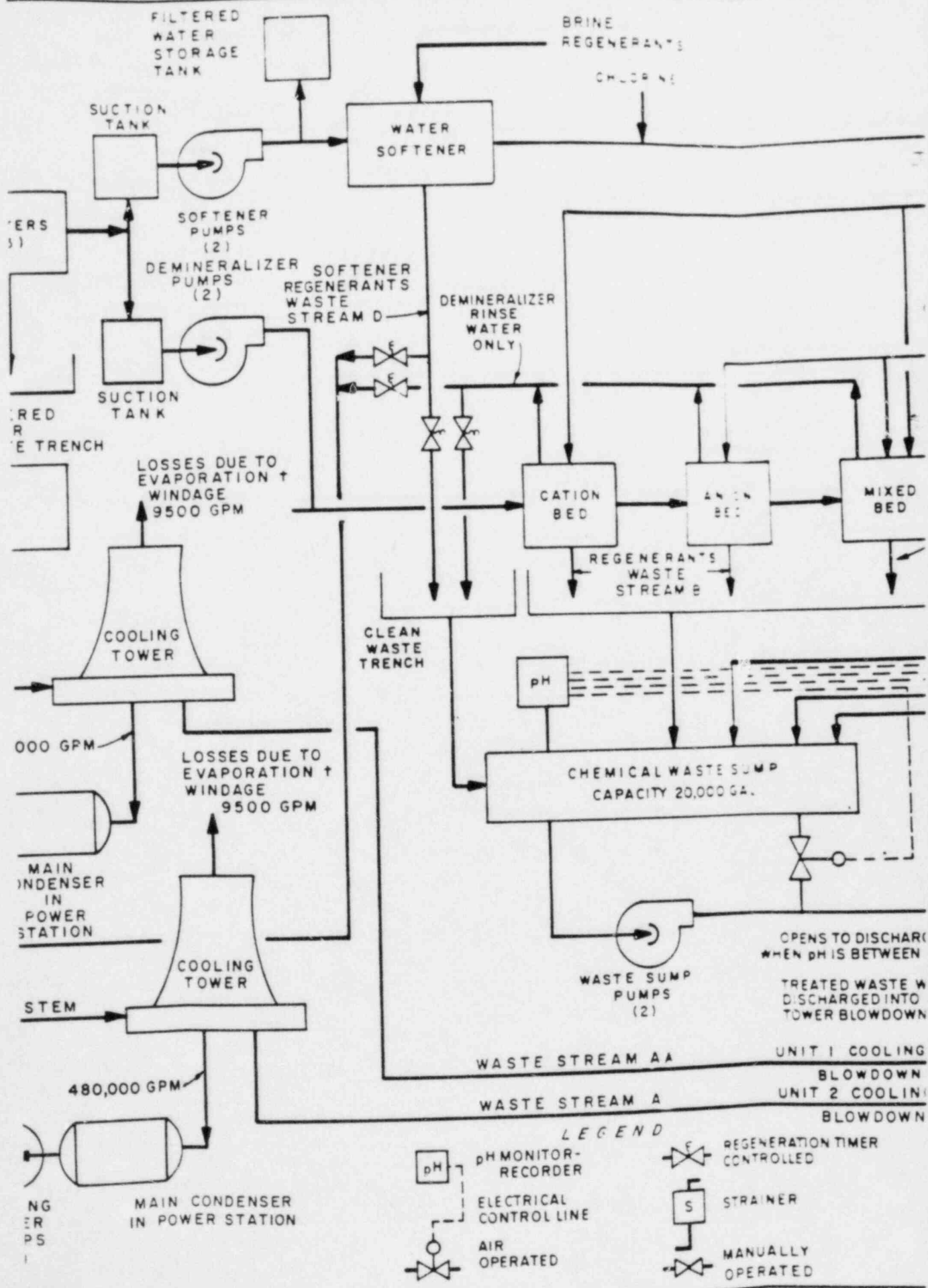
TABLE I - LIST ALL THE PUMPS IN THE FACILITY. CLASSIFY EACH PUMP ACCORDING TO THE CLASSIFICATION KEY AND ANSWER ALL RELEVANT QUESTIONS.

NUMBER OF IDENTICAL PUMPS	CLASSIFICATION KEY (Indicate By Letter)	Classification Key				Check Columns That Apply To Each Pump						Pump Capacity		Wet Well Or Sump				
		INDICATE POINT OF SUCTION	MAXIMUM SUCTION HEAD (FT.)	SPECIFY POINT OF DISCHARGE	PRESSURE LINE VELOCITY (FPS.)	EXISTING	PROPOSED	VARIABLE SPEED	CONSTANT SPEED	AUTOMATIC CONTROL	MANUAL CONTROL	PNEUMATIC EJECTOR	STANDBY OPERATION	(GPM.)	TDH (FT.)	TOTAL CAPACITY (GAL.)	EFFECTIVE CAPACITY (GAL.)	DETENTION PERIOD (MIN.)
2	G	River	55	Aux. River Water Hdr	6.4	X	X	X	X				9,000	180			River Intake Structure	
2	G	River	55	Stby Serv. Water Hdr	6.8	X	X	X	X				15,000	220			River Intake Structure	
1	H	Aux. Rvr. Water Hdr	150	Travelling Screens	13	X	X	X	X				300	200			Inline Pump	
1	H	Stby serv. Water Hdr	150	Travelling Screens	13	X	X	X	X				300	200			Inline Pump	









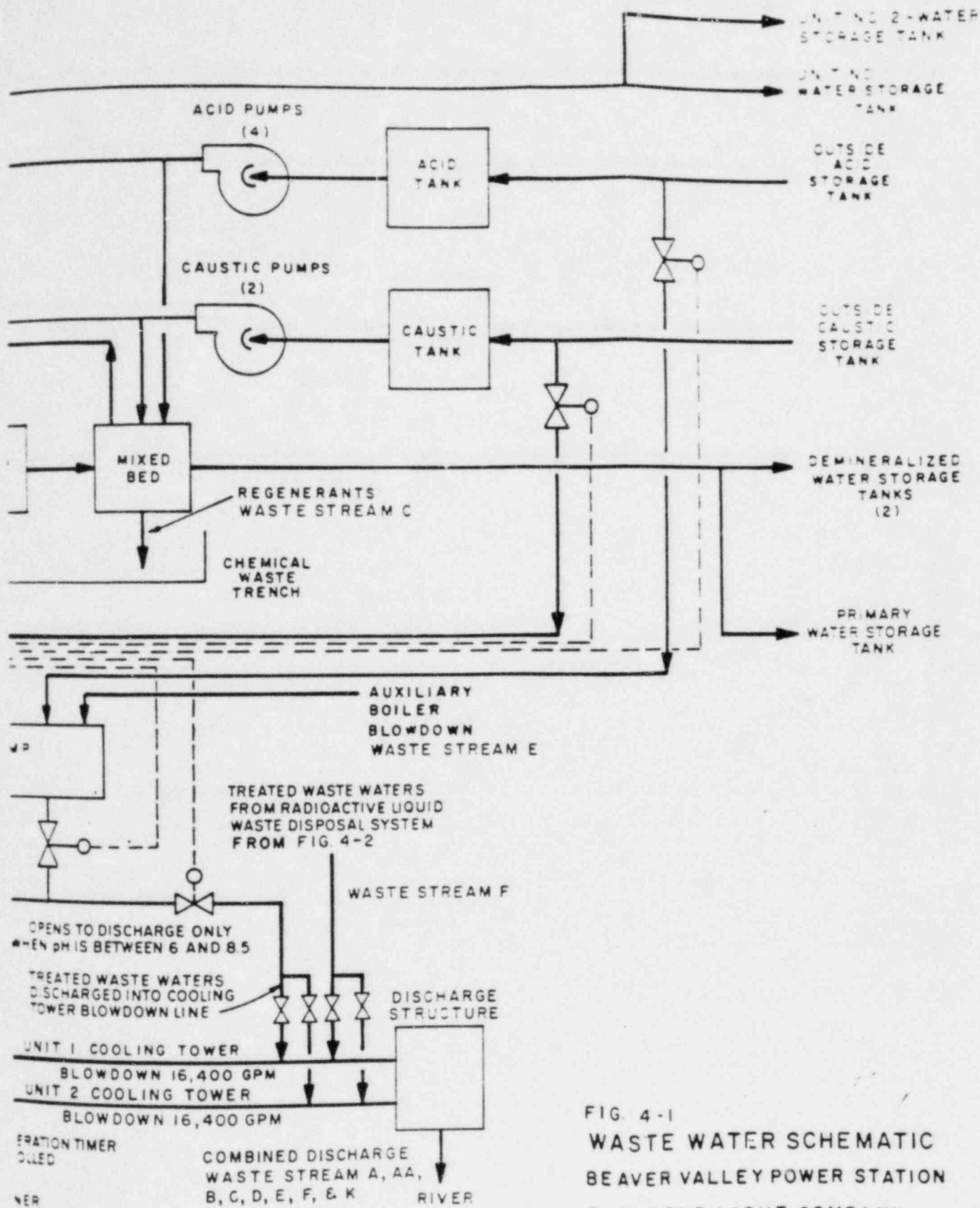


FIG. 4-1
 WASTE WATER SCHEMATIC
 BEAVER VALLEY POWER STATION
 DUQUESNE LIGHT COMPANY
 REVISED 2-18-76

27/5
COMMONWEALTH OF PENNSYLVANIA



DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT
600 Kossman Building
100 Forbes Avenue
Pittsburgh, Pennsylvania 15222

