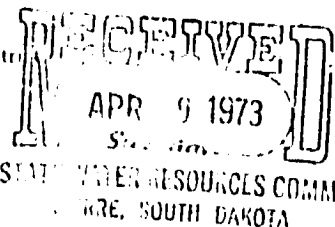


Water Right Number 1983-3

1. Considered May 23, 19 73
2. Name of Applicant Otter Tail Power Company (Northwestern Public Service Co., and Montana-Dakota Utilities Co.)
3. Post Office Address Fergus Falls, Minnesota
4. Amount of Water claimed 25 c.f.s. 460 acre feet per every seven day period
(or its daily or weekly equivalent, not to exceed)
5. Source of Water supply Big Stone Lake
6. Water to be used for industrial use as cooling water in operation of electrical generating plant.
Acres to be irrigated -
7. Water to be diverted and used in Grant County
about 1/2 N miles of Big Stone City
8. Proof of Publication Received 5-14-73
Not Received _____
9. Application Approved _____
Subject to _____
Not Approved _____
Action Deferred _____
10. Remarks:

No. 1983-3
 Map No. 1406-3 Water Division No. 3 WHETSTONE CREEK District
 (Blocks to be Filed by the Engineer for the W. R. C.)


APPLICATION FOR PERMIT

To Appropriate Water within the State of South Dakota

(NOTE: Draw a line through items not applicable)

 Northwestern Public Service Company, Huron, South Dakota
 Montana-Dakota Utilities Co., Bismarck, North Dakota
 Otter Tail Power Company, Fergus Falls, Minnesota

1. Name of Applicant _____ State _____
- Postoffice address _____
- If a corporation - show date and place of incorporation NWPS - 11/27/23 - Delaware; MDU - 3/14/24 - Delaware;
OTP - 12/23/07 - Minnesota
2. Method of accomplishing work (contract, employment of others, or by direct labor) Engineering and construction by Bechtel Corporation.
All necessary work is now completed.
3. Name of diversion work Big Stone Plant
4. Amount of water claimed (cubic feet per second) See attached Exhibit 1
5. Source of water supply Big Stone Lake
6. Location of point of diversion 1,320 feet South of the North section line of Section 8, Township 121 N., Range 46W. and 1,440 feet East
of the West section line of said Section 8. Map attached.
- County Grant
7. Annual period or periods during which water is to be used See paragraph 4, above (attached sheet).
8. Use to be made of water (irrigation, industrial, municipal, commercial, recreation, etc.) Industrial
9. For irrigation use: N/A Total number of acres to be irrigated: _____

List below each forty acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in each.

Land Description	No. Acres Irr.	Land Description	No. Acres Irr.

Attach sheet if more space is needed

10. Time required to complete construction of water supply system -0- years. Construction of system is complete.
 Additional time required to complete application of water to the proposed beneficial use not exceeding 4 years.
11. Choice of newspaper for Notice of Intent to Appropriate Water publication Milbank Herald Advance and Grant County Review
12. Principal Features of the Proposed Water Supply System:

A. Works proposed to divert water from its natural source.

A pumping station has been constructed on the Westerly shore of Big Stone Lake approximately 1 mile North of Big Stone City to pump water from Big Stone Lake to the Big Stone Plant which is under construction on a site located Westerly of the pumping station.

B. Works proposed to transport water to place of use.

A pipeline approximately 7,500 feet long has been constructed from the shore of Big Stone Lake to carry the water from the lake to the site of the generating plant.

C. Works proposed to apply water to beneficial use. The generating plant requires water for its cooling water system. Some water also will be required to be treated in a water treatment plant for use in the steam generator of the plant. Some water used in the cooling pond is lost through evaporation (and a resulting cooling effect) and cooling pond drift. Water will also be drawn off the cooling pond and used for refractory cooling and for the ash-hopper water seal and the discharged water from these two sources will be further used together with the balance of the cooling pond blowdown for sluicing ash from the plant to the ash settling pond. When the ash is settled out, the remaining water will be available for return to the surface water system, or evaporated. Approximately one-fifth of the water taken from the lake will remain after it has traveled through the plant and been used for these purposes and discharged to the ash settling pond.

Estimated Total Cost \$ 6,235,000

Attachments: Attach Form 2 of this Edition from 3 with a map of the point of diversion and the water supply system proposed. Attach map.

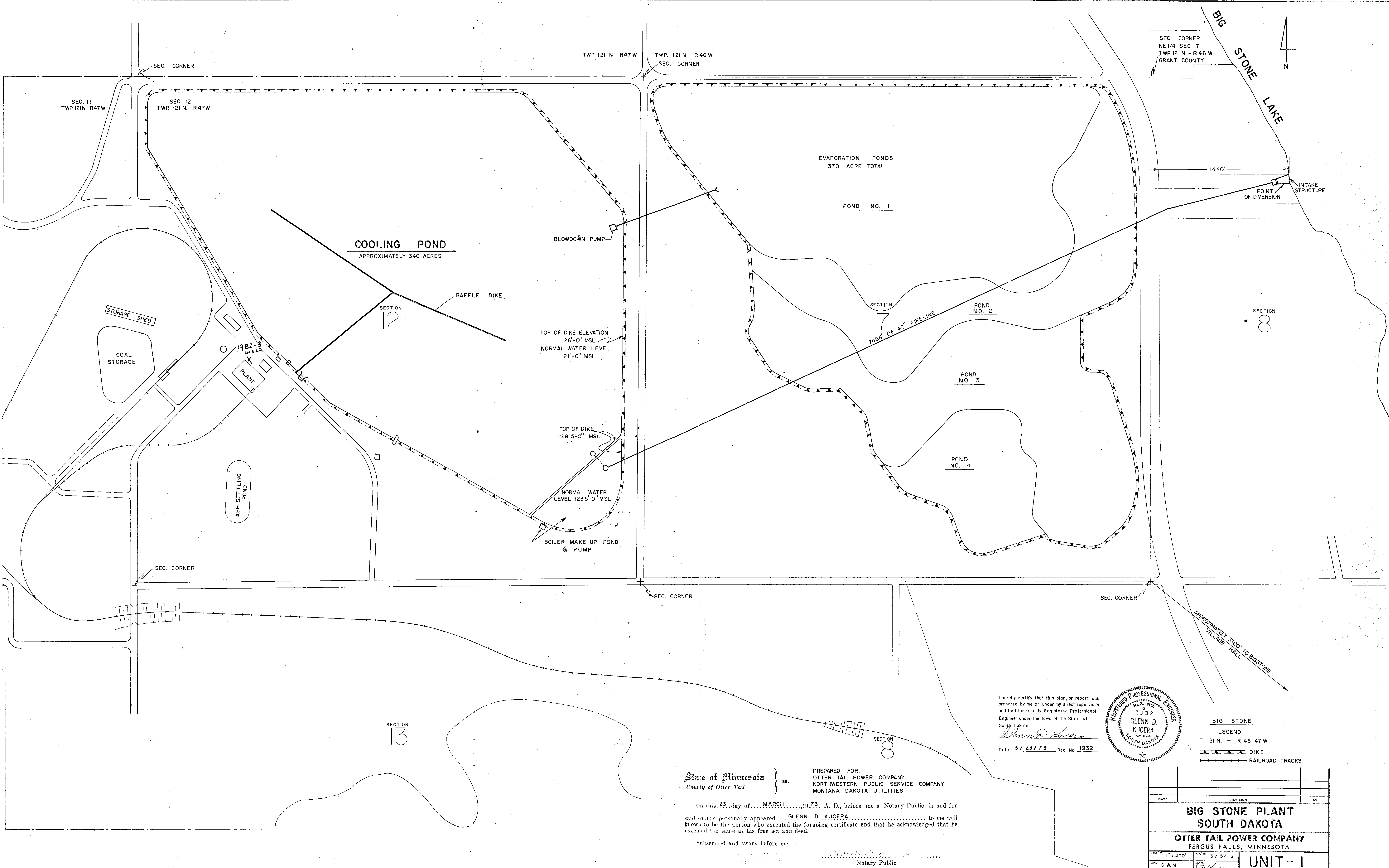
(See instructions concerning preparation.)

STATE OF MINNESOTA

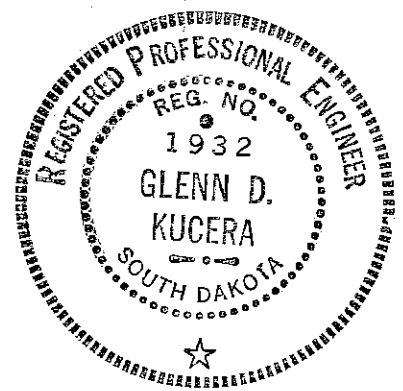
County of Otter TailI, R. O. M. Gittle
 An employee of Otter Tail Power Company and duly authorized to sign on behalf of Northwestern
 Public Service Company, Montana-Dakota Utilities Co., and Otter Tail Power Company,

 do hereby certify that I have read the foregoing application and have examined the
 attached map and that the matters therein stated are true and that I intend, and am able to complete the necessary construction.
Signed [Signature]Subscribed and sworn to before me this 6th day of April, 19 73
 HAROLD P. DAVIS
 Notary Public, OTTER TAIL CO., MINN.
 My Commission Expires MAY 6, 1976

Notary Public (or other qualified officer)



I hereby certify that this plan, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.
Glenn D. Kucera
Date 3 / 23 / 73 Reg. No. 1932



BIG STONE
LEGEND
T. 121 N. - R. 46-47 W
▲▲▲▲ DIKE
——— RAILROAD TRACKS

State of Minnesota }
County of Otter Tail }

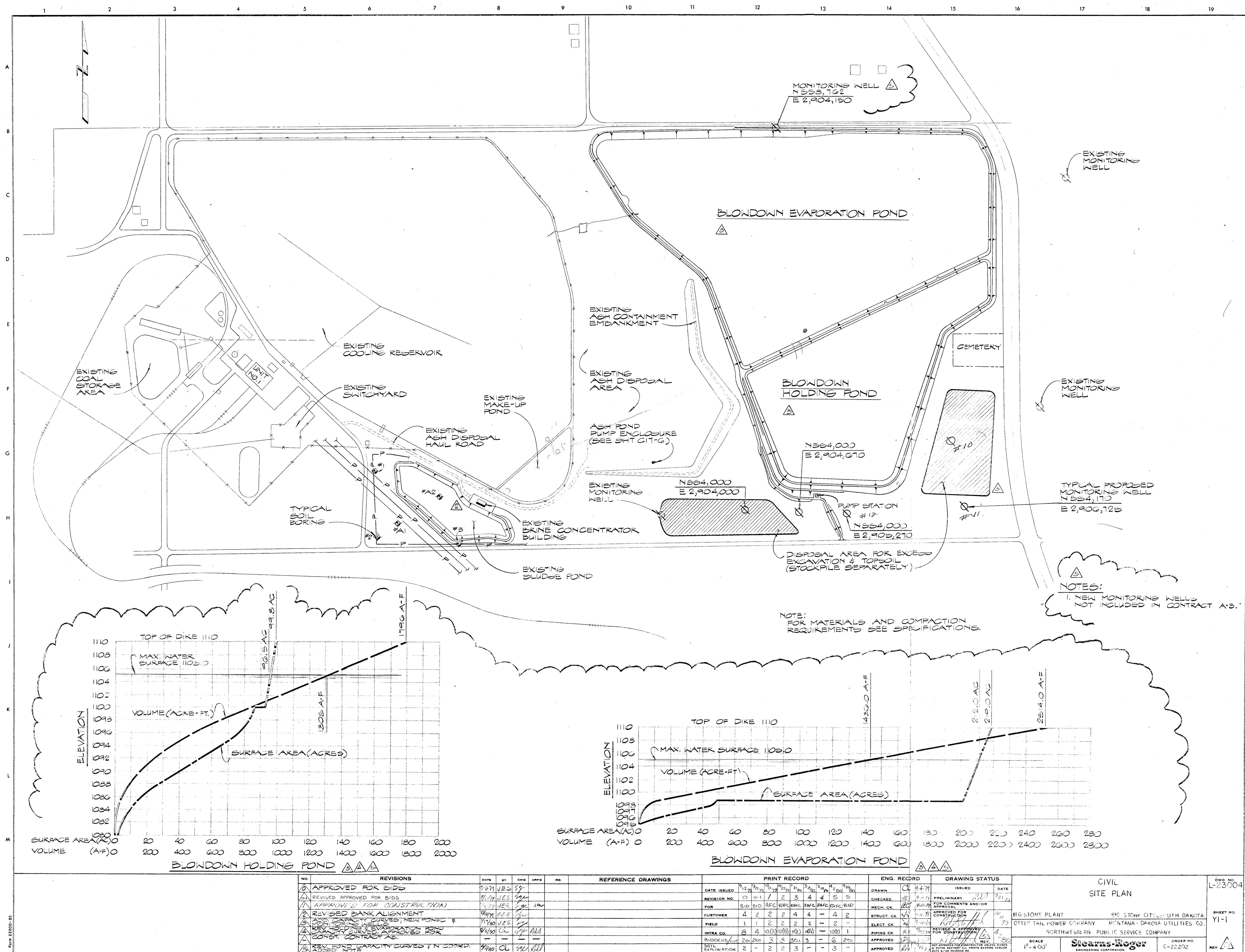
PREPARED FOR:
OTTER TAIL POWER COMPANY
NORTHWESTERN PUBLIC SERVICE COMPANY
MONTANA DAKOTA UTILITIES