March 18, 1976

MAR 24 REC'D

In reply refer to:

I.W. Permit No. 0473211
Duquesne Light Company
Beaver Valley Power Station - Units No. 1 and 2
Shippingport Borough
Beaver County

Mr. Robert J. McAllister, Structural Engineer
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pa. 15219

Dear Mr. McAllister:

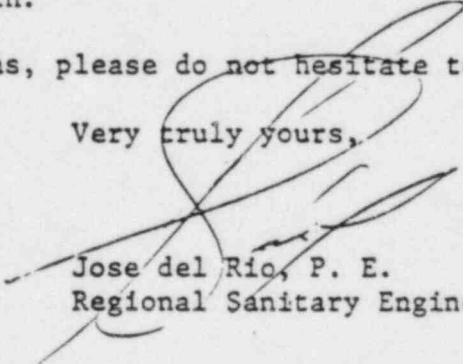
We have reviewed the proposal set forth in your letter dated February 18, 1976, to modify Industrial Wastes Permit No. 0473211. This proposal involves request for an approval of two additional emergency discharges resulting from AIS (Auxiliary Intake Structure) not previously covered by I.W. Permit No. 0473211 as follows:

1. Auxiliary screen and strainer wash water, 0.038 MGD average. 6
2. Auxiliary Intake test discharge 0.9 MGD average. 7

This proposal is hereby approved and the material submitted will be made part of the official documentation of Permit No. 0473211. All conditions of your permit must be complied with.

Should you have any questions, please do not hesitate to contact me.

Very truly yours,


Jose del Rio, P. E.
Regional Sanitary Engineer

JRdR/KS/gm
cc: Case File
Central File
Alpha File thru T. Vayansky
T-File
K. Shah

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
505 State Office Building
300 Liberty Avenue
Pittsburgh, Pennsylvania 15222

600-202-1000
FOR INFO

JAN 16 1974

REC'D JAN 17 1974

CERTIFIED MAIL

Mr. E. J. Woolever, Vice President
Engineering & Construction Division
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pa. 15219

SUBJECT: Water Quality Management Permit No. 0473802
Duquesne Light Company
Shippingport Borough
Beaver County

Gentlemen:

Subject permit is enclosed.

Please study the permit carefully and direct any questions to the Facilities Section of this office.

Very truly yours,

David F. Janco

David F. Janco
Environmental Protection Specialist

DFJ/car

505-50

cc: Central Office
File

WATER QUALITY MANAGEMENT PERMIT

NO. 0473802

<p>A. PERMITTEE (Name and Address)</p> <p>Duquesne Light Company 435 Sixth Avenue Pittsburgh, Pennsylvania 15219</p>	<p>B. PROJECT LOCATION</p> <p>Municipality <u>Shippingport Borough</u></p> <p>County <u>Beaver</u></p>
---	---

<p>C. TYPE OF FACILITY OR ESTABLISHMENT</p> <p>Utility Power Plant Construction</p>	<p>D. NAME OF MINE, OPERATION OR AREA SERVED</p> <p>Beaver Valley Power Station Unit 2</p>
--	---

<p>THIS PERMIT APPROVES</p> <p>1. Plans For Construction of</p> <p>a. <input type="checkbox"/> PUMP STATIONS, SEWERS AND APPURTENANCES</p> <p>b. <input type="checkbox"/> SEWAGE TREATMENT FACILITIES</p> <p>c. <input type="checkbox"/> MINE DRAINAGE TREATMENT FACILITIES</p> <p>d. <input type="checkbox"/> INDUSTRIAL WASTE TREATMENT FACILITIES</p> <p>e. <input type="checkbox"/> OUTFALL & HEADWALL</p> <p>f. <input type="checkbox"/> STREAM CROSSING</p>	<p>2. The Discharge of:</p> <p>a. <input type="checkbox"/> TREATED</p> <p style="padding-left: 20px;"><input type="checkbox"/> UNTREATED</p> <p>b. <input type="checkbox"/> INDUSTRIAL WASTE</p> <p style="padding-left: 20px;"><input type="checkbox"/> MINE DRAINAGE</p> <p style="padding-left: 20px;"><input type="checkbox"/> SEWAGE</p>	<p>3. The Operation of:</p> <p><input type="checkbox"/> MINE MAXIMUM AREA TO BE DEEP MINED _____</p> <p><input type="checkbox"/> DAM</p> <hr/> <p>4. An Erosion and Sedimentation Control Plan <input checked="" type="checkbox"/></p> <p>PROJECT AREA IS <u>25</u> ACRES.</p>
<p>5. Nature of Discharge or Impoundment:</p> <p><input checked="" type="checkbox"/> DISCHARGE TO SURFACE WATER <input type="checkbox"/> DISCHARGE TO GROUND WATER</p> <p><input type="checkbox"/> IMPOUNDMENT <u>Peggs Run</u></p> <p>(Name of Stream to which discharged or drainage area on which ground water discharge takes place or impoundment is located).</p>		

F. You are hereby authorized to construct, operate or discharge, as indicated above, provided that you comply with the following :

1. All representations regarding operations, construction, maintenance and closing procedures as well as all other matters set forth in your application and its supporting documents (Application No. 0473802 dated November 26, 1973), and amendments dated _____ Such application, it's supporting documents and amendments are hereby made a part of this permit.
2. Conditions numbered 1 through 20 inclusive of the Erosion Control Standard Conditions dated February 22, 1973 which conditions are attached hereto and are made a part of this permit.
3. Special condition(s) designated None which are attached hereto and are made a part of this permit.

The Authority granted by this permit is subject to the following further qualifications:

1. If there is a conflict between the application or its supporting documents and amendments and the standard or special conditions, the standard or special conditions shall apply.
2. Failure to comply with the Rules and Regulations of the Department or the terms or conditions of this permit shall void the authority given to the permittee by the issuance of the permit.
3. This permit is issued pursuant to the Clean Streams Law, The Act of June 22, 1937, P.L. 1987 as amended and/or the Water Obstruction Act of June 25, 1913, P.L. 555 as amended. Issuance of this permit shall not relieve the permittee of any responsibility under any other law.

<p>PERMIT ISSUED</p> <p>DATE <u>JAN 14 1974</u></p>	<p>DEPARTMENT OF ENVIRONMENTAL RESOURCES</p> <p>BY <u>Howard G. Luley</u></p> <p>Howard G. Luley, P.E.</p> <p>TITLE <u>Regional Sanitary Engineer</u></p>
---	---

STANDARD CONDITIONS RELATING TO EROSION CONTROL

For use in Water Quality Management Permits

1973

General

1. By approval of the plans for which this permit is issued, neither the Department nor the Commonwealth of Pennsylvania assumes any responsibility for the feasibility of the plans or the operation of the measures and facilities to be constructed thereunder.
2. All relevant conditions of any prior water quality management permits, decrees, or orders issued to the herein permittee or his predecessor shall be continued in full force and effect unless explicitly superseded by this permit. The provisions of this permit shall apply to the permittee's successors, lessees, heirs and assigns.
3. The responsibility for the carrying out of the conditions of this permit shall rest upon the owner, lessee, assignee, or other party in responsible managerial charge of the earthmoving affecting the runoff and of the erosion control facilities herein approved, such responsibility passing with each succession in said control. Approval of measures and facilities under a permit shall not be effective as to a new owner until a transfer has been executed and filed on forms provided by the Department and the transfer is approved by the Department.
4. The permittee shall secure any necessary permission from the proper federal authority for any outfall or structure which discharges into or enters navigable waters.
5. In order to avoid obsolescence of the plans of erosion control measures and facilities, the approval of the plans herein granted, and the authority granted in the permit, if not specifically extended, shall cease and be null and void two years from the date of this permit unless the erosion control measures and facilities covered by said plans shall have been completed and placed in operation on or before that date. Also, cancellation of permits by the Regional Sanitary Engineer or Water Quality Manager may be possible six months after construction has ended.

6. Approval of plans refers to functional design and not constructional stability, which is assumed to be sound and in accordance with good structural design. Failure of the measures and facilities herein approved because of faulty structural design or poor construction will render the permit void.
7. If at any time the activities undertaken pursuant to this permit or the discharge of the effluent therefrom is causing or contributing to pollution of the waters of the Commonwealth, the permittee shall forthwith adopt such remedial measures as are acceptable to the Department.
8. The Clean Streams Law and the Regulations promulgated thereunder are incorporated into and made part of this permit.
9. The permittee shall have his erosion control plan available at the site of the activity at all times.

Construction

10. At least seven days before earthmoving will begin, the permittee, by certified mail, shall notify the Regional Sanitary Engineer or Water Quality Manager of the date for beginning of construction.
11. All earthmoving activities shall be undertaken in such a manner as to minimize the areal extent of disturbed land.
12. All surface water upslope of the project area shall be kept away by diverting the water around the project area.
13. The erosion control measures and facilities shall be constructed under expert professional supervision and competent inspection, and in accordance with plans, designs, and other data as herein approved or amended, and with the conditions of this permit.
14. No radical changes shall be made in the measures and facilities herein approved without approval of the Department. Revisions which do not change the control measures and facilities or the points of discharge may be approved by the Regional Sanitary Engineer or Water Quality Manager upon submission of plans. Other revisions must be approved by a permit.
15. When the herein approved erosion control measures and facilities are completed, the permittee shall notify the Department so that an inspection of the measures and facilities may be made by a representative of the Department.

Operation and Maintenance

16. No storm water, sewage or industrial wastes not specifically approved herein, shall be admitted to the measures and facilities for which this permit is issued, unless with the approval of the Department

17. The erosion control measures and facilities herein approved shall be maintained in proper condition so that they will individually and collectively perform the functions for which they were designed. In order to insure the efficacy and proper maintenance of the measures and facilities, the permittee shall make periodic inspections at sufficiently frequent intervals to detect any impairment of the structural stability, adequate capacity, or other requisites of the herein approved measures and facilities which might impair their effectiveness, and shall take immediate steps to correct any such impairment found to exist.
18. Sediment shall at no time be permitted to accumulate in sedimentation basins to a depth sufficient to limit storage capacity or interfere with the settling efficiency thereof. Any such material removed shall be handled and disposed of so that a problem is not created and so that every reasonable and practical precaution is taken to prevent the said material from reaching the waters of the Commonwealth.
19. All slopes, channels, ditches or any disturbed area shall be stabilized as soon as possible after the final grade or final earthmoving has been completed. Where it is not possible to permanently stabilize a disturbed area immediately after the final earthmoving has been completed or where the activity ceases for more than 20 days, interim stabilization measures shall be implemented promptly.
20. Upon completion of the project, all areas which were disturbed by the project shall be stabilized so that accelerated erosion will be prevented. Any erosion and sedimentation control facility required or necessary to protect areas from erosion during the stabilization period shall be maintained until stabilization is completed. Upon completion of stabilization, all unnecessary or unusable control measures and facilities shall be removed, the areas shall be graded and the soils shall be stabilized.



COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL RESOURCES
 BUREAU OF WATER QUALITY MANAGEMENT
 600 Kossman Building
 100 Forbes Avenue
 Pittsburgh, Pennsylvania 15222-1376



(412) 565-5023

7.01

November 8, 1982

Mr. W. G. Logan
 Structural Engineering Department
 Duquesne Light Company
 435 Sixth Avenue
 Pittsburgh, PA 15219

0473802

RE: ~~PERMIT TO DISCHARGE~~ ~~PERMIT NO. 0473802~~
 Duquesne Light Company
 Beaver Valley Power Station - Unit No. 2
 Shippingport Borough
 Beaver County

Dear Mr. Logan:

In response to your October 25, 1982 letter, we hereby extend the above referenced permit to include another four year period accounting for construction delays. The permit expiration date will be changed from December 31, 1982 to December 31, 1986.

If you have any questions concerning this extension or related permitting matters, please direct questions or correspondence to the Bureau of Soil and Water Conservation (address below); this Bureau is now responsible for the implementation of the Erosion and Sedimentation Control program. The address for the local regional office is:

Department of Environmental Resources
 Bureau of Soil and Water Conservation
 140 East Mall Plaza
 Carnegie, PA 15106

Sincerely,

Stephen F. Federsen, P.E.
 Regional Water Quality Manager

SFP:SN:bk: r t

cc: Mr. Samuel Livingston

COMMONWEALTH OF PENNSYLVANIA



DEPARTMENT OF ENVIRONMENTAL RESOURCES
P. O. Box 2063
Harrisburg 17120

; RECD JAN 28 1974

January 23, 1974

Mr. Robert J. McAllister
Structural Engineer
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. McAllister:

This is in response to your letter of August 22, 1973, requesting certification that discharges of wastewater from Beaver Valley Units 1 and 2 will not violate applicable water quality standards under Section 401 of the 1972 Amendments to the Federal Water Pollution Control Act (PL 92-500).

The following information is furnished as provided in accordance with 40 CFR, Part 115.2:

- 1) The applicant is Duquesne Light Company, 435 Sixth Avenue, Pittsburgh, Pennsylvania, 15219, constructing and planning to operate Beaver Valley Power Station, Units 1 and 2, situated in Shippingport, Beaver County, Pennsylvania.
- 2) This Department has issued Water Quality Management Permits 0470203 and 0470208 for Unit 1. The Department has received Application 0473211 for a similar permit for Unit 2, and a permit in response to that application is forthcoming.
- 3) Public notice of the requests for the two units was given in the Pennsylvania Bulletin on September 15, 1973, page 2074, and September 22, 1973, page 2146.
- 4) There are no applicable effluent limitations or standards under Sections 301(b), 302, 306 and 307 of the Act for projects of this type. However, there is reasonable assurance that the project will be conducted in such a manner that will not violate water quality standards.

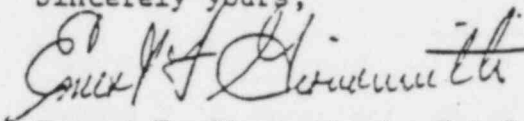
January 23, 1974

This certification does not constitute a permit from the Commonwealth of Pennsylvania under any applicable law, and this certification applies only to the permit to be issued by the Atomic Energy Commission.

Certification is subject to the following condition:

- A. All work and activities in connection with this project shall be performed pursuant to the provisions of the Act of June 25, 1913, as amended, the Act of June 22, 1937, as amended, and in accordance with all Department permits issued for this project.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Ernest F. Giovannitti".

Ernest F. Giovannitti, Chief
Division of Industrial Wastes
and Erosion Regulation



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Bureau of Water Quality Management
600 Kossman Building
100 Forbes Avenue
Pittsburgh, Pennsylvania 15222



565-5091

APR 1 1980

In reply refer to:
Sewerage Permit 0479403
Duquesne Light Company
Beaver Valley Power Station
Borough of Shippingport
Beaver County

APR 2 REC'D

Mr. R. J. McCallister
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, PA 15219

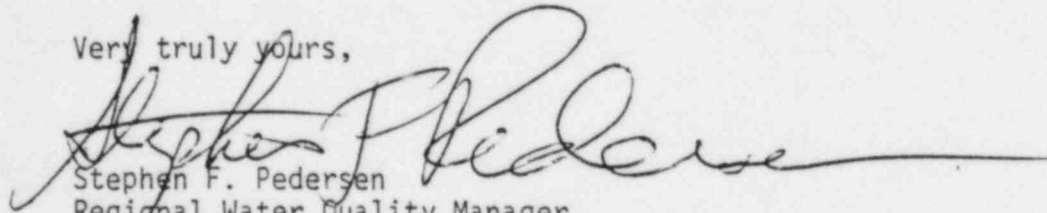
Dear Mr. McCallister:

Your permit for revisions to the Beaver Valley Power Station sewage treatment plant and the items indicated below are enclosed. Please study these enclosures carefully.

With the issuance of this permit, we hereby rescind and cancel Permit #0472411, which covered your existing sewage treatment plant.

If you have any questions, please contact us at 565-5091.