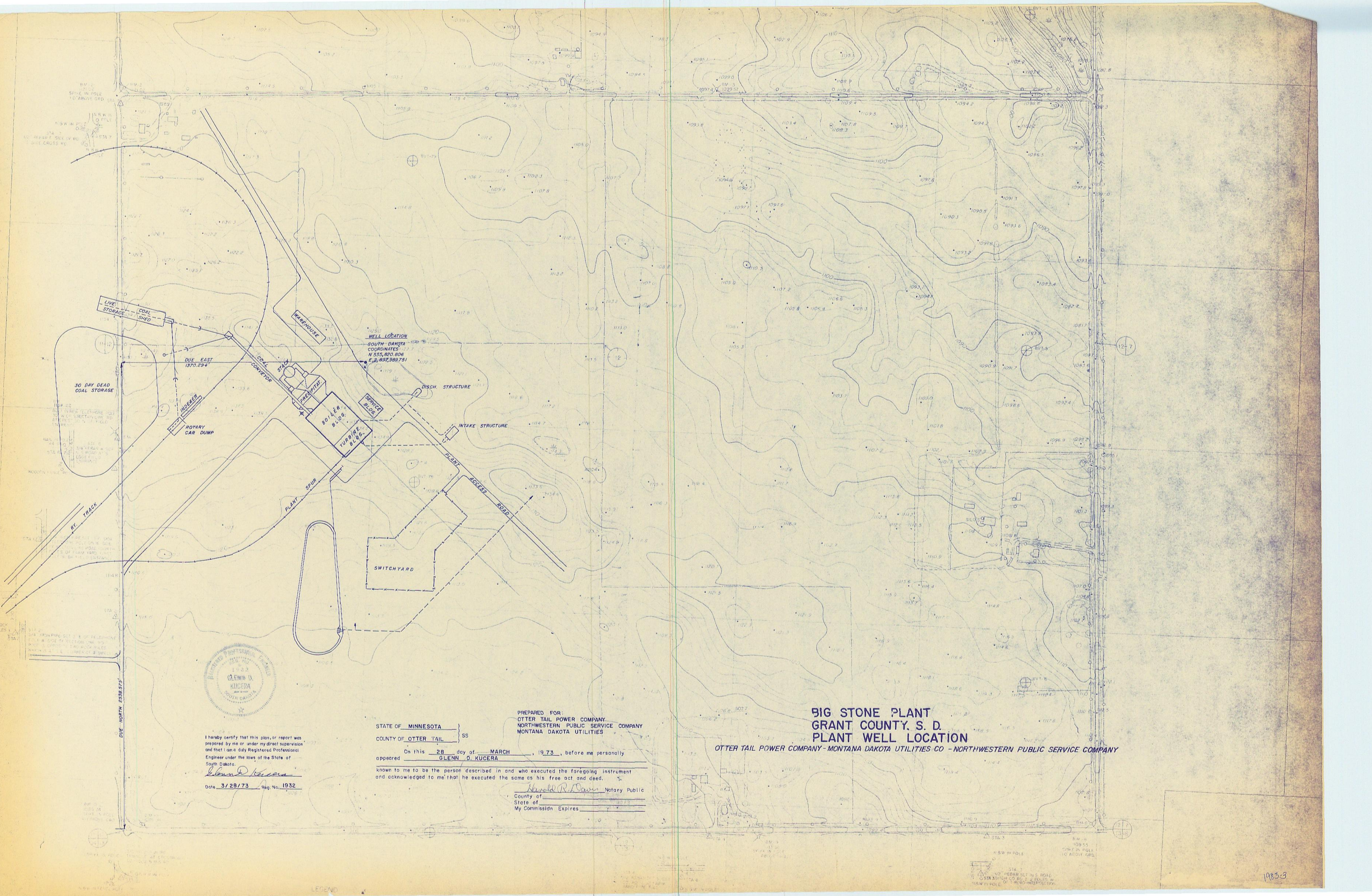
On this 23 day of MARCH, 1973, A. D., before me a Notary Public in and for said county personally appeared, GLENN D. KUCERA, to me well known to be the person who executed the foregoing certificate and that he acknowledged that he executed the same as his free act and deed.

Subscribed and sworn before me:—

Glenn D. Kucera
Notary Public

BIG STONE PLANT SOUTH DAKOTA		
OTTER TAIL POWER COMPANY FERGUS FALLS, MINNESOTA		
SCALE: 1" = 400'	DATE: 3 / 15 / 73	UNIT - 1
DR: C. W. M.	BY: <i>Glenn D. Kucera</i>	





I hereby certify that this plan or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.
Glenn D. Kucera
Date 3/29/73 Reg. No. 1932

STATE OF MINNESOTA }
COUNTY OF OTTER TAIL } SS
On this 28 day of MARCH, 1973, before me personally appeared GLENN D. KUCERA

known to me to be the person described in and who executed the foregoing instrument and acknowledged to me that he executed the same as his free act and deed.

PREPARED FOR:
OTTER TAIL POWER COMPANY
NORTHWESTERN PUBLIC SERVICE COMPANY
MONTANA DAKOTA UTILITIES

Harold R. Davis Notary Public
County of _____
State of _____
My Commission Expires _____

BIG STONE PLANT GRANT COUNTY, S. D. PLANT WELL LOCATION

OTTER TAIL POWER COMPANY - MONTANA DAKOTA UTILITIES CO - NORTHWESTERN PUBLIC SERVICE COMPANY

WATER RIGHT APPLICATION APPROVAL

The Water Resources Commission hereby approves Water Right Application No. 1983-3
 NORTHWESTERN PUBLIC SERVICE CO.
 MOUNTAIN POWER UTILITIES CO.
 OTTER TAIL POWER CO.
 (Applicant)

215 S. CASCADE ST., FERGUS FALLS,
 (Post Office Address)

MINNESOTA 56537
 (State)

With the following modifications:

Date of first receipt of application APRIL 9 19 73

Date of return to applicant for correction, amendments or changes required — 19 —

Date of receipt of corrected application — 19 —

Approved MAY 23 19 73 Recorded in Book 12 Page 223

WATER RIGHT PERMIT NO. 1983-3

The Water Resources Commission hereby grants and issues this Water Right Permit No. 1983-3 authorizing the construction of the water use system and the putting of water to beneficial use as stated in the Application and as modified in the Water Right Application approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is APRIL 9 19 73
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before COMPLETED 19 —
3. The whole of said work is to be completed on or before COMPLETED 19 —
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is MAY 23 19 77
5. The water appropriated shall be used for the purpose of INDUSTRIAL

6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be injuriously affected by this appropriation.

7. The amount of the appropriation herein granted shall not exceed 25.0 cubic feet per second, neither shall it exceed the capacity of the above described water supply system, nor shall it exceed the amount of water needed for ~~irrigation~~ and if for the irrigation purposes said appropriation must be limited to not more than three feet per acre per year and be limited to not more than one inch (1.70) of one cubic foot of water per acre and of time for each acre of land to which water is
USED FOR INDUSTRIAL PURPOSES

actually and beneficially applied for irrigation on or before MAY 23 19 77 said water to be used during the following described annual period: ~~AS SPECIFIED ABOVE~~ AS SPECIFIED ABOVE

at any time during October through April when the water level of Big Stone Lake is above elevation 966 feet project datum but less than elevation 967 feet project datum, the volume of water to be pumped in any period of seven (7) consecutive days not to exceed 460 acre feet.

Witness my hand this 13TH day of JUNE 19 73

WATER RESOURCES COMMISSION

By

[Signature]
 Chief Engineer, Executive Officer

Certificate of Construction Issued — 19 —

Water License Issued — 19 —

EXHIBIT I

APPLICATION FOR PERMIT

TO

APPROPRIATE WATER WITHIN THE STATE OF SOUTH DAKOTA

BY

Otter Tail Power Company, Northwestern Public Service Company and Montana-Dakota Utilities Co.

Dated: April 6, 1973

4. Amount of water claimed (cubic feet per second). 25 cfs continuously or its daily or weekly equivalent (in addition to the 10 cfs approved in subparagraph 2 of modifications attached to Water Right Permit No. 1768-3), at any time during October through April when the water level of Big Stone Lake is above elevation 966 feet project datum but less than elevation 967 feet project datum, the volume of water to be pumped in any period of seven (7) consecutive days not to exceed 469 acre feet.

12. Principal Features of the Proposed Water Supply System (continued.)

D. Well Information or Estimates N/A

(1) Drill Hole, Diameter _____, Depth _____

(2) Casing, Type _____, Diameter _____, Thickness _____
(wood, concrete, steel, etc)

(3) Perforated Screen.

Type _____, Diameter _____, Length _____

(4) Gravel Pack, Thickness _____, Length of gravel pack _____

E. Dugout Information or Estimates. N/A

(1) Surface dimensions _____, Depth _____

F. Fill out for Either a Well or a Dugout. N/A

(1) Water Bearing Materials. (Please attach a copy to test well log if available.)

Character of Water bearing materials _____

Depth to top of water bearing material _____

Depth to bottom of water bearing material _____

Thickness of water bearing material _____

Depth to water (ground surface to water level) _____

(2) Distance to nearest existing household or livestock watering wells.

On same owner's property _____ rds. On property owned by others _____ rds.

G. Water Storage Dams.

If the proposed water use system contains one or more water storage dams, please show in the space below, the height, maximum water depth, surface area and storage capacity of each storage dam. The location of each water storage dam should be shown on the water rights map.