Very truly yours,


Stephen F. Pedersen
Regional Water Quality Manager

SFP/FGA/jc

Enclosures: Permit
Standard Conditions

cc: Regional File
Central File
Design Engineer

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT

WATER QUALITY MANAGEMENT PERMIT

NO. 0479403

<p>A. PERMITTEE: (Name and Address)</p> <p>Duquesne Light Company 435 Sixth Avenue Pittsburgh, PA 15219</p>	<p>B. PROJECT LOCATION</p> <p>Municipality <u>Shippingport Borough</u></p> <p>County <u>Beaver</u></p>
<p>C. TYPE OF FACILITY (For industrial wastes; type of establishment)</p> <p>Sewage Treatment Plant</p>	<p>D. NAME OF MINE, PLANT, AREA SERVED, OUTFALL NO., ETC.</p> <p>Beaver Valley Power Station</p>

E. THIS PERMIT APPROVES:	1.	Plans For Construction Of:	a. <input type="checkbox"/> Pump Stations: Sewers and Appurtenances	b. <input checked="" type="checkbox"/> Sewage Treatment Facilities	c. <input type="checkbox"/> Industrial Wastes Treatment Facilities	
		d. <input type="checkbox"/> Mine Drainage Treatment Facilities	e. <input type="checkbox"/> Outfall & Headwall	f. <input type="checkbox"/> Stream Crossing	g. <input type="checkbox"/> Impoundment	
	2.	The Discharge Of:	a. <input type="checkbox"/> Treated	b. <input type="checkbox"/> Untreated	c. <input type="checkbox"/> Sewage	d. <input type="checkbox"/> Industrial Wastes
	3.	Discharge To:	a. <input type="checkbox"/> Surface Water	Name of Stream to which discharged or drainage area in which groundwater discharge takes place or impoundment is located.		
		N/A	b. <input type="checkbox"/> Ground Water			
4.	The Operation of a Mine	<input type="checkbox"/> N/A				
	Maximum Area to be Deep Mined _____ Acres		5.	An Erosion and Sedimentation Control Plan	<input checked="" type="checkbox"/>	
			Project Area is <u>0.33</u> Acres			

F. THIS APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

1. ALL CONSTRUCTION, OPERATIONS, PROCEDURES ~~AND XXXXXXXXXXXX~~ ^{and} SHALL BE IN ACCORDANCE WITH APPLICATION NO. 0479403 DATED October 31, 1978 ITS SUPPORTING DOCUMENTATION, AND AMENDMENTS DATED through March 20, 1980. SUCH APPLICATION, ITS SUPPORTING DOCUMENTATION AND AMENDMENTS ARE HEREBY MADE A PART OF THIS PERMIT.
2. CONDITIONS NUMBERED 2, 6, 9, 13, 14, 15, 19, 21, 22 and 26 OF THE Sewerage STANDARD CONDITIONS DATED 1972, revised 11/74 AND CONDITIONS NUMBERED 1 through 20 inclusive OF THE EROSION CONTROL STANDARD CONDITIONS DATED 1973 WHICH CONDITIONS ARE ATTACHED AND MADE PART OF THIS PERMIT.
3. SPECIAL CONDITIONS DESIGNATED A & B WHICH ARE ATTACHED AND ARE MADE A PART OF THIS PERMIT.

G. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS:

1. IF THERE IS A CONFLICT BETWEEN THE APPLICATION ON ITS SUPPORTING DOCUMENTS AND AMENDMENTS AND THE STANDARD OR SPECIAL CONDITIONS, THE STANDARD OR SPECIAL CONDITIONS SHALL APPLY.
2. FAILURE TO COMPLY WITH THE RULES AND REGULATIONS OF THE DEPARTMENT OR WITH THE TERMS OR CONDITIONS OF THIS PERMIT SHALL VOID THE AUTHORITY GIVEN TO THE PERMITTEE BY THE ISSUANCE OF THE PERMIT.
3. THIS PERMIT IS ISSUED PURSUANT TO THE CLEAN STREAMS LAW, ACT OF JUNE 22, 1937, P.L. 1987 AS AMENDED 35 P.S. § 691.1 ET SEQ. AND OR THE WATER OBSTRUCTION ACT, ACT OF JUNE 25, 1913, P.L. 555 AS AMENDED 32 P.S. § 681 ET SEQ. ISSUANCE OF THIS PERMIT SHALL NOT RELIEVE THE PERMITTEE OF ANY RESPONSIBILITY UNDER ANY OTHER LAW

DEPARTMENT OF ENVIRONMENTAL RESOURCES

PERMIT ISSUED **APR 1 1980**

DATE _____ BY Stephen F. Pedersen TITLE Regional Water Quality Manager

SEWERAGE PERMIT NUMBER 0479403

This permit is subject to the following special conditions:

- A. The authority granted by this permit is subject to all effluent requirements, monitoring requirements, and other conditions as set forth in parts A, B and C of the Part I discharge permit PA0025615, amendment No. 5, as issued March 20, 1979. No discharge is authorized from these facilities unless approved by a Part I permit.
- B. In accordance with the information submitted in support of this permit, all sludge generated at this plant is to be transported to the sludge handling facilities of either the Vanport Municipal Authority or the Cranberry Township Sewer and Water Authority. Any change from this procedure must receive prior written approval from the Department.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

STANDARD CONDITIONS RELATING TO SEWERAGE - 1972

ONE: All relevant and non-superseded conditions of prior sewerage or water quality management permits or orders issued to the herein named permittee or his predecessor shall continue in full force and effect and together with the provisions of this permit shall apply to his successors, lessees, heirs, and assigns.

TWO: During construction no radical changes shall be made from the plans, designs, and other data herein approved unless the permittee shall first receive written approval thereof from the Department. The sewerage facilities shall be constructed under expert engineering supervision and competent inspection.

THREE: Sewers herein approved shall have tight, well-fitting joints, shall be laid with straight alignment and grade and shall have smooth interior surfaces. The sewers shall have adequate foundation support as soil conditions require. Special care shall be taken in construction of sewers under deep or shallow cover and under other conditions which impose extra hazards to sewer stability. Trenches shall be back-filled such that the sewers will have proper structural stability, with minimum setting and adequate protection against breakage. Concrete used in connection with these sewers shall be protected until cured from injury by water, freezing, drying or other harmful conditions.

FOUR: Manholes shall be placed and constructed as shown upon the herein approved plans except, that if not already so provided, they shall be placed on all sewers at junctions, at each change in grade or alignment, at summit ends, and upon straight lines at intervals not exceeding four hundred feet, or wherever necessary to permit satisfactory entrance to and maintenance of the sewers; manhole inverts shall be so formed as to facilitate the flow of the sewage and to prevent the stranding of sewage solids, and the whole manhole structure shall have proper structural strength and be so constructed as to prevent undue infiltration, entrance of street wash or grit, and to provide convenient and safe means of access and maintenance.

FIVE: No storm water from pavements, area ways, roofs, foundation drains or other sources shall be admitted to the sanitary sewers herein approved.

SIX: Attention is directed to the necessity of having a qualified person make a proper study of all industrial wastes discharging or proposed for discharge to the public sewer systems, to determine what degree of preliminary treatment is necessary before these wastes may be discharged to the sewer system so that the wastes will not prejudicially affect the sewerage structure or their functioning or the process of sewage treatment.

SEVEN: The permittee shall adopt and enforce an ordinance or otherwise require all occupied buildings on premises accessible to a public sewer used in conformity with the requirements of State Law, to be connected thereto; also require the abandonment of privies, cesspools or similar receptacle for human excrement on said premises.

EIGHT: The herein approved and previously constructed sewers shall be maintained in good condition, by repair when necessary and kept free from deposits by flushing or other proper means of cleaning.

NINE: The permittee shall file with the Department of Environmental Resources a satisfactory record or detail plans showing the correct plan of all sewers and sewerage structures as actually constructed together with any other information in connection therewith that may be required.

TEN: The outfall sewer or drain shall be extended to low water mark of the receiving body of water in such a manner as to insure the satisfactory dispersion of its effluent thereinto; insofar as practicable it shall have its outlet submerged; and shall be constructed of cast iron, concrete, or other material approved by the Department; and shall be so protected against the effects of flood water, ice, or other hazards as to reasonably insure its structural stability and freedom from stoppage.

ELEVEN: The permittee shall secure any necessary permission from the proper federal authority for any outfall or sewage treatment structure which discharges into or enters navigable waters and shall obtain approval of any stream crossing, encroachment or change of natural stream conditions coming within the jurisdiction of the Department.

TWELVE: If at any time the sewerage facilities of the permittee, or any part thereof, or the discharge of the effluent therefrom, shall have created a public nuisance, or such discharge is causing or contributing to pollution of the waters of the Commonwealth, the permittee shall forthwith adopt such remedial measures as are acceptable to the Department.

THIRTEEN: Nothing herein contained shall be construed to be an intent on the part of the Department to approve any act made or to be made by the permittee inconsistent with the permittee's lawful powers or with existing laws of the Commonwealth regulating stream pollution and the practice of professional engineering, nor shall this permit be construed to sanction any act otherwise forbidden by any of the laws of the Commonwealth of Pennsylvania or of the United States.

FOURTEEN: The approval herein given is specifically made contingent upon the permittee acquiring all necessary rights, by easement or otherwise as required, providing for the satisfactory construction, operation, maintenance and replacement of all sewers or sewerage structures in, along, or across private property, with full rights of ingress, egress and regress.

TWENTY-EIGHT: Records of the operation of the single residence sewage treatment works as the State Department of Environmental Resources may deem necessary for the proper control of the operation of the treatment works shall be kept on forms satisfactory to the Department and shall be filed in the Regional Office of the Department at intervals as specified.

TWENTY-NINE: The permittee shall submit to the Department by March 31 of each year a report showing the hydraulic and organic load compared to the design load and the expected load for a period of five years hence.

THIRTY: The permittee shall prohibit additional connections to a sewer system or load from being placed upon a sewage treatment plant when the plant capacity will be exceeded within five years unless steps have been taken to enlarge the plant within that time.

THIRTY-ONE: The permittee shall take the necessary measures for the construction of sewerage facilities in a manner compatible with good conservation methods to minimize the effect on the environment, the regimen of the stream bed or channel, and to prevent sediment and pollutants from entering the waters of the Commonwealth.

THIRTY-TWO: The local waterways patrolmen of the Pennsylvania Fish Commission shall be notified when the construction of the stream crossing and outfall is started and completed. A permit must be secured from the Pennsylvania Fish Commission if the use of explosives is required. The permittee shall notify the local waterways patrolmen when explosives are to be used.

THIRTY-THREE: If future operations by the Commonwealth of Pennsylvania require modification of the stream crossing, and/or outfall or there shall be unreasonable obstruction to the free passage of floods or navigation, the permittee shall remove or alter the structural work or obstruction without expense to the Commonwealth of Pennsylvania. If upon the revocation of the permit, the work shall not be completed, the permittee, at his own expense and in such time and manner as the Department may require, shall remove any or all portions of the incompleated work and restore the watercourse to its former condition. No claim shall be made against the Commonwealth of Pennsylvania on account of any such removal or alteration.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
STANDARD CONDITIONS RELATING TO EROSION CONTROL
For use in Water Quality Management Permits
1973

General

1. By approval of the plans for which this permit is issued, neither the Department nor the Commonwealth of Pennsylvania assumes any responsibility for the feasibility of the plans or the operation of the measures and facilities to be constructed thereunder.
2. All relevant conditions of any prior water quality management permits, decrees, or orders issued to the herein permittee or his predecessor shall be continued in full force and effect unless explicitly superseded by this permit. The provisions of this permit shall apply to the permittee's successors, lessees, heirs and assigns.
3. The responsibility for the carrying out of the conditions of this permit shall rest upon the owner, lessee, assignee, or other party in responsible managerial charge of the earthmoving affecting the runoff and of the erosion control facilities herein approved, such responsibility passing with each succession in said control. Approval of measures and facilities under a permit shall not be effective as to a new owner until a transfer has been executed and filed on forms provided by the Department and the transfer is approved by the Department.
4. The permittee shall secure any necessary permission from the proper federal authority for any outfall or structure which discharges into or enters navigable waters.
5. In order to avoid obsolescence of the plans of erosion control measures and facilities, the approval of the plans herein granted, and the authority granted in the permit, if not specifically extended, shall cease and be null and void two years from the date of this permit unless the erosion control measures and facilities covered by said plans shall have been completed and placed in operation on or before that date. Also, cancellation of permits by the Regional Sanitary Engineer or Water Quality Manager may be possible six months after construction has ended.
6. Approval of plans refers to functional design and not constructional stability, which is assumed to be sound and in accordance with good structural design. Failure of the measures and facilities herein approved because of faulty structural design or poor construction will render the permit void.
7. If at any time the activities undertaken pursuant to this permit or the discharge of the effluent therefrom is causing or contributing to pollution of the waters of the Commonwealth, the permittee shall forthwith adopt such remedial measures as are acceptable to the Department.
8. The Clean Streams Law and the Regulations promulgated thereunder are incorporated into and made part of this permit.
9. The permittee shall have his erosion control plan available at the site of the activity at all times.

Construction

10. At least seven days before earthmoving will begin, the permittee, by certified mail, shall notify the Regional Sanitary Engineer or Water Quality Manager of the date for beginning of construction.
11. All earthmoving activities shall be undertaken in such a manner as to minimize the areal extent of disturbed land.
12. All surface water upslope of the project area shall be kept away by diverting the water around the project area.
13. The erosion control measures and facilities shall be constructed under expert professional supervision and competent inspection, and in accordance with plans, designs, and other data as herein approved or amended, and with the conditions of this permit.
14. No radical changes shall be made in the measures and facilities herein approved without approval of the Department. Revisions which do not change the control measures and facilities or the points of discharge may be approved by the Regional Sanitary Engineer or Water Quality Manager upon submission of plans. Other revisions must be approved by a permit.
15. When the herein approved erosion control measures and facilities are completed, the permittee shall notify the Department so that an inspection of the measures and facilities may be made by a representative of the Department.

Operation and Maintenance

16. No storm water, sewage or industrial wastes not specifically approved herein, shall be admitted to the measures and facilities for which this permit is issued, unless with the approval of the Department.
17. The erosion control measures and facilities herein approved shall be maintained in proper condition so that they will individually and collectively perform the functions for which they were designed. In order to insure the efficacy and proper maintenance of the measures and facilities, the permittee shall make periodic inspections at sufficiently frequent intervals to detect any impairment of the structural stability, adequate capacity, or other requisites of the herein approved measures and facilities which might impair their effectiveness, and shall take immediate steps to correct any such impairment found to exist.
18. Sediment shall at no time be permitted to accumulate in sedimentation basins to a depth sufficient to limit storage capacity or interfere with the settling efficiency thereof. Any such material removed shall be handled and disposed of so that a problem is not created and so that every reasonable and practical precaution is taken to prevent the said material from reaching the waters of the Commonwealth.
19. All slopes, channels, ditches or any disturbed area shall be stabilized as soon as possible after the final grade or final earthmoving has been completed. Where it is not possible to permanently stabilize a disturbed area immediately after the final earthmoving has been completed or where the activity ceases for more than 20 days, interim stabilization measures shall be implemented promptly.
20. Upon completion of the project, all areas which were disturbed by the project shall be stabilized so that accelerated erosion will be prevented. Any erosion and sedimentation control facility required or necessary to protect areas from erosion during the stabilization period shall be maintained until stabilization is completed. Upon completion of stabilization, all unnecessary or unusable control measures and facilities shall be removed, the areas shall be graded and the soils shall be stabilized.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

BUREAU OF WATER QUALITY MANAGEMENT
600 Kossman Building
100 Forbes Avenue
Pittsburgh, Pennsylvania 15222-1376

(412) 565-5023



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FILE

February 18, 1982

Mr. W. G. Logan
Manager of Structural Engineering
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, PA 15219

RE: Duquesne Light Company
Sewerage Permit 0479403
Beaver Valley Power Station - Unit
No. 1
Shippingport Borough
Beaver County

Dear Mr. Logan:

Please refer to your letter dated February 6, 1982.

We have no objection to the use of the Authur Lewis Landfill, located in Hancock County, West Virginia as an ultimate disposal site for the digested sludge from your sewage treatment plant.

I DONT SEE HOW THEY
WOULD HAVE ANY
DOESNT W.VA.
HAVE ANYTHING
TO SAY ABOUT
THIS.

Please attach this letter to your permit and consider it a part of the permit.

If you have any questions concerning this action, please contact Mr. William R. Sherwin at 565-5092 for any discussion.

Sincerely,

Stephen F. Pedersen
Stephen F. Pedersen, P.E.
Regional Water Quality Manager

SFP:WRS:pevj: c r t



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Bureau of Water Quality Management
600 Kossman Building
100 Forbes Avenue

Pittsburgh, Pennsylvania 15222-1376 (412) 565-5023

NOV 10 1982



Mr. William G. Logan
Structural Engineering Manager
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, PA 15219

25

RE: Part II Permit 0482404
Duquesne Light Company
Beaver Valley Power Station Unit No. 2
Construction & Support Facilities STP (009)
Shippingport Borough
Beaver County 013

Dear Mr. Logan:

Your Part II permit is enclosed. Please study it carefully, and if you have any questions, please contact me.