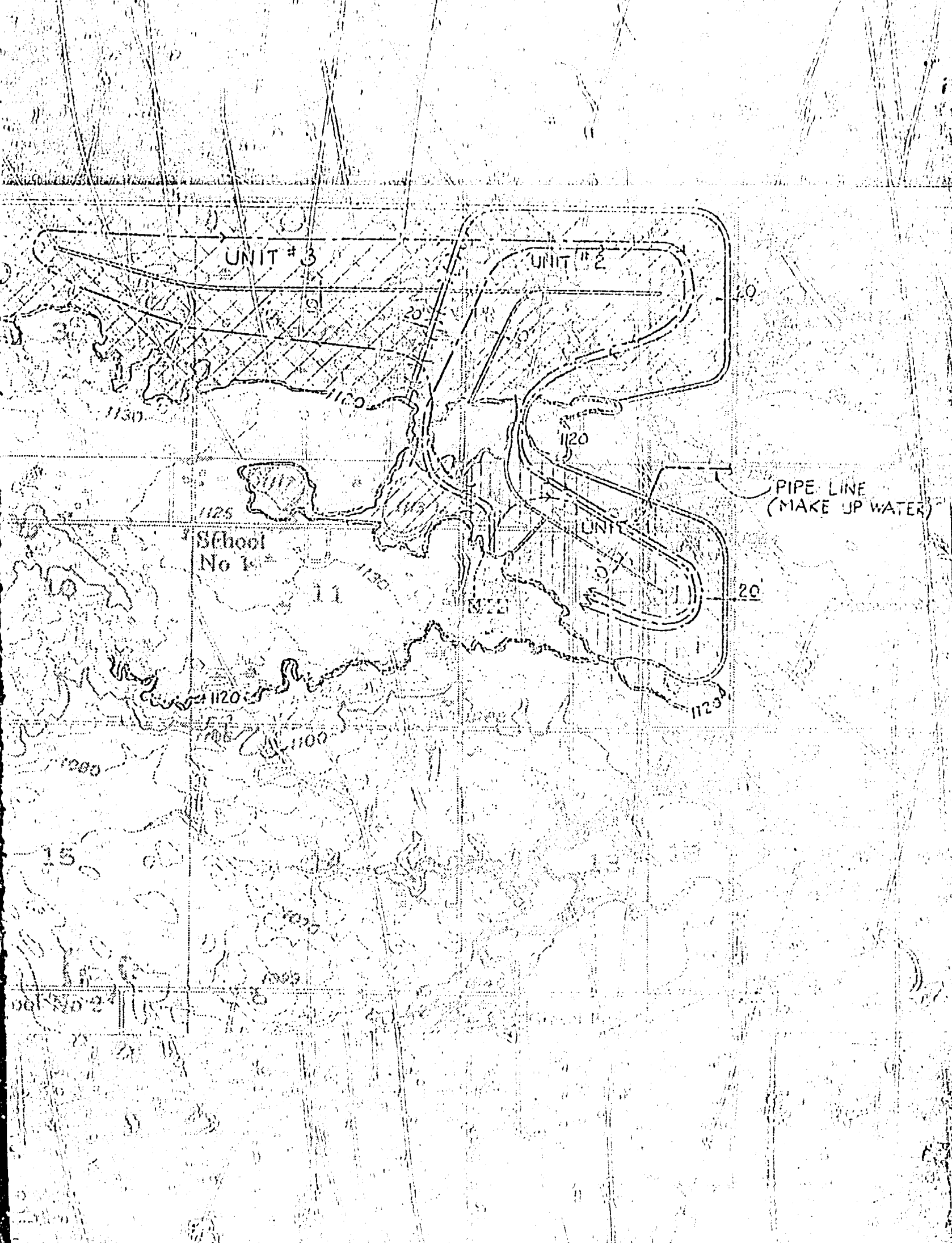
	HEIGHT	WATER DEPTH	APPROXIMATE SURFACE AREA ACRES	APPROXIMATE STORAGE ACRE FT.
Cooling Pond	1121*	28' Max.	340	3,000
Makeup Pond	1123.5*	20' Max.	5	75
Evaporation Pond				
No. 1	1112	10' Max.	180	1,800
No. 2	1105	10' Max.	70	700
No. 3	1100	10' Max.	90	900
No. 4	1094	10' Max.	30	300
Ash Settling Pond	1107	24'	3	77

*Dike level planned 5 ft. above pond level.

Pond locations shown on water rights map.

R. M. Smith
Signature of Applicant

An employee of Otter Tail Power Company and duly
authorized to sign on behalf of Northwestern Public
Service Company, Montana-Dakota Utilities Co., and
Otter Tail Power Company.



1983-3

Publish first publication, on or before May 9, 1973NOTICE
INTENT TO APPROPRIATE WATER

Pierre, South Dakota 57501

April 16, 1973, 18xx

Northwestern Public Service Co., Montana-Dakota Utilities

Notice is hereby given that Co., and Otter Tail Power Company

whose post office address is Fergus Falls, Minnesota, South Dakota, has made an application in accordance with the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use or its daily or weekly equivalent, not to exceed 460 acre feet per every seven day period 25 cubic feet of water per second of time from the Big Stone Lake through the

Big Stone Plant, the point of diversion of which is to be located in the _____NE 1/4of Section 6, Twp. 121N, Range 46E. Said water to be used for the purpose

of providing irrigation on the following described lands:
industrial use as cooling water in operation of electrical generating plant.

This application No. 1983-3 will be considered by the Water Resources Commission at their office at Pierre upon the 23rd day of May, 1973, at 2:00 P. M. All interested persons may appear and be heard.

WATER RESOURCES COMMISSION

By:

BURTON F. JONES, Water Rights Specialist

BFJ/bw

cc: R.D.H. Grutle, Project Manager, Otter Tail Power Company, 215 E. Central St.,
 Fergus Falls, Minn. 56537

No. 1083-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

155.

County Grant

I, Clarence Justice hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Grant County Review

A newspaper which during the whole time of publication of said notice herein after stated, has been and is printed and published in the _____

City _____ of Milbark

County of Grant and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

May 2, 1973 & May 9, 1973

(Signature)

(Signature)

Foreman

(Title)

May 10, 1973

(Date Signed)

NOTICE OF INTENT TO APPROPRIATE WATER

Pierre, South Dakota 57501
April 16, 1973

April 16, 1973

Notice is hereby given that Northwestern Public Service Co., Montana-Dakota Utilities Co., and Otter Tail Power Company whose post office address is Fergus Falls, Minn., has made an application in accordance with the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use or its dally or weekly equivalent, not to exceed 460 Acre feet per every seven day period 25 cubic feet of water per second of time from the Big Stone Lake through the Big Stone Plant, the point of diversion of which is to be located in the NE 1/4 NW 1/4 of Section 8, Twp. 121N, Range 46W. Said water to be used for the purpose of industrial use as cooling water in operation of electrical generating plant.

This application No. 1983-3 will be considered by the Water Resources Commission at their office at Pierre upon the 23rd day of May, 1973, at 2:00 P.M. All interested persons may appear and be heard.

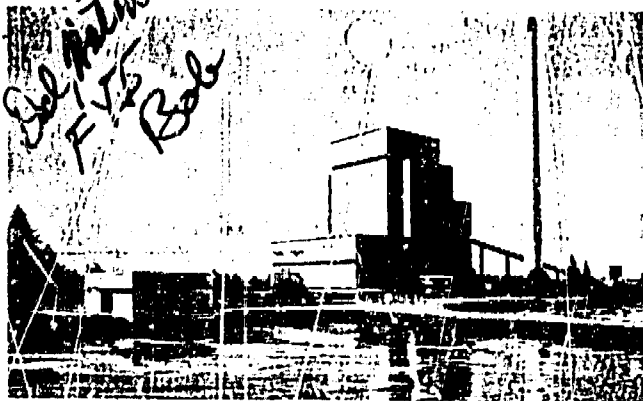
Water Resources Commission
By: Burton F. Jones,
Water Rights Specialist

May 2

May 9

RECEIVED
MAY 14 1973

STATE WATER RESOURCES COMMISSION
PIERRE, SOUTH DAKOTA



1983-3

BIG STONE PLANT

GRANT COUNTY, SOUTH DAKOTA

MONTANA-DAKOTA UTILITIES CO.
400 North Fourth Street
Bismarck, North Dakota 58501

OTTER TAIL POWER COMPANY
215 South Cascade Street
Fergus Falls, Minnesota 56537

NORTHWESTERN PUBLIC SERVICE COMPANY
100 Northwestern National Bank Building
Huron, South Dakota 57350

April 18, 1979

RECEIVED

APR 22 1979

DEPT. OF NATURAL
RESOURCE DEVELOPMENT

Secretary
Dept. of Natural Resources
State of South Dakota
State Office Building #2
Pierre, SD 57501

Dr. Duncan McGregor
South Dakota State Geological
Survey
University of South Dakota
Vermillion, SD 57069

Mr. Louis Breinhurst, Director
Water Quality Division
Minnesota Pollution Control Agency
1935 West County Road B2
Roseville, MN 55113

Mr. Albert M. Bjorkquist
Civil Engineer, Planning Branch
U. S. Corps of Engineers
1210 U.S. Post Office & Custom House
St. Paul, MN 55101

Gentlemen:

Subject: BIG STONE PLANT
0122 and 0057B
WATER MONITORING PROGRAM

We are forwarding for your use copies of the "First Quarterly Progress Report for the 1979 Water Monitoring Program at the Big Stone Plant."

Yours very truly,

Verlin Menze
Verlin Menze
Manager, Environmental Engineering
ak

Enclosure

c: Northwestern Public Service
Montana-Dakota Utilities

DORAND ENGINEERING, INC.

324 ELM AVENUE • BROOKINGS, SOUTH DAKOTA 57006

James N. Dornbush, DSc
Dwayne A. Rollag, PhD



605/692-6681

April 14, 1979

Mr. Verlin Menze
Manager, Environmental Monitoring
Otter Tail Power Company
215 South Cascade Street
Fergus Falls, Minnesota 56537

Dear Mr. Menze:

Enclosed are the results of analyses of samples collected for the winter quarter 1979 for the Big Stone Plant water monitoring program. These analyses have not been compared with the results of previous samples as yet; however, this evaluation will be undertaken with the 1979 annual report. The reported results are the average of two analyses for most determinations (BOD, turbidity and dissolved oxygen are exceptions.), and in nearly every case there was a very close agreement between the duplicate results.

Copies of these data have not been sent to Northwestern Public Service Company or Montana-Dakota Utilities.

A statement for the quarterly payment as per agreement is enclosed. If there are any questions, please contact me.

Sincerely,

James N. Dornbush, P.E.

JND:mfd
Encls.

RESULTS OF ANALYSES OF WELL SAMPLES
BIG STONE PLANT WATER MONITORING PROGRAM
February 14, 1979

Determination	1	3	4	5	6	7	8	9
Temperature - °C	7.8		6.1	7.8	4.8	8.2	6.4	11.9
pH - Units	7.0	N O	6.9	7.1	7.1	6.8	7.2	7.3
Conductivity - µmhos/cm-25°C	2069	S	2686	1620	1273	1678	2796	1323
Total Hardness	1275	A M P L E	1693	968	639	1014	802	696
Calcium Hardness	772		1110	560	390	370	486	358
Sodium	19.8		23.6	22.5	21.0	27.8	21.8	51.0
Total Alkalinity	381		454	455	458	144	426	273
Chlorides	15.5		48.8	3.1	2.5	5.8	1.9	27.8
Sulfates	857		1065	472	267	867	412	441
Total Phosphorus	.01		.03	.03	.04	.08	.03	.04
Nitrate Nitrogen	7.46		4.24	.06	.01	.03	.02	.17
Ammonia Nitrogen	.12		.53	.43	.58	.54	.60	.93
Kjeldahl Nitrogen	.25		.56	.43	.58	1.10	.60	1.16
Total Residue	1860		2445	1305	946	1726	1144	1033
Coliform Group - MPN/100 ml			< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2

*Results expressed as mg/l except as noted.

RESULTS OF ANALYSES OF SURFACE WATER SAMPLES
BIG STONE PLANT WATER MONITORING PROGRAM
February 14, 1979

Determination*	Sampling Stations			
	W-1	W-2	BSL	CP
Temperature - °C	0.1	0.3	0.8	13.0
pH - Units	7.5	7.6	7.9	7.7
Conductivity - µmhos/cm-25°C	1338	1418	1348	3179
Total Hardness	595	572	640	1356
Calcium Hardness	353	344	287	605
Sodium	79.9	86.1	68.2	250
Total Alkalinity	360	359	247	122
Chlorides	61.9	68.3	16.1	67.0
Sulfates	301	300	468	1635
Total Phosphorus	.79	1.02	.25	.05
Nitrate Nitrogen	.49	.49	.22	.01
Ammonia Nitrogen	3.05	3.19	.94	.07
Kjeldahl Nitrogen	4.25	3.60	2.60	2.10
Total Residue	971	980	1068	2919
Total Suspended Matter	8	5	6	12
Dissolved Oxygen	9.1	7.7	8.1	10.5
Biochemical Oxygen Demand	2.0	2.2	3.3	3.0
Turbidity	4.1	4.3	2.8	3.1
Coliform Group - MPN/100 ml	50	400	10	5
Fecal Coliforms - MPN/100 ml	7	10	<3	<3

Legend of Sampling Stations

W-2 and W-1 - Whetstone River above
and below plant

BSL - Big Stone Lake at pumping
station

CP - Cooling Pond

*Results expressed as mg/l except
as noted.

1983-3

SOUTH



Department of Natural Resource Development

WATER RIGHTS COMMISSION

Office Building Number 2, Pierre, South Dakota 57501

Phone 605/224-3151

September 8, 1975

Terry Graumann
Environmental Assistant
Ottetail Power Company
215 South Cascade Street
Fergus Falls, Minnesota 56537

Dear Mr. Graumann:

Reference is made to your letter regarding the completion of Water Permit No. 1768-3, 1982-3 and 1983-3. We will try and make an inspection of the permits as soon as possible, with a view to issuing the final papers.

However, because of prior work commitments there may be a considerable interval of time.

You have thus far complied with all of the requirements and the intervening time between your notifying this office and the performance of the inspection will not affect the completing of your Water Right.

Should you have future questions, please feel free to contact this office.

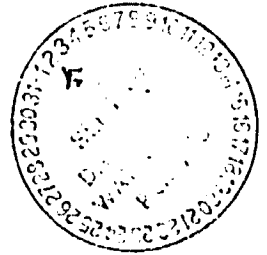
Sincerely,

BURTON F. JONES
Water Rights Specialist

Original let to be filed in 1768-3

BFJ/bw

bc: Dor Vraspir
O. B. Johnson
R. F. Middleton
R. G. Johnson
Bill Giesen
Nay Thomas
Wayne Thompson



August 28, 1980

Mr. Steven M. Pirner
Office Administrator
Office of Water Quality
SD Department of Water & Natural Resources
Joe Foss Building
Pierre, South Dakota 57501

Dear Mr. Pirner:

Subject: BIG STONE POWER PLANT PONDS

The following is in response to your letter of August 12, 1980, in which you expressed concern regarding the possibility of excessive seepage from the ponds having a potentially adverse effect on homeowners in Big Stone City.

As Wayne Thompson and I discussed with you and Michael Meyer during our meeting on August 26, we appreciate your concern about the potential problem. We also gratefully acknowledge your offer of recommendations regarding location and construction of monitoring wells.

The owners of the Big Stone Power Plant are keenly aware of the necessity of taking prudent measures to protect the environment. To that end, a water monitoring program was instituted in 1972, two and one-half years before the plant began commercial operations, to establish historical background information regarding water quality and groundwater tables in the vicinity of the plant. The monitoring has been and still is being conducted on a regular basis by Dr. James Dornbush, of South Dakota State University, through Dorand Engineering.

Three of the monitoring wells, including the Big Stone City municipal well, are located between the ponds and Big Stone Lake. Other monitoring wells are being contemplated for installation nearby the newly-constructed evaporation pond and the blowdown holding pond. These will be the subject of discussion with our consultants during the next few weeks.

The ponds were designed and constructed to meet seepage rate guidelines furnished by your Department. In addition, a gravel-packed interceptor vein was constructed around the outer periphery of the dike surrounding approximately the southern half of the new ponds. We believe that these measures should provide adequate protection against the circumstances described in your letter. However, as stated before, we will give serious consideration to your suggestions and recommendations for additional monitoring wells.

Mr. Steven M. Pirner

-2-

August 28, 1980

Thanks again for your concern and your offer to make recommendations. We certainly appreciate the cooperative attitude you have always exhibited regarding the Big Stone Power Plant.

Yours truly,

A handwritten signature in cursive script, appearing to read "Verlin Menze".

Verlin Menze, P.E.

Manager, Environmental Engineering
Iam

c: Mr. E. Backhaus
Mr. Art Linderman
Dr. James Dornbush
Mr. Royer Hegge
Mr. John Hatch

JH
8/25/80

**South Dakota Department of
Water & Natural Resources**

Joe Foss Building
Pierre, South Dakota 57501

August 12, 1980

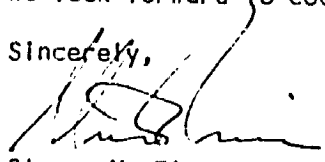
Mr. Verlin Menze
Manager, Environmental Engineering
Otter Tail Power Company
215 South Cascade Street
Fergus Falls, Minnesota 56537

Dear Mr. Menze:

This letter is in regard to the construction of the new 350 acre evaporation pond for the Big Stone Power Plant. This large pond is located on the hill above part of the residential section of the City of Big Stone. The South Dakota Department of Water and Natural Resources (DWR) is concerned that groundwater seepage from the pond may adversely affect the homeowners between the pond and Big Stone Lake. Excessive groundwater seepage from the pond might cause seepage problems into basements and/or localized house foundation problems. At least one homeowner is presently complaining of seepage into his basement from the city sewage lagoons which are also located on the hill above this residential area. Although seepage from the city lagoons into the homeowner's basement is not definitely proven at this point, available evidence indicates it to be the most likely cause. If this is the case, groundwater seepage from the new 350 acre evaporation pond may aggravate existing problems and perhaps induce new ones. For this reason DWR recommends that monitoring wells be placed between the new evaporation pond and the residences. It is also suggested that a few monitoring wells be placed within the residential area. Comparison of water table data before and after the new evaporation pond has become operational would provide data that Otter Tail Power Company could use to assure that the homeowners downhill from the new pond would not be adversely impacted. We are willing to offer recommendations as to the location and construction of the monitoring wells. If monitoring wells are placed, it is important that they be emplaced before the pond becomes operational.

We look forward to cooperating with you on this in the near future.

Sincerely,


Steven M. Pirner
Office Administrator
Office of Water Quality
Phone: (605) 773-3351

cc: Roger Hegge, Mayor, Big Stone City
John Hatch, DWR

B74109MM

Equal Opportunity Employer

Permit No. 1983-3Water Division 3 MINNESOTA RIVER Water DistrictREPORT OF EXAMINATION OF WORKS
AND/OR APPLICATION OF WATER TO BENEFICIAL USETO: WATER RIGHTS, WATER MANAGEMENT BOARD / FOSS BLDG., PIITRE, SOUTH DAKOTA 57501
NORTHWESTERN PUBLIC SERVICE CO.,I have this day made a thorough examination of the water use system constructed by MONTANA-DAKOTA UTILITIES CO., ANDOTERTAIL POWER CO. of FERGUS FALLS, MN 56537 holder *of Permit No. 1983-3, bearing date of priority of JULY 24 1970 & APRIL 9, 1973authorizing the diversion of 1000 ACRE FEET ANNUALLY
cu. ft. per second of the waters of BIG STONE LAKEfor INDUSTRIAL (POWER GENERATION) purposes, in GRANT County.

I have to report on the condition of the same as follows:

The Water Use System consists of, PUMPING HOUSE CONTAINING 6 WATER INLETA. Works used to divert the water: CELLS 8'x8'x12' DEEP. TWO PEERLESS CENTRIFUGAL PUMPS (50 CFS RATED CAPACITY) EACH POWERED BY WESTINGHOUSE 1500 HP ELECTRIC MOTOR; ONE PEERLESS CENTRIFUGAL PUMP (10 CFS RATED CAPACITY) POWERED BY WESTINGHOUSE 450 HP ELECTRIC MOTOR.B. Works used to transport water to place of use, 48" DIAMETER CONCRETE PIPE, STEEL LINED, APPROX. 7550' FROM PUMP TO DISCHARGE STRUCTURE IN BOILER MAKE-UP POND AND 200' DISCHARGE STRUCTURE TO OUTLET IN COOLING PONDC. Works used to apply water to beneficial use, BOILER MAKE-UP POND AND ABOUT 9 SURFACE ACRES - TOTAL POND AREA ABOUT 860 ACRES - MAXIMUM STORAGE CAPACITY IS 5000 ACRE FEET. ABOUT 16,000 LINEAL FEET OF BORDER DIKES AND 4100' OF BAFFLE DIKES. DRY SLOPES ARE 2.5:1 AND WET SLOPES 3:1. TOP WIDTH OF DIKE ABOUT 18' - RIP-RAP ABOUT 1 FOOT THICK OF CRUSHED GRANITE ROCK.The system is in the following condition: EXCELLENTThe point of diversion is located 1320' S AND 1440' E OF THE NW CORNER OF SECTION 8, T12N, R46WThe works are capable of diverting and conveying to the place of use 110 CFS **cu. ft. per second of water which is to be used for INDUSTRIAL (POWER GENERATION)Water has been put to beneficial use to the maximum extent as follows: WATER IS USED FOR FLOODING AND STEAM GENERATOR USE. BLOW DOWN WATER AND OTHER DISCHARGE WATER IS RE-USED. BOILER MAKE-UP WATER AND DOMESTIC USE WATER IS PRODUCT OF BRINE CONCENTRATOR.

comprising a total of _____ acres of land.

* APPLICABLE PORTIONS OF PERMIT NO 1768-3 HAVE BEEN INCORPORATED INTO THIS WATER LICENSE.

** UNDER CONDITIONS SPECIFIED IN WATER PERMIT NO 1768-3 AND NO 1983-3 DIVERSIONS BETWEEN 101 AND 100 CFS ARE AUTHORIZED

Date AUGUST 26, 1981William J. Jones
(Signature)

No. 1983-3



Department of Water & Natural Resources

Joe Foss Building Water Rights Division
Pierre, South Dakota 57501

(605) 773-3352

February 22, 1982

Dana Holter, Plant Manager
Big Stone Power Plant
Milbank, South Dakota 57252

Dear Mr. Holter:

The inspection of your water use system and inspection of the extent of your application of water to beneficial use, as developed under your Water Right No. 1983-3 has been completed. Your final water right document, the Water License, can now be issued.

Statutes require that we charge a \$50.00 fee for the inspection and issuing of the Water License. Upon receipt of the \$50.00 fee from you, your Water License will be sent to you.

You will also receive the Certificate of Construction as required by statute.

Sincerely,

Maxine Stirling
Staff Assistant

NOTE: On form of payment, please include the number of the water permit.
This insures proper handling of the fee.

P.S. The applicable portions of Permit No. 1768-3 have been incorporated into this Permit No. 1983-3 and one Water License will cover both permits.