Sincerely,

Deborah L. McDonald
Sanitary Engineer

DLM/ksw: c r

Enclosure

cc: Franklin A. Preuss

SPECIAL CONDITIONS FOR PART II PERMIT 0482404

- A. The authority granted by this permit is subject to all effluent requirements, monitoring requirements, and other conditions as set forth in Part I NPDES Permit PA0025615.
- B. No radical changes shall be made from the plans, designs, and other data herein approved unless the permittee first receives written approval from the Department. Upon request from the Department, the permittee shall file a satisfactory record or detail plans of the facilities as actually constructed together with any other information in connection therewith.
- C. Prior to the disposal of sludge from the herein approved facilities, the permittee shall obtain written approval from the Department for the method of sludge disposal.
- D. The sewage treatment works shall be operated by an operator certified in accordance with the Sewage Treatment Plant and Water Works Operators Certification Act, Act 322 approved November 18, 1968 as amended.
- E. This permit authorized the construction and operation of the proposed sewerage facilities during the interim period from the effective date hereof until facilities for conveyance and treatment at a more suitable location, in accordance with either an Official Plan (as defined in the Act of January 24, 1966, P.L. 1535, The Pennsylvania Sewerage Facilities Act) or the Department's Rules and Regulations, Title 25, Part 1, Subpart C, Article II, Section 91.31 are installed and are capable of receiving and treating the permittee's sewage. When such municipal sewerage facilities become available, the permittee shall provide for the conveyance of its sewage to these sewerage facilities, abandon the use of the herein-approved facilities, and notify the Department accordingly. This permit shall then, upon notice from the Department, terminate and become null and void, and shall be relinquished to the Department.
- F. The local waterways patrolmen of the Pennsylvania Fish Commission shall be notified when the construction of the stream crossing and/or outfall is started and completed. A permit must be secured from the Pennsylvania Fish Commission if the use of explosives is required. The permittee shall notify the local waterways patrolmen when explosives are to be used.
- G. If future operations by the Commonwealth of Pennsylvania require modification of the stream crossing and/or outfall or there shall be unreasonable obstruction to the free passage of floods or navigation, the permittee shall remove or alter the structural work or obstruction without expense to the Commonwealth of Pennsylvania. If upon the revocation of the permit, the work shall not be completed, the permittee, at his own expense and in such time and manner as the Department may require, shall remove any or all portions of the incompleated work and restore the watercourse to its former condition. No claim shall be made against the Commonwealth of Pennsylvania on account of any such removal or alteration.

- H. The permittee shall comply with Chapter 102 of the Department's Rules and Regulations regarding erosion control. Chapter 102 requires, in part, that the erosion control plan be available at the site at all times, that all upslope surface water be diverted away from the project area, that runoff from the project area pass through facilities for removal of sediment, that all disturbed areas be stabilized as soon as possible after final grade or final earthmoving, that interim stabilization measures be implemented promptly where it is not possible to permanently stabilize a disturbed area immediately after final earthmoving or where the activity ceases for more than 20 days, that erosion and sedimentation control facilities be maintained until stabilization is completed, and that all unnecessary and unusable control measures and facilities be removed upon completion of stabilization.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WATER QUALITY MANAGEMENT

WATER QUALITY MANAGEMENT PERMIT

NO. 0482404

<p>A. PERMITTEE: (Name and Address)</p> <p>Duquesne Light Company 435 Sixth Avenue Pittsburgh, PA 15219</p>	<p>B. PROJECT LOCATION</p> <p>Municipality <u>Shippingport Borough</u></p> <p>County <u>Beaver</u></p>
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<p>C. TYPE OF FACILITY (For industrial wastes; type of establishment)</p> <p>Sewage Treatment Plant</p>	<p>D. NAME OF MINE, PLANT, AREA SERVED, OUTFALL NO., ETC.</p> <p>Beaver Valley Power Station Unit No. 2 Construction & Support Facilities STP (009)</p>
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E. THIS PERMIT APPROVES:	<p>1. Plans For Construction Of:</p> <p>a. <input type="checkbox"/> Pump Stations: Sewers and Appurtenances</p> <p>b. <input checked="" type="checkbox"/> Sewage Treatment Facilities</p> <p>c. <input type="checkbox"/> Industrial Wastes Treatment Facilities 03</p> <p>d. <input type="checkbox"/> Mine Drainage Treatment Facilities</p> <p>e. <input checked="" type="checkbox"/> Outfall & Headwall</p> <p>f. <input type="checkbox"/> Stream Crossing</p> <p>g. <input type="checkbox"/> Impoundment</p>			
	<p>2. To Discharge Of:</p> <p>a. <input type="checkbox"/> Treated</p> <p>b. <input type="checkbox"/> Untreated</p> <p>c. <input type="checkbox"/> Sewage</p> <p>d. <input type="checkbox"/> Industrial Wastes</p>			
	<p>3. Discharge To:</p> <p>N/A</p> <p>a. <input type="checkbox"/> Surface Water</p> <p>b. <input type="checkbox"/> Ground Water</p> <p>Name of Stream to which discharged or drainage area in which groundwater discharge takes place or impoundment is located.</p>			
	<p>4. The Operation of a Mine <input type="checkbox"/> N/A</p> <p>Maximum Area to be Deep Mined _____ Acres</p>		<p>5. An Erosion and Sedimentation Control Plan <input checked="" type="checkbox"/></p> <p>Project Area is <u>0.1</u> Acres</p>	

F. THIS APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

- ALL CONSTRUCTION, OPERATIONS, PROCEDURES AND DISCHARGE SHALL BE IN ACCORDANCE WITH APPLICATION NO. 0482404 DATED May 28, 1982 ITS SUPPORTING DOCUMENTATION, AND AMENDMENTS DATED _____ SUCH APPLICATION, ITS SUPPORTING DOCUMENTATION AND AMENDMENTS ARE HEREBY MADE A PART OF THIS PERMIT.
- CONDITIONS NUMBERED _____ OF THE _____ STANDARD CONDITIONS DATED _____ AND CONDITIONS NUMBERED _____ OF THE EROSION CONTROL STANDARD CONDITIONS DATED _____ WHICH CONDITIONS ARE ATTACHED AND MADE PART OF THIS PERMIT.
- SPECIAL CONDITIONS DESIGNATED A, B, C, D, E, F, G, H WHICH ARE ATTACHED AND ARE MADE A PART OF THIS PERMIT.

G. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS:

- IF THERE IS A CONFLICT BETWEEN THE APPLICATION ON ITS SUPPORTING DOCUMENTS AND AMENDMENTS AND THE STANDARD OR SPECIAL CONDITIONS, THE STANDARD OR SPECIAL CONDITIONS SHALL APPLY.
- FAILURE TO COMPLY WITH THE RULES AND REGULATIONS OF THE DEPARTMENT OR WITH THE TERMS OR CONDITIONS OF THIS PERMIT SHALL VOID THE AUTHORITY GIVEN TO THE PERMITTEE BY THE ISSUANCE OF THE PERMIT.
- THIS PERMIT IS ISSUED PURSUANT TO THE CLEAN STREAMS LAW, ACT OF JUNE 22, 1937, P.L. 1987 AS AMENDED 35 P.S. § 691.1 ET SEQ. AND/OR THE WATER OBSTRUCTION ACT, ACT OF JUNE 25, 1913, P.L. 555 AS AMENDED 32 P.S. § 681 ET SEQ. ISSUANCE OF THIS PERMIT SHALL NOT RELIEVE THE PERMITTEE OF ANY RESPONSIBILITY UNDER ANY OTHER LAW.

PERMIT ISSUED

DATE NOV 10 1982

BY Stephen F. Pedersen, P.E.

TITLE Regional Water Quality Manager

DEPARTMENT OF ENVIRONMENTAL RESOURCES



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Post Office Box 2357
Harrisburg, Pennsylvania 17120



(717) 787-6826

MAY 11 1984

In reply refer to
RM-DWM
E 04-78

Mr. G. I. Rifendifer
Vice President Eng. & Const.
17-3 One Oxford Centre
301 Grant St.
Pittsburgh, PA 15279

Dear Mr. Rifendifer:

Enclosed in duplicate is your Water Obstruction and Encroachment Permit.

YOU MUST IMMEDIATELY SIGN AND RETURN THE FILE COPY OF THE PERMIT. The executed copy of the permit to be retained by you will not become effective until both copies are signed by you or your authorized representative and the File Copy returned to this office within thirty (30) days.

Please note that "Acknowledgment of Appraisal" and "Completion Report" forms have been included with the permit. The "Acknowledgment of Appraisal" form must be completed and signed by the contractor, or his engineer, chosen to do the authorized work to indicate that they have read and understood the permit conditions. The "Completion Report" form is to be signed by you or your authorized representative indicating that the work has been completed as approved within thirty (30) days of the completion of the approved project.