RECEIPT

WATER RIGHTS COMMISSION

State of South Dakota

No 4 8779

PIERRE, March 25, 1982

RECEIVED OF Otter Tail Power Company, 215 South Cascade, Fergus Falls, MN 56537
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit to Appropriate Water No. _____ (examination, processing, recording and filing) _____		
Fee for inspecting Construction, and issuing Cert. of Construction No. 1983-3	50	00
Fee for inspecting Beneficial Use, and issuing Water License No. 1983-3		
Fee for issuing Location Certificate-Dry Draw, No. _____		
Fee for filing _____		
Fee for certified copy of _____		
Fee for Print copy of map _____		
Fee for Certifying _____		
Fee for _____ (any other work as provided by law)		
TOTAL	50	00

WATER RIGHTS COMMISSION

By J. J. Hatch
Chief Engineer, Executive Officer
JOHN HATCH/105

Otter Tail

POWER COMPANY

215 South Cascade Street
Fergus Falls, Minnesota 56537
Phone 218-736-5411

May 28, 1982



South Dakota Dept. of Water & Natural Resources
Water Rights Division
Joe Foss Bldg.
Pierre, SD 57501

Gentlemen:

Kindly refer to our P. O. No. 86230. This purchase order involves the inspection fee for issuing of a water license. The inspection has been made, however, no license or permit has ever been issued or received and we ask that this be done as quickly as possible. Please forward this needed document at once.

Sincerely,

Warren Hershner
Purchasing Agent
ck

cc: Harold Kramer - Big Stone Plant

May 25 - Purp 250

WATER RIGHTS DIVISION

(605) 773-3352

June 1, 1982

Ottortall Power Company
215 South Cascade Street
Fergus Falls, Minnesota 56537

RE: Your P.O. No. 86230 &
Water Permit No. 1983-3

ATTENTION: Warren Hershner, Purchasing Agent

Dear Sir:

This letter is in reference to your recent letter dated May 28, 1982, regarding the inspection and issuance of Water License No. 1983-3.

The inspection has been made and the proper fees received, as of this date, the License has not been finalized and signed by our Chief Engineer. The License will be forwarded as soon as it is processed.

If you have any questions, please contact this office.

Sincerely,

GENny Young
Water Rights Specialist

GY:ms

SOUTH Dakota Department of
Water & Natural Resources

Joe Foss Building Water Rights Division
Pierre, South Dakota 57501

(605) 773-3352

May 6, 1982

Otter Tail Power Company
215 South Cascade
Fergus Falls, Minnesota 56537

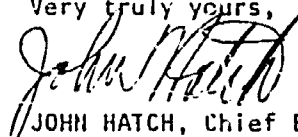
Gentlemen:

Enclosed herewith are. Water License No. 1983-3 and Certificate of Construction.

Water License No. 1983-3 is the final water right document completing your process of obtaining a water right.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water.

Very truly yours,


JOHN HATCH, Chief Engineer
Water Rights Division

JH:ms

enclosures

NOTE: Applicable portions of Permit No. 1768-3 have been incorporated into this Water License No. 1983-3.

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 1983-3

(1) WHEREAS, On the 9th day of April A. D. 19 73
Northwestern Public Service Co., Montana Dakota Utilities Co., and Ottertall
Power Co.
made Water Right Application No. 1983-3 for a permit to use 7,000 acre feet annually of the waters
of Big Stone Lake
County of Grant, State of South Dakota, for Industrial
(power generation) purposes; and
(2) WHEREAS, On the 23rd day of May A. D. 19 73
Permit No. 1983-3, with a date of priority of July 24, 1970 and April 9, 1973*
was issued to said applicant \$ for the diversion of said water, and recognizing the completion of construction of the water
supply system therein described on or before the 23rd day of May A. D. 19 77
application to beneficial use of said water on or before the 23rd day of May A. D. 19 77

and:

(3) WHEREAS, It is hereby certified that the applicant has complied with the provisions of the laws of the State of South Dakota
relating to completion of the construction of the water supply system and is entitled to divert 110** cubic feet
per second of water for beneficial use and,

(4) WHEREAS, It is hereby certified that the applicant has complied with the provisions of the laws of the State of South Dakota
relating to the application of water to beneficial use of the following extent,

water to be used for cooling and steam generator use. Blow down water and other
discharge water is reused. Boiler make-up water and domestic use water are
products of Brine concentrator.

* Applicable portions of Permit No. 1768-3 have been incorporated into the
Water License.

** Under conditions specified in Water Permit No. 1768-3 and No. 1983-3, diversions be
between 10 and 100 cfs are authorized,

(5) NOW, THEREFORE, By the virtue of the authority vested in us by the laws of the State of South Dakota, We hereby grant and confirm to Northwestern Public Service Co., Montana-Dakota Utilities Co., and

Ottertail Power Co., Fergus Falls, Minnesota

the holder s and owner s of said permit No. 1983-3 a water right, dating from July 24, 1970 and
April 9, 1973 to use of 110 cubic feet per second of the waters
of Big Stone Lake

in the County of Grant and State of South Dakota, or so much thereof as may be necessary for the
purpose hereinbelow mentioned, to be diverted at a point 1320'S and 1440'E of the NW Corner of
Section 8, T121N, R46W

and conducted to and upon through the Power Plant's distribution system

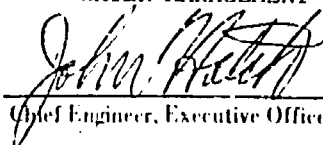
for the purpose of Industrial use (power generation)

Subject to any limitations listed in Water Right Permit No. 1983-3 and subject to the laws of the State of South Dakota.

WITNESS, My hand and seal of our office at Pierre, South Dakota
this 5th day of May A. D.
Nineteen Hundred and Eighty-Two

WATER MANAGEMENT BOARD

By:



Chief Engineer, Executive Officer

JOHN HATCH

Permit No. 1983-3

Water Diversion No. 3 Minnesota River Water District
07020001

CERTIFICATE OF CONSTRUCTION

This is to Certify, That Northwestern Public Service Co., Montant-Dakota Utilities Co., and Ottertall Power Co.

_____ the holder s of
Permit No. 1983-3, issued upon Application No. 1983-3, bearing date of priority of July 24, 1970
and April 9, 1973 authorizing the diversion of 7000 acre feet annually of the waters of
Big Stone Lake County of Grant, State of South Dakota at
A point 1320'S and 1440'E of the NW Corner of Section 8, T121N, R46W
_____, for Industrial (power generation)

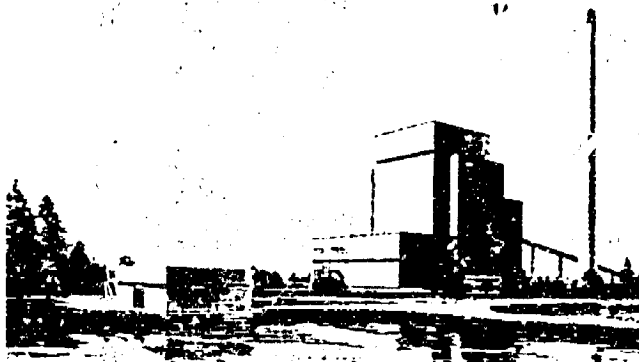
purposes, ha ve complied with the provisions of the laws of the State of South Dakota relating to proof of
completion of the works of diversion set out and described in said Permit; that said works are found in satisfactory
condition for diverting and conveying to the place of intended use 110 cu. ft. per second of water.

Date May 5, 1982



JOHN HATCH, Chief Engineer
Water Rights Division

1983-3



BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, SOUTH DAKOTA 57216
(605) 862-8125

MONTANA-DAKOTA UTILITIES CO.
400 North Fourth Street
Bismarck, North Dakota 58101

OTTER TAIL POWER COMPANY
215 South Cascade Street
Fergus Falls, Minnesota 56537

NORTHWESTERN PUBLIC SERVICE COMPANY
100 Northwestern National Bank Building
Huron, South Dakota 57350

August 10, 1988

Mr. Larry Seymour, Director
Division of Waters
Minnesota Department of Natural Resources
500 Lafayette Rd. N.
St. Paul, Minnesota 55146

Mr. John J. Smith, Secretary
Department of Natural Resources Development
Joe Foss Building
Pierre, South Dakota 57501

Gentlemen:

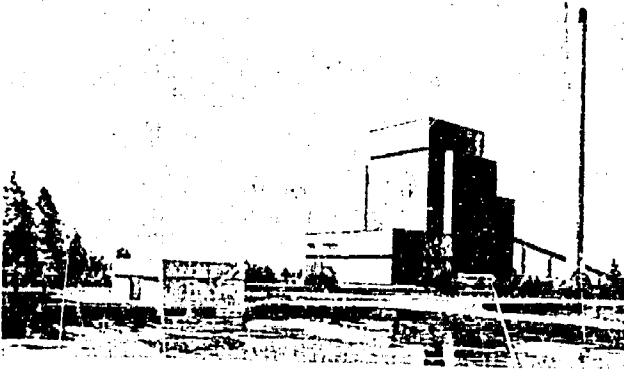
SUBJECT: REQUEST FOR EMERGENCY ALLOCATION OF WATER FROM
BIG STONE LAKE - UPPER MINNESOTA RIVER WATERSHED
DISTRICT RESOLUTION

On August 9 at the normal meeting of the Upper Minnesota River Watershed District Board, the Big Stone Plant informed them that we will be requesting from the States of Minnesota and South Dakota an emergency allocation of 500 acre feet of water. We then explained the reason for the request, and our efforts to minimize this appropriation. The Board in an unanimous vote gave their support to the Big Stone Plant's request for an emergency allocation of water.

Very truly yours,

Mark Rolfes
Plant Manager
Big Stone Plant

MR:rt



BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, SOUTH DAKOTA 57216
(605) 862-8125

MONTANA-DAKOTA UTILITIES CO.
400 North Fourth Street
Bismarck, North Dakota 58501

OTTER TAIL POWER COMPANY
215 South Cascade Street
Fergus Falls, Minnesota 56537

NORTHWESTERN PUBLIC SERVICE COMPANY
100 Northwestern National Bank Building
Huron, South Dakota 57350

August 10, 1988

Mr. Larry Seymour, Director
Division of Waters
Minnesota Department of Natural Resources
500 Lafayette Rd. N.
St. Paul, Minnesota 55146

Mr. John J. Smith, Secretary
Department of Natural Resources Development
Joe Foss Building
Pierre, South Dakota 57501



Gentlemen:

SUBJECT: REQUEST FOR EMERGENCY ALLOCATION OF WATER
FROM BIG STONE LAKE - MINNESOTA PERMIT #PA70-1182
SOUTH DAKOTA PERMIT #1768-3 & 1983-3

The 420 megawatt Big Stone Power Plant jointly owned by Montana-Dakota Utilities Company, Northwestern Public Service Company, and Otter Tail Power Company began commercial operation on May 1, 1975 and has been a large supplier of electric energy for the customers of the three companies. It is one of the largest generating unit on the three owner's system, and thus it is vital to the task of supplying adequate and reliable service to the company's customers.

The Plant utilizes a 340 acre man-made pond for cooling purposes, with makeup water being supplied from Big Stone Lake whenever lake levels, as specified in our water appropriations permit, will allow. The Plant is a zero discharge facility, which means all water at the Plant is reprocessed for reuse through a water treatment facility known as a brine concentrator. The only water loss is through evaporation.

Address Reply To: BIG STONE PLANT

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

Mr. Larry Seymour, Director
Minnesota Dept. of Natural Resources

Page 2

Mr. John J. Smith, Secretary
Dept. of Natural Resources Development

Briefly, our permit authorizes the appropriation of up to 7,000 acre feet of water annually from Big Stone Lake, provided the pumping is restricted to the times when the lake level exceeds project datum elevation of 967 feet during the period from May 1 through September 30, and 966 feet during the period October 1 through April 30.

So far in 1988, we have appropriated approximately 25% of our permitted annual amount.

Because of the dry fall in 1987, the small amount of spring runoff, the severe drought, the low humidities, and high temperatures which we have been experiencing all summer, the level of Big Stone Lake has declined below the minimum level of 956 feet required to permit pumping. Also, in 1966 a new control works structure was installed at the outlet of Big Stone. With this new structure came a new philosophy of operation that now prohibits water from the Whetstone River from entering Big Stone Lake. This further compounds the lake level problem. There seems to be little prospect of any significant improvement in lake levels before snow fall and runoff next spring. The lake level is so low now that it may require above normal snowfall for sufficient runoff to allow for normal pumping under our permit.

Concurrent with the drop in lake level, the level of the cooling pond at the Plant has also dropped at an accelerated rate. The hot weather combined with high electrical loads required by our customers has increased evaporation beyond normal amounts. I am sure we are all aware of the extreme drought conditions, and can appreciate the higher than normal evaporation rates.

Because of these drought conditions, we project that the level in our cooling pond by late March 1989 would be so low that operation of the Plant would not be possible. Because of these projections, we have begun taking every step possible to conserve our water. These include such things as discontinuing all unnecessary uses of water, running our brine concentrator plant at full capacity to recycle as much water as possible, and draining of all ponds into a single holding pond to reduce losses to evaporation. We have also

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

Mr. Larry Seymour, Director
Minnesota Dept. of Natural Resources

Page 3

Mr. John J. Smith, Secretary
Dept. of Natural Resources Development

investigated changes in our water treatment to allow us to run with poorer quality of water, thus allowing us to recycle more water. We have taken every step that we know of to conserve the water existing on the Plant site. However, we still project that we will fall short of having sufficient water to operate until the normal spring runoff period.

Request

Because of all of the above information, we respectfully request an emergency allocation of up to 500 acre feet of water from Big Stone Lake. Our intention would be to appropriate this 500 acre feet at a time when it would have the least impact on other use for the lake, that is, after normal summer recreation is completed and before there is ice cover on the lake. We are taking every step possible to minimize the withdrawal of water, and will take as little water as is needed. As weather conditions change in the near future, we would take the smallest amount possible to ensure that we can make it to the spring runoff period. The allocation of 500 acre feet of water from Big Stone Lake is a relatively small amount. (Big Stone Lake has a surface area of approximately 13,000 acres at a pool elevation of 965 feet, therefore withdrawal of 500 acre feet of water would lower the level by less than 1/2 inch).

This allocation, if granted, would enable the Big Stone Plant to continue operation until the spring runoff when we hope for a rise in lake level sufficient to enable us to pump under terms of our existing permit. In the event of continued sub-normal precipitation, which may preclude a spring runoff sufficient enough to result in a rise of lake level above the minimum required to allow normal appropriations, it would become necessary for us to make another request for emergency allocation of water at that time. We sincerely hope that such a situation does not become a reality. However, the lake level is so low now that we may need above normal precipitation for this to occur.

The last time a request of this nature was made was 1976. At that time the question of long term solution to water shortage was raised. Since 1976, Big Stone Plant has spent many millions of dollars on the problem. Additional storage ponds were built along

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

Mr. Larry Seymour, Director
Minnesota Dept. of Natural Resources

Page 4

Mr. John J. Smith, Secretary
Dept. of Natural Resources Development

with the construction of the brine concentrator to allow us to recycle, rather than evaporate water. These measures have helped greatly. We are going through a summer that is worse than 1976 for water loss, the Plant is carrying heavier loads and we still have considerably more water on site now than in 1976. However, these measures are not enough for the drought year and we will need a small amount of water to reach the spring runoff period.

Summary

In summary, the second dry year in a row combined with record high temperatures has caused a drop in the level of Big Stone Lake sufficient to prohibit us from pumping under our water appropriations permit. The same conditions have caused very high evaporation rates from the Big Stone Plant cooling pond and have lowered the water level to a point that we will not be able to continue operations until the normal spring runoff. We at the Plant have taken every step possible to conserve the water we presently have and have had successful results. However, we still need a small amount of water to ensure that we will be able to operate until normal spring runoff. Continued operation of the Big Stone Plant is essential to the health and well being of the customers of the three utility companies that own the Plant. Therefore, we are respectfully requesting an emergency allocation of 500 acre feet of water to be appropriated from Big Stone Lake. We will do everything possible to minimize this amount of withdrawal. As weather conditions change, we will re-evaluate the amount of appropriation. If spring 1989 runoff is inadequate to permit pumping as outlined in our permit, an additional allocation may be requested at a later date. However, we are only requesting enough water now to get us to the spring runoff period. We request priority consideration for this request, as it is of vital importance to us and to our customers.

It should be noted that a new control works structure has been installed at the outlet of Big Stone Lake. With this structure and its operating philosophy, we may see more years when we have inadequate lake level to permit pumping under our permit. We request that consideration be given to carrying the lake level higher to help everyone through these drought conditions, or these requests for special consideration may become a more frequent matter.

BIG STONE PLANT

P. O BOX 218
BIG STONE CITY, S.D. 57216

Mr. Larry Seymour, Director
Minnesota Dept. of Natural Resources

Page 5

Mr. John J. Smith, Secretary
Dept. of Natural Resources Development

Please contact us at once if more information or clarification is needed concerning this matter. Our telephone number is 605-862-8125. We very much appreciate your speedy consideration of this request.

Very truly yours



Mark Rolfes
Plant Manager
Big Stone Plant

MR:rt

cc: Mr. John C. McFarlane
Mr. Joseph R. Maichel
Mr. A. D. Schmidt
Mr. Richard Green
Mr. Earl Backhaus
Mr. Dana L. Holter
Mr. Don Vraspir
Mr. J. Myster
Mr. Bill Giesen
Mr. Al Kubousek
Mr. Roy Larson
Mr. Verlin Menze
Upper Minnesota River Watershed District
FILE: X-4

Report on Request for Interim Waiver
of Water Right Qualification
Big Stone Power Plant
September 1, 1988

Big Stone Power Plant, near Big Stone City, SD, has requested the Water Management Board to consider a request for an interim waiver from qualification No. 2 on Water Right No. 1983-3. This qualification specifies when the power plant can pump water from Big Stone Lake based on the water level in the lake. Water License No. 1983-3, with a priority date of July 24, 1970, authorizes a diversion of 7000 acre-feet of water annually from Big Stone Lake when lake levels are at or above elevation 965 feet project datum (962.64 msl) during the period of October thru April and when lake levels are at or above elevation 967 feet project datum (964.64 msl) during the period of May thru September. Water is used for cooling, steam generation, and make-up water in plant operations.

During 1988, Big Stone Power has pumped approximately 25% of the annual 7000 acre-feet authorized. Due to the current drought conditions, the level of Big Stone Lake has fallen below the minimum levels at which pumping can occur. This request is to pump 500 acre-feet of water from Big Stone Lake, below elevation 965 feet project datum. Approval of the request would enable the plant to continue normal operation until next spring, when normal spring runoff should occur. The 500 acre-feet withdrawal would be made after the normal summer recreation season is over and before the lake freezes.

DISCUSSION

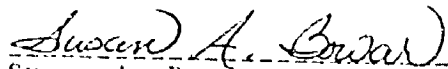
The location of the point of diversion is in the E1/2 NW1/4, Section 8, T121N, R46W. Reservoir area and capacity data indicate a 500 acre-foot withdrawal, at elevation 963 feet project datum, would result in a 0.044 foot drop (1/2 inch) in elevation of the lake. There are no other existing water permit/right holders that potentially would be affected by this withdrawal. Previous requests of this nature have been made by Big Stone Power in September of 1976 and March of 1977. Since that time, a brine concentrator has been incorporated into the operation that enables recycling of water and additional storage ponds have been added. Big Stone Power is currently taking steps to conserve water including running the brine concentrator at full capacity and draining all ponds into a single pond to reduce losses to evaporation.

CONCLUSION

Water is available for the 500 acre-foot withdrawal. Adverse impacts should be minimized by the fact that the normal recreation season is over. Should the current drought conditions continue into next spring, it is quite possible that Big Stone Power will make another request to pump water when lake levels are below the permitted elevations.

The request should be granted subject to the following conditions:

- 1) That all remaining qualifications on Water Right No. 1983-3 be adhered to.
- 2) That withdrawal of the 500 acre-feet may not exceed the rate of 10 cubic feet of water per second.
- 3) Diversion of the 500 acre-feet is to be completed by April 30, 1989.
- 4) That Big Stone Power investigate and develop alternative sources of water to be used during emergency situations. The results of this investigation are to be submitted to the Chief Engineer within one year.



Susan A. Bowar
Natural Resources Engineer

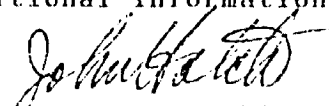
RECOMMENDATION OF CHIEF ENGINEER FOR REQUEST FOR
INTERIM WAIVER FROM QUALIFICATION NO. 2 ON
WATER RIGHT NO. 1983-3, Big Stone Power Plant

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning the the request for an interim waiver of qualification No. 2 on Water Right No. 1983-3, Big Stone Power Plant, P.O. Box 208, Big Stone City, SD.

The Chief Engineer is recommending APPROVAL of the request for an interim waiver until April 30, 1989 of qualification No. 2 on Water Right No. 1983-3 to pump 500 acre-feet of water from Big Stone Lake, below elevation 965 feet project datum, subject to the following conditions:

- 1) That all remaining qualifications on Water Right No. 1983-3 be adhered to.
- 2) That withdrawal of the 500 acre-feet may not exceed the rate of 10 cubic feet of water per second.
- 3) Diversion of the 500 acre-feet is to be completed by April 30, 1989.
- 4) That Big Stone Power investigate and develop alternative sources of water to be used during emergency situations. The results of this investigation are to be submitted to the Chief Engineer within one year.

See attached report for additional information.


JOHN HATCH, Chief Engineer
September 1, 1988



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

September 1, 1988

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES CONTACT THE
NEWSPAPERS IMMEDIATELY.

Mark Rolfes, Plant Manager
Big Stone Plant
PO Box 218
Big Stone City, SD 57216

Dear Mr. Rolfes:

A Notice of Hearing regarding your request to pump 500 acre-feet of water from Big Stone Lake has been sent to the publisher of Milbank Grant Co. Review and the Wilmot Enterprise. For your review, a copy of the Notice of Hearing is enclosed and a copy of the report and Chief Engineer's recommendation will follow at a later date. Please review this Notice prior to publication and notify this office if you have any corrections or questions.

BE SURE TO CONTACT THE ABOVE NEWSPAPERS IMMEDIATELY TO AUTHORIZE PUBLICATION OF YOUR NOTICE AND TO ARRANGE FOR PAYMENT. Early contact with the papers can eliminate delays. The publishers have been instructed to publish the notice once a week for two consecutive weeks with the last publication to occur at least twenty days before the Board meeting. We must receive proof of publication prior to the scheduled hearing date.

Sincerely,

Ron Duvall
Natural Resources Engineer
605 773-3352

enclosures

was also sent to
Mil Capt. of Natural
Resources
(Copy of Notice only)



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

September 1, 1988

Wilmot Enterprise
Box 70
Wilmot SD 57279

Dear Publisher:

Enclosed is a Notice of Hearing to be published twice. Please publish the first notice on or before September 8, 1988 with the second publication 7 days later.