Sincerely,

Eugene E. Council, Chief
Division of Waterways and
Storm Water Management

Enclosures

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
WATER OBSTRUCTION AND ENCROACHMENT PERMIT

The Department of Environmental Resources "Department", established by the Act of December 3, 1970, P.L. 834 (71 P.S. §§510-1 *et seq.*) and empowered to exercise certain powers and perform certain duties under and by virtue of the Act of November 26, 1978, P.L. 1375, as amended by the Act of October 23, 1979, P.L. 204. (32 P.S. §§693.1 *et seq.*) known as the "Dam Safety and Encroachments Act"; Act of October 4, 1978, P.L. 851, (32 P.S. §§679.101 *et seq.*) known as the "Flood Plain Management Act"; Act of June 22, 1937, P.L. 1987, (35 P.S. §§691.1 *et seq.*), known as the "Clean Streams Law"; and the Administrative Code, Act of April 9, 1929, P.L. 177, *as amended*, which empowers the Department to exercise certain powers and perform certain duties by law vested in and imposed upon the Water Supply Commission of Pennsylvania and the Water and Power Resources Board, hereby issues this permit to:

DUQUESNE LIGHT COMPANY

17-3 One Oxford Centre, 301 Grant Street, Pittsburgh, PA 15279

giving its consent to construct and maintain a fabriform lined impact basin and a discharge channel along the left downstream bank of the Ohio River of approximately
River Mile 35.1 in the Borough of Shippingport, Beaver County.

This permit is issued in response to an application filed with the Department of Environmental Resources on the 27th day of February A.D. 1984, and with the understanding that the work shall be performed in accordance with the maps, plans, profiles and specifications filed with and made part of the application _____ . Subject however, to the provisions of the Dam Safety and Encroachments Act, the Flood Plain Management Act, the Clean Streams Law, the Administrative Code, the rules and regulations promulgated thereunder and the following conditions and restrictions:

1. This permit shall not become effective until and unless the permittee shall return the *file copy* signed by the permittee or an authorized agent of the permittee to the Department within thirty (30) days from the date of the permit; such signature shall signify and indicate that the permittee accepts and agrees to comply with the terms and conditions of the permit. Failure to submit such acceptance will render the permit null and void:
2. The Department, in issuing this permit, has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the Department may, in addition, institute appropriate legal proceedings.

3. This permit does not give any property rights, either in real estate or material, nor any exclusive privileges, nor shall it be construed to grant or confer any right, title, easement, or interest, in, to, or over any land belonging to the Commonwealth of Pennsylvania; neither does it authorize any injury to private property or invasion of private rights, nor any infringement of Federal, State, or local laws or regulation; nor does it obviate the necessity of obtaining Federal assent when necessary;

4. The work shall at all times be subject to supervision and inspection by representatives of the Department, and no changes in the maps, plans, profiles, and specification as approved shall be made except with the written consent of the Department. The Department, however, reserves the right to require such changes or modifications in the maps, plans, profiles, and specifications as may be considered necessary. The Department further reserves the right to suspend or revoke this permit if in its opinion the best interest of the Commonwealth will be subserved thereby;

5. This permit authorizes the construction, operation, maintenance and normal repair of the permitted structures conducted within the original specifications for the water obstruction or encroachment, and in accordance with the regulations of the Department and terms and conditions of this permit. Any repairs or maintenance involving modifications of the water obstruction or encroachment from its original specifications, and any repairs or reconstruction involving a substantial portion of the structure as defined by regulations of the Department shall require the prior written approval and permit of the Department;

6. All construction debris, excavated material, brush, rocks, and refuse incidental to this work shall be removed entirely from the stream channel and placed either on shore above the influence of flood waters, or at such dumping ground as may be approved by the Department.

7. There shall be no unreasonable interference with the free discharge of the river or stream nor with navigation during construction;

8. If future operations by the Commonwealth of Pennsylvania require modification of the structure or work, or if, in the opinion of the Department of Environmental Resources, the structure or work shall cause unreasonable obstruction to the free passage of floodwaters or navigation, the permittee shall, upon due notice remove or alter the structural work or obstructions caused thereby, without expense to the Commonwealth of Pennsylvania, so as to increase the flood carrying capacity of the channel or render navigation reasonably free, easy, and unobstructed, in such manner as the Department may require; and if, upon the expiration or revocation of this permit, the work shall not be completed, the permittee, at his own expense and to such extent and in such time and manner as the Department may require, shall remove all or any portion of the incompleated work and restore the watercourse to its former condition. No claim shall be made against the Commonwealth of Pennsylvania on account of any such removal or alteration;

9. The permittee shall notify the Department of Environmental Resources when this work is commenced and at least two weeks before the probable time of completion;

10. Within thirty (30) days after the completion of the work authorized in this permit, the permittee shall file with the Department of Environmental Resources, Harrisburg, Pennsylvania, a statement certifying that the work has been performed in accordance with this permit and the approved maps, plans, profiles, and specifications;

11. If this work is not completed on or before the 31st day of December A.D. 1986, this permit, if not previously revoked or specifically extended, shall cease and be null and void;

12. The Engineer and the Contractor for the work authorized by this permit shall be apprised of all of the provisions and conditions and shall signify their acknowledgement of being so apprised

on the form herein attached. Copy of this signed form, together with copy of the permit shall be available for inspection at the project site at all times. Copy of the acknowledgement shall also be forwarded to the office issuing the permit. Failure to have copies of the permit and acknowledgement available for inspection at the project site shall be considered sufficient cause for issuance of a cease and desist order by the authorized Commonwealth personnel:

13. The permittee shall maintain the structure or work authorized herein in good condition and in accordance with the approved plans and drawings:

14. This permit may not be transferred without prior written approval from the Department, such approval being considered upon receipt of a properly executed "Application for Transfer of Permit" form;

15. If and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure pursuant to Condition 14, he must remove the structure or work authorized and restore the area to a condition satisfactory to and approved by the Department.

SPECIAL CONDITIONS

- A. Prior to commencement and upon completion of the work authorized by this permit, the permittee shall notify the Pennsylvania Fish Commission's Waterways Patrolman, Gregory Jacobs, P. O. Box 64, Fombell, PA 16123, Telephone (412) 452-7052. The project site shall at all times be available for inspection by authorized officers and employees of the Pennsylvania Fish Commission.
- B. Prior to commencement and upon completion of the work authorized by this permit, the permittee shall notify the Beaver County Conservation District, Larry Smith, P. O. Box 40, Beaver, PA 15009, Telephone (412) 774-7090. The project site shall at all times be available for inspection by authorized employees of the Conservation District.
- C. If the use of explosives in any waterways is required, the permittee shall secure the prior written permit from the Pennsylvania Fish Commission, pursuant to the Pennsylvania Fish and Boat Code, Act 1980-175 Title 30 Pennsylvania Consolidated Statutes, Section 2906. Requests should be directed to the Pennsylvania Fish Commission, Bureau of Administrative Services, P. O. Box 1673, Harrisburg, PA 17120, Telephone (717) 657-4522.
- D. This permit is contingent upon the approval/permit from the District Engineer, Pittsburgh District, U. S. Army Corps of Engineers, Federal Building - 1000 Liberty Avenue, Pittsburgh, PA 15222, under Section 10 of the Rivers and Harbor Act or Section 404 of the Clean Water Act of 1977. The District Engineer has been notified that the contact person for this project is: Mr. R. J. Monroe, Director - Rights of Way.
- E. The Erosion and Sedimentation Control Plan Must be properly implemented and closely monitored to minimize erosion and prevent excessive sedimentation into the receiving stream channel.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

R. J. Monroe
 Permittee (signature)
 R. J. Monroe - Director, Rights of Way

May 15, 1984
 Date

Date MAY 11 1984

DEPARTMENT OF ENVIRONMENTAL RESOURCES

Attest *[Signature]*

By *E. E. Council*
 Eugene E. Council, Chief
 Division of Waterways and
 Storm Water Management

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Project Location: _____ County _____

Township _____

ACKNOWLEDGMENT OF APPRISAL OF REQUIREMENTS OF PERMIT

Gentlemen:

Acknowledgment is made that I, _____
(Name)

representing _____
(Contractor - Engineer)

(Address)

(Telephone)

have been apprised of and are familiar with the provisions and conditions of Permit
No. _____ issued to _____

_____ giving consent to _____
(Permittee)

(Work authorized as stated on permit)

Return to:

Department of Environmental Resources
Division of Waterways and
Storm Water Management
P.O. Box 2357
Harrisburg, PA 17120

Signature _____

Date _____ 19 ____

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Permit No. _____

Project Location: County _____

Township _____

WATER OBSTRUCTION AND ENCROACHMENT
PERMIT COMPLETION REPORT

Gentlemen:

I (We) hereby certify that the _____
(work authorized by permit)
on _____ in _____
(Stream)
County, Pennsylvania, was completed on _____
19 ____, in accordance with the plans approved and that all unauthorized
obstructions have been removed.