A representative of the Big Stone Power Plant must verify that the Notice is to be published, before you make the first publication. Please bill the Big Stone Power Plant for the cost of the publication. The address of the plant is "Big Stone Plant, PO Box 218, Big Stone City SD 57216".

A copy of BOTH publications must be sent to the Water Rights Division. Immediately return the FIRST publication with the FIRST transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. The hearing can not be held by the Water Management Board until proof of the publication has been received.

Sincerely,

Ron Duvall
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----
FIRST TRANSMITTAL NOTICE
No. _____ TO: Water Rights Division
Date _____ 523 E Capitol
Pierre SD 57501
We are in receipt of your letter with the Notice of Hearing for Big Stone Power Plant which was first published in our _____
issue. ENCLOSED IS A COPY OF THE FIRST PUBLICATION.

Name

Newspaper



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

September 1, 1988

Phyllis D Justice, Publisher
Grant Co. Review
Box 390
Milbank SD 57252

Dear Ms. Justice:

Enclosed is a Notice of Hearing to be published twice. Please publish the first notice on or before September 7, 1988 with the second publication 7 days later.

A representative of the Big Stone Power Plant must verify that the Notice is to be published, before you make the first publication. Please bill the Big Stone Power Plant for the cost of the publication. The address of the plant is "Big Stone Plant, PO Box 218, Big Stone City SD 57216".

A copy of BOTH publications must be sent to the Water Rights Division. Immediately return the FIRST publication with the FIRST transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. The hearing can not be held by the Water Management Board until proof of the publication has been received.

Sincerely,

Ron Duvall
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

FIRST TRANSMITTAL NOTICE

No. _____

Date _____

TO: Water Rights Division
523 E Capitol
Pierre SD 57501

We are in receipt of your letter with the Notice of Hearing for Big Stone Power Plant which was first published in our _____ issue. ENCLOSED IS A COPY OF THE FIRST PUBLICATION.

Name

Newspaper

1
NOTICE OF HEARING ON REQUEST BY BIG STONE POWER
PLANT TO CONSIDER AN INTERIM WAIVER FROM QUALIFICATION NO. 2 ON
WATER RIGHT NO. 1983-3

Notice is given that the Water Management Board will consider a request made by Big Stone Power Plant, P.O. Box 213, Big Stone City, South Dakota 57216, for an interim waiver of qualification No. 2 on Water Right No. 1983-3. This qualification specifies when the power plant can pump water from Big Stone Lake based on the water level in the lake. The current level of Big Stone Lake is below the minimum specified levels (elevation 967 feet project datum during the period May to September and between elevations 965 and 967 feet project datum during the period October through April) at which pumping can occur. The low levels of the lake are due to the current dry conditions. The Big Stone Power Plant request is to pump 500 acre-feet of water from the lake even though the water level is below elevation 965 feet project datum. The water is needed to allow the power plant to continue operating into 1989. Pumping 500 acre-feet of water from Big Stone Lake would lower the lake level approximately 1/2 inch.

Pursuant to SDCL 46-2A-2, the Chief Engineer of the Water Rights Division is recommending APPROVAL of the request for an interim waiver until April 30, 1989 of qualification No. 2 on Water Right No. 1983-3 to pump 500 acre-feet of water from Big Stone Lake, below elevation 965 feet project datum, subject to the following conditions: 1) That all remaining qualifications on Water Right No. 1983-3 be adhered to, 2) That withdrawal of the 500 acre-feet may not to exceed the rate of 10 cubic feet of water per second, 3) Diversion of the 500 acre-feet is to be completed by April 30, 1989, 4) That Big Stone Power investigate and develop alternative sources of water to be used during emergency situations. The results of this investigation are to be submitted to the Chief Engineer within one year.

The Water Management Board has legal authority and jurisdiction to consider this request pursuant to SDCL 46-1-14, 46-2-3.1, 46-2-5, 46-2-9, 46-2-11, 46-2-17, 46-2A-12, 46-5-30.4. The Board will consider this request at a public hearing to be held on October 5, 1988 at 11:00 am, in Room 216, Joe Foss Building, 523 E. Capitol, Pierre, SD. The Chief Engineer's recommendation is not final or binding upon the Board.

After all evidence is taken at the public hearing, the Board may issue a decision to: 1) grant the request for an interim waiver of qualification No. 2 on Water Right No. 1983-3, 2) deny the request for an interim waiver of qualification No. 2 on Water Right No. 1983-3, 3) take no action or do some combination of the above.

Any interested person that intends to participate in the hearing before the Board by presenting evidence or cross-examining witnesses according to SDCL Chapter 1-26, must file a written petition with BOTH Big Stone Power Plant and the Chief Engineer by September 23, 1988. The Chief Engineer's address is "Water Rights Division, DWNRR, Joe Foss Building, 523 E. Capitol, Pierre,

SD, 57501, (605-773-3352)". The petition may be informal, but must include a statement describing the petitioner's interest in the request, the petitioner's reasons for opposing or supporting the request, and the signature and mailing address of the petitioner or legal counsel if legal counsel is obtained. Contact the Water Rights Division for a copy of the request submitted by Big Stone Power Plant or to assure access to the hearing by the handicapped.

The hearing is an adversary proceeding. Any person filing a petition and/or Big Stone Power Plant have the right to be represented by a lawyer. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and to the Supreme Court as provided by law. The time of the hearing will be automatically delayed for at least twenty days upon written request to the Chief Engineer from Big Stone Power Plant or a petitioner. The request for a delay must be received by September 23, 1988.



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

September 19, 1988

Nancy Huff
Grant Co. Review
Box 390
Milbank SD 57252

Dear Ms. Huff:

This letter is in response to receipt of the enclosed Proof of Publications on September 15, 1988. I am returning the Proof of Publications because your signature was omitted. Please sign the Proof of Publication where indicated and return to the Division of Water Rights. The Grant-Roberts drainage dispute and the Big Stone Power Plant request can not be considered by the Water Management Board until signed Proof of Publications are received.

Thank you for your time and consideration.

Sincerely,

Ron Duvall
Natural Resources Engineer
605 773-3352

enc.



STATE OF SOUTH DAKOTA)
County - Grant) ss.

I, Nancy Huff hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Grant County Review

A newspaper which during the whole time of publication of said notice herein after stated, has been and is printed and published in the _____

City _____ of _____ Milbank

County of _____ and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

Sep+ember 7, 1938

September 14, 1933

(Signature)

(Title)

(Date Signed)

Cost of Printing: \$51.71

WNR-808-7/79
Proof of Publication

SEP 1968

CONSIDER AN INTERIM WATER RIGHT
FROM QUALIFICATION NO. 2 ON
WATER RIGHT NO. 1983-3

Notice is given that the Water Management Board will consider a request made by Big Stone Power Plant, P.O. Box 218, Big Stone City, South Dakota, 57216, for an interim waiver of qualification No. 2 on Water Right No. 1937-3. This qualification specifies when the power plant can pump water from Big Stone Lake based on the water level in the lake. The current level of Big Stone Lake is below the minimum specified levels (elevation 957 feet project datum during the period May to September, and between datum during the period October through April) at which pumping can occur. The low levels of the lake are due to the current dry conditions. The Big Stone Power Plant request is to pump 500 acre-feet of water from the lake even though the water level is below elevation 905 feet project datum. The water is needed to allow the power plant to continue operating into 1939. Pumping 500 acre-feet of water from Big Stone Lake would lower the lake level approximately $\frac{1}{2}$ inch.

Pursuant to SDCL 46-2A-2, the Chief Engineer of the Water Rights Division is recommending APPROVAL of the request for an interim waiver until April 30, 1989, of qualification No. 2 on Water Right No. 1983-3 to pump 500 acre-feet of water from Big Stone Lake, below elevation 965 feet project datum, subject to the following conditions: 1) That all remaining qualifications on Water Right No. 1983-3 be adhered to, 2) That withdrawal of the 500 acre-feet may not exceed the rate of 10 cubic feet of water per second, 3) diversion of the 500 acre-feet is to be made by April 30, 1988, 4) That Big Stone Power investigate and develop alternate sources of water to be used during emergency situations. The results of this investigation are to be submitted to the Chief Engineer within one year.

The Water Management Board has legal authority and jurisdiction to consider this request pursuant to SDCL 46-1-14, 46-2-3.1, 46-2-5, 46-2-9, 46-2-11, 46-2-17, 46-2A-12, 46-5-30.4. The Board will consider this request at a public hearing to be held on October 5, 1983, at 11 a.m., in Room 216, Joe Foss Building, 523 E. Capitol, Pierre, SD. The Chief Engineer's recommendation is not final or binding upon the Board.

After all evidence is taken at the public hearing, the Board may issue a decision to: 1) grant the request for an interim waiver of qualification No. 2 on Water Right No. 1983-3, 2) deny the request for an interim waiver of qualification No. 2 on Water Right No. 1983-3, 3) take no action or do some combination of the above.

Any interested person that intends to participate in the hearing before the Board by presenting evidence or cross-examining witnesses according to SDCL Chapter 1-26, must file a written petition with BOTH Big Stone Power Plant and the Chief Engineer by September 23, 1988. The Chief Engineer's address is "Water Rights Division, DWNR, Joe Foss Building, 523 E. Capitol, Pierre, SD, 57501, (605-773-3352). The petition may be informal, but must include a statement describing the petitioner's interest in the request, the petitioner's reasons for opposing or supporting the request, and the signature and mailing address of the petitioner or legal counsel if legal counsel is obtained. Contact the Water Rights Division for a copy of the request submitted by Big Stone Power Plant or to assure access to the hearing by the handicapped.

The hearing is an adversary proceeding. Any person filing a petition and/or Big Stone Power Plant have the right to be represented by a lawyer. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and to the Supreme Court as provided by law. The time of the hearing will be automatically delayed for at least twenty days upon written request to the Chief Engineer from Big Stone Power Plant or a petitioner. The request for a delay must be received by

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Grant) ss.

I, Nancy Huff hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Grant County Review

A newspaper which during the whole time of publication of said notice herein after stated, has been and is printed and published in the _____

City _____ of Milbank

County of _____ and State of South Dakota, that the said notice was published in said newspaper on the following two dates:

September 7, 1988

September 14, 1988

Any interested person that intends to participate in the hearing before the Board by presenting evidence or cross-examining witnesses according to SDCL Chapter 1-21, must file a written petition with BOTH Big Stone Power Plant and the Chief Engineer by September 23, 1988. The Chief Engineer's address is "Water Rights Division, DWR, Joe Foss Building, 513 E. Capitol, Pierre, SD, 57501, (605-773-3352)". The petition may be informal, but must include a statement describing the petitioner's interest in the request, the petitioner's reasons for opposing or supporting the request, and the signature and mailing address of the petitioner or legal counsel if legal counsel is obtained. Contact the Water Rights Division for a copy of the request submitted by Big Stone Power Plant or to assure access to the hearing by the handicapped.

The hearing is an adversary proceeding. Any person filing a petition and/or Big Stone Power Plant have the right to be represented by a lawyer. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and to the Supreme Court as provided by law. The time of the hearing will be automatically delayed for at least twenty days upon written request to the Chief Engineer from Big Stone Power Plant or a petitioner. The request for a delay must be received by September 23, 1988.