Signature: _____

Name: _____
(typed or printed)

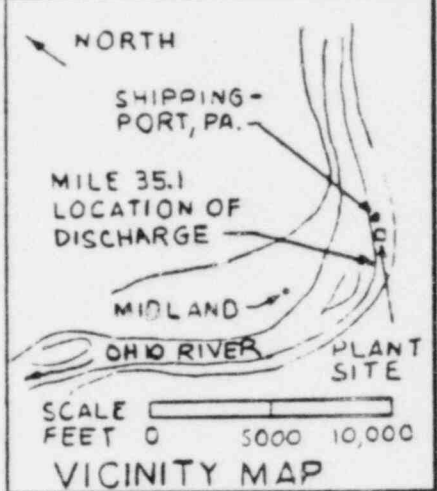
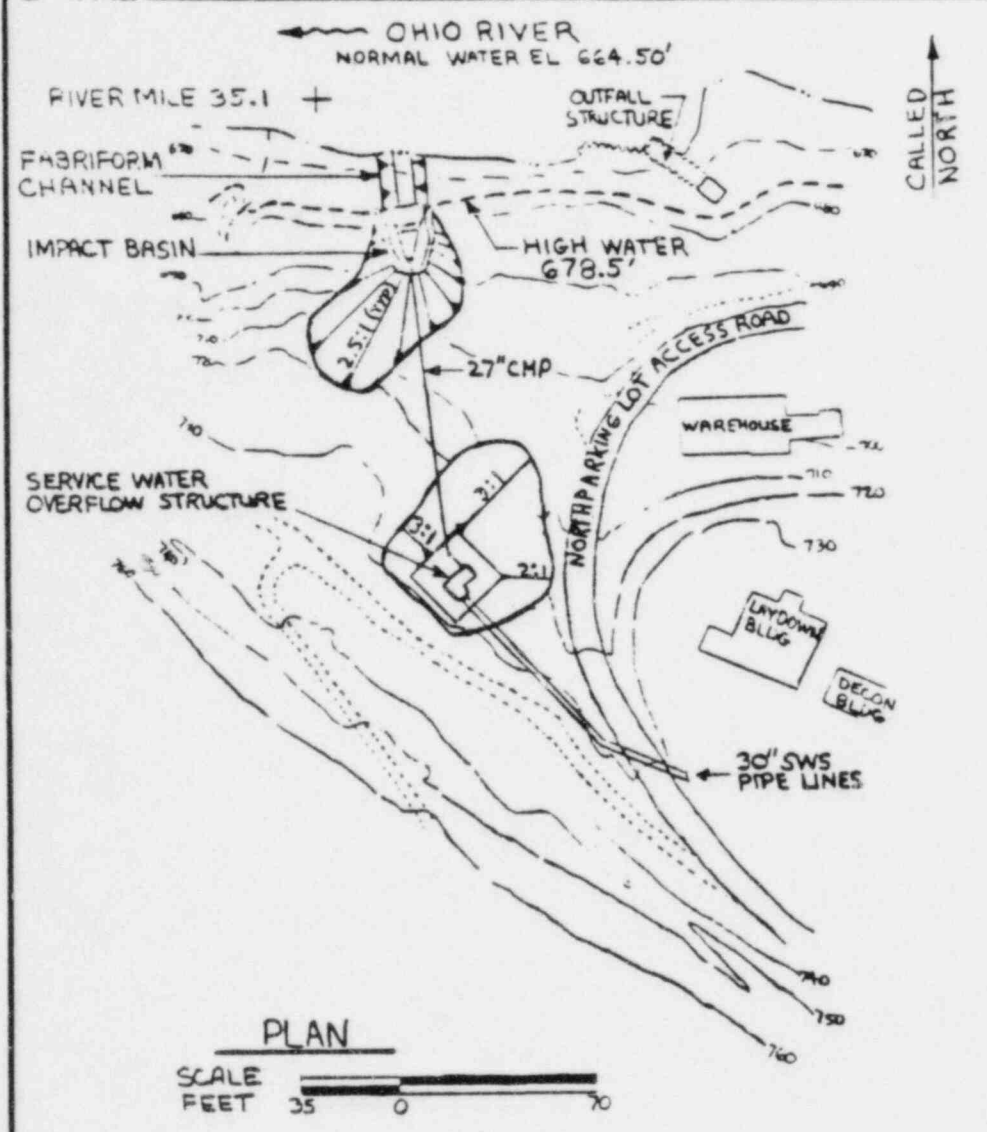
Title: _____

Firm: _____

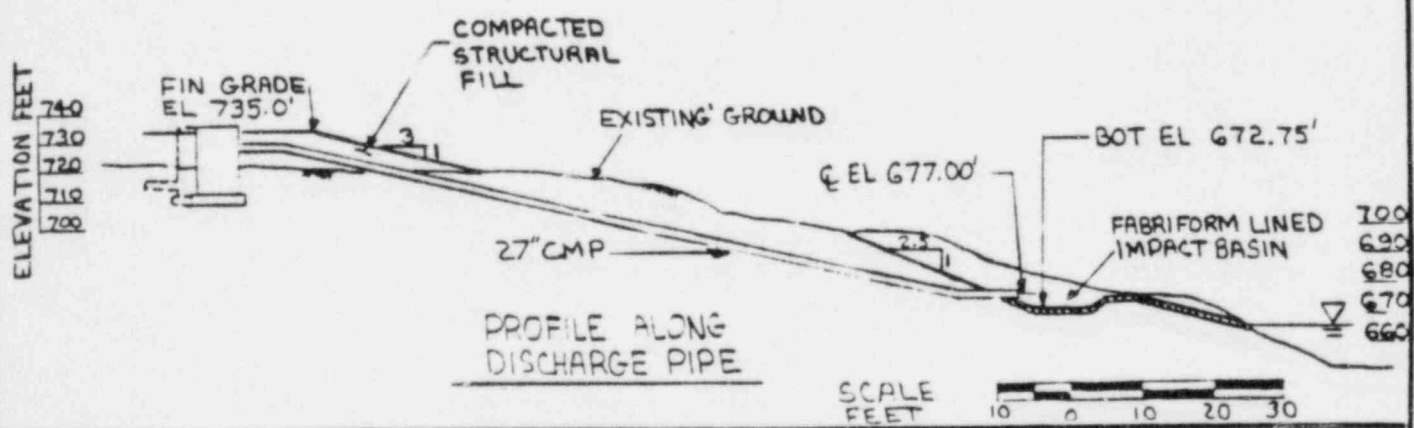
Date: _____

RETURN TO:

Department of Environmental Resources
Division of Waterways and
Storm Water Management
P. O. Box 2357
Harrisburg, PA 17120



PLAN
SCALE FEET 35 0 70



PROFILE ALONG DISCHARGE PIPE
SCALE FEET 10 0 10 20 30

REVISIONS
1

DUQUESNE LIGHT COMPANY ENG. & CONSTR. DIV. PITTSBURGH, PA.			PERMIT DRAWING SERVICE WATER DISCHARGE		
SCALE AS SHOWN	DATE 12-21-83	ARCH. APP.	BEAVER VALLEY POWER STATION UNIT 2 APPROVAL COMPLETE WHEN INITIALED HERE O.F.E. 10080 E.O. 6289 D No. SK-A		
	DRAWN D.L.L.	ELECT. APP.			
	CHECKED RB	MECH. APP.			
	INSP. RB	STRUCT. APP. JKG			

BEAVER COUNTY Conservation District



P. O. BOX 40 • BEAVER, PA. 15009 • PHONE 774-7090

R. J. Monroe, Director-Rights of Way
Duquesne Light
One Oxford Center
301 Grant St.
Pittsburgh, PA 15279

Re: Mile 35.1, Ohio River - impact basin
Shippingport, PA

Dear Mr. Monroe:

In accord with Chapter 102, Erosion Control, Title 25, Rules and Regulations, Pennsylvania Department of Environmental Resources, 4-3-84, I have reviewed the subject sediment and erosion control plan.

I am in concurrence with the Soil Conservation Service that this plan contains adequate provisions for erosion and sediment control. I feel that when implemented this plan will adequately protect the proposed project.

The Conservation District reviews this plan solely to determine whether it is adequate to satisfy the requirements of 25 Pa. Code #102.1 et seq., the erosion control regulations of the Department of Environmental Resources. By a determination that the plan is adequate to meet those requirements, neither the conservation district nor the county assumes any responsibility for the implementation of the plan or the proper construction and operation of the facilities contained in the plan.

Sincerely,

A handwritten signature in cursive script that reads "Larry M. Smith".

Larry M. Smith
District Manager