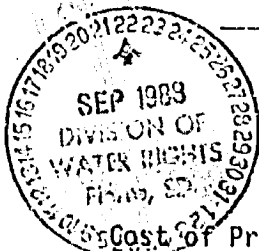
Sept. 7

NOTICE OF HEARING ON REQUEST BY BIG STONE POWER PLANT TO CONSIDER AN INTERIM WAIVER FROM QUALIFICATION NO. 2 ON WATER RIGHT NO. 1983-3

Notice is given that the Water Management Board will consider a request made by Big Stone Power Plant, P.O. Box 218, Big Stone City, South Dakota, 57216, for an interim waiver of qualification No. 2 on Water Right No. 1983-3. This qualification specifies when the power plant can pump water from Big Stone Lake based on the water level in the lake. The current level of Big Stone Lake is below the minimum specified levels (elevation 967 feet project datum during the period October through April) at which pumping can occur. The low levels of the lake are due to the current dry conditions. The Big Stone Power Plant request is to pump 500 acre-feet of water from the lake even though the water level is below elevation 965 feet project datum. The water is needed to allow the power plant to continue operating into 1989. Pumping 500 acre-feet of water from Big Stone Lake would lower the lake level approximately 1/2 inch.

Pursuant to SDCL 46-2A-2, the Chief Engineer of the Water Rights Division is recommending APPROVAL of the request for an interim waiver until April 30, 1989, of qualification No. 2 on Water Right No. 1983-3 to pump 500 acre-feet of water from Big Stone Lake, below elevation 965 feet project datum, subject to the following conditions: 1) that all remaining qualifications on Water Right No. 1983-3 be adhered to, 2) that withdrawal of the 500 acre-feet of water per second, 3) diversion of 500 acre-feet is to be completed by April 30, 1989, 4) That Big Stone Power Plant investigate and develop alternate sources of water to be used during emergency situations. The results of investigation are to be submitted to the Chief Engineer within one year. The Water Management Board has full authority and jurisdiction to consider this request pursuant to SDCL 46-2-1, 46-2-5, 46-2-9, 46-2-11, 46-2-17, 46-2A-12, 46-5-30.4. The Board consider this request at a public hearing to be held on October 5, 1988, at 10:00 a.m. in Room 216, Joe Foss Building, E. Capitol, Pierre, SD. The Chief Engineer's recommendation is not final and binding upon the Board. After all evidence is taken at the public hearing, the Board may issue a decision to: 1) grant the request for an interim waiver of qualification No. 2 on Water Right No. 1983-3, 2) deny the request for an interim waiver of qualification No. 2 on Water Right No. 1983-3, 3) take no action or do some combination of the above.

Sept. 14



Cost of Printing: \$51.71

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Roberts) ss.

I, Dana Hess hereby
certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Wilmot Enterprise

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____
City _____ of Wilmot

County of Roberts and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

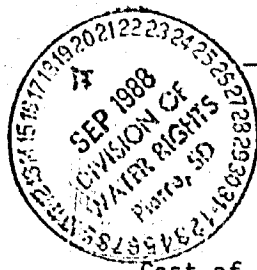
Sept. 8, 1988

Sept. 15, 1988

Dana Hess
(Signature)

Publisher
(Title)

Sept. 15, 1988
(Date Signed)



Cost of Printing: 58.95

15th & SEPTEMBER 1988

Wilmot Enterprise

WNR-808-7/79

Proof of Publication

NOTICE OF HEARING
ON REQUEST BY
BIG STONE POWER
PLANT TO CONSIDER AN
INTERIM WAIVER FROM
QUALIFICATION NO. 2
ON WATER RIGHT
NO. 1983-3

Notice is given that the
Water Management Board
will consider a request
made by Big Stone Power
Plant, P.O. Box 218, Big
Stone City, South Dakota
57216, for an interim waiver
of qualification No. 2 on
Water Right No. 1983-3.
This qualification specifies
when the power plant can
pump water from Big Stone
Lake based on the water
level in the lake. The
current level of Big Stone
Lake is below the minimum
specified levels (elevation
967 feet project datum
during the period May to
September and between
elevations 965 and 967 feet
project datum during the
period October through
April at which pumping
can occur. The low levels of
the lake are due to the
current dry conditions. The
Big Stone Power Plant
request is to pump 500
acre-feet of water from the
lake even though the water
level is below elevation 965
feet project datum. The
water is needed to allow
the power plant to continue
operating into 1989. Pump-
ing 500 acre-feet of water
from Big Stone Lake would
lower the lake level
approximately 1/4 inch.

Pursuant to SDCL
46-2A-2, the Chief Engineer
of the Water Rights Divi-
sion is recommending
APPROVAL of the request
for an interim waiver until
April 30, 1989 of qual-
ification No. 2 on Water
Right No. 1983-3 to pump
500 acre-feet of water from
Big Stone Lake, below
elevation 965 feet project
datum, subject to the
following conditions: 1) That
all remaining qualifications
of Water Right No. 1983-3
be adhered to, 2) That
withdrawal of the 500
acre-feet may not exceed
the rate of 10 cubic feet of

water per second, 3)
Diversions of the 500 acre-
feet is to be completed by
April 30, 1989, 4) That Big
Stone Power investigate
and develop alternative
sources of water to be used
during emergency situa-
tions. The results of this
investigation are to be
submitted to the Chief
Engineer within one year.
The Water Management
Board has legal authority
and jurisdiction to consider
this request pursuant to
SDCL 46-1-14, 46-2-3.1,
46-2-5, 46-2-9, 46-2-11,
46-2-17, 46-2A-12, 46-5-30.4.
The Board will consider this
request at a public hearing
to be held on October 5,
1988 at 11:00 a.m. in Room
216, Joe Foss Building, 523
E. Capitol, Pierre, SD. The
Chief Engineer's recommen-
dation is not final or
binding upon the Board.

After all evidence is
taken at the public hearing,
the Board may issue a
decision to: 1) grant the
request for an interim
waiver of qualification No. 2
on Water Right No. 1983-3,
2) deny the request for an
interim waiver of qualifica-
tion No. 2 on Water Right
No. 1983-3, 3) take no action
or do some combination of
the above.

Any interested person
that intends to participate
in the hearing before the
Board by presenting
evidence or cross-examining
witnesses according to
SDCL Chapter 1-28, must
file a written petition with
BOTH Big Stone Power
Plant and the Chief
Engineer by September 23,
1988. The Chief Engineer's
address is "Water Rights
Division, DWRN, Joe Foss
Building, 523 E. Capitol,
Pierre, SD 57501 (605-779-
3352)". The petition may be
informal, but must include a
statement describing the
petitioner's interest in the
request, the petitioner's
reasons for opposing or
supporting the request, and
the signature and mailing
address of the petitioner or
legal counsel. If legal counsel
is obtained, contact the
Water Rights Division for a
copy of the request
submitted by Big Stone
Power Plant or to assure
access to the hearing by the
handicapped.

The hearing is an
adversary proceeding. Any
person filing a petition
and/or Big Stone Power
Plant have the right to be
represented by a lawyer.
These and other due
process rights will be
forfeited if not exercised.
Decisions of the Board may
be appealed to the Circuit
Court and to the Supreme
Court as provided by law.
The time of the hearing will
be automatically delayed for
at least twenty days upon
written request to the Chief
Engineer from Big Stone
Power Plant or a petitioner.
The request for a delay
must be received by
September 30, 1988.

(Sept. 8 & 15, 1988)

 **Department of
Water & Natural Resources**

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

September 13, 1988

Mark Rolfes, Plant Manager
Big Stone Plant
PO Box 218
Big Stone City SD 57216

Dear Mr. Rolfes:

Enclosed is a copy of the Report and Recommendation for the Interim Waiver of Water Right Qualification on Water Right No. 1983-3, Big Stone Power Plant to be considered by the Water Management Board on October 5, 1988.

Sincerely,

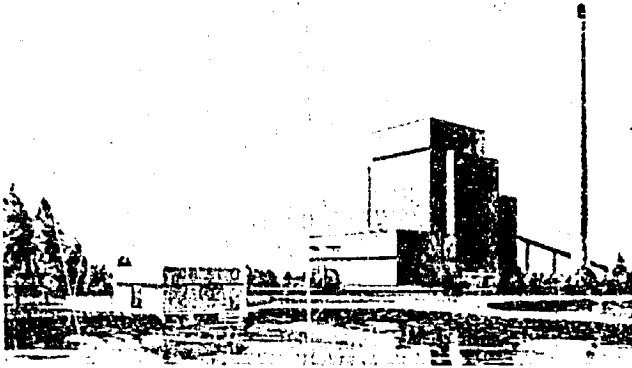
Karen Schlaak

KAREN SCHLAACK
Senior Secretary
605 773-3352

enclosure

cc: Larry Seymour, Minnesota Dept. of Natural Resources
Larry Donovan, Assistant Attorney General





BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, SOUTH DAKOTA 57216
(605) 962-8125

MONTANA-DAKOTA UTILITIES CO.
400 North Fourth Street
Bismarck, North Dakota 58501

OTTER TAIL POWER COMPANY
715 South Cascade Street
Fergus Falls, Minnesota 56537

NORTHWESTERN PUBLIC SERVICE COMPANY
100 Northwestern National Bank Building
Huron, South Dakota 57330

September 19, 1988

Chief Engineer
Water Rights Division
Department of Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501



Gentlemen:

SUBJECT: REQUEST BY BIG STONE POWER PLANT TO CONSIDER AN
INTERIM WAIVER FROM QUALIFICATION #2 ON WATER
RIGHTS #1983-3

The Big Stone Plant (the entity requesting the waiver of qualification #2) has obvious interest in the Water Management Boards' hearing. We wish go on record as supporting the Chief Engineer's recommendation for approval of the request. We also wish to go on record as supporting conditions #1 and 3 of the Chief Engineer's recommendations. However, we feel that we cannot support recommendation #2 and 4 for reasons I will outline below.

Before elaborating on our objections to conditions #2 and 4, we would like to point out an item of confusion in the notice of hearing. In the notice of hearing, a project datum of elevation 965 is referred to. To the best of our knowledge and from examining our copies of Water Rights #1983-3, we believe that the correct elevation should be 966 feet project datum. If we are in error and 965 is the proper elevation, the nature of the request changes drastically, as the current lake level is above 965 feet. However, the lake level is below 966 feet, which we believe is the correct elevation. We ask that this point be clarified.

The Big Stone Plant cannot support condition #2 of the Chief Engineer's recommendations. Condition #2 states, "that withdrawal of 500 acre feet may not to exceed the rate of 10 cubic feet of water per second). The Big Stone Plant's pump house has the ability to pump a minimum of 10 cubic feet of water per second to a maximum of 100 cubic feet per second". For ease of operation, it is more convenient for the Plant to procure the 500 acre feet of

Address Reply To: BIG STONE PLANT

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

Chief Engineer
Water Rights Division

Page 2

water at a higher rate of flow. We do not know of any detrimental effects the higher flow rate will cause. For that reason, we are requesting to be allowed to procure the water at a higher rate of flow. If there are some reasons for the lower rate of flow that we are not aware of, we will definitely reconsider our support for this condition.

The other condition that we are questioning is condition #4, "That Big Stone Power investigate and develop alternative sources of water to be used during emergency situations. The results of this investigation are to be submitted to the Chief Engineer within one year". This is the item that we are most concerned about. The reason for our concern is that we believe this investigation and development has already been done. An additional study would not be appropriate. I will elaborate further on what has been done and the conclusions reached during those investigations.

The Big Stone Plant began commercial operation in May of 1975. We immediately ran into drought conditions during the period of 1975 through 1977. It was in the fall of 1976 and the spring of 1977 that the Plant made its only other request for waiver of a qualification on our water rights permit. Because of the problems encountered during this early drought period, in 1978 Big Stone Plant hired Stearns-Roger to investigate the alternatives. What follows is a quotation from the introduction to the Stearns-Roger study.

"Because of the three year drought (1975 through 1977), the quality of water from the cooling pond deteriorated more rapidly than anticipated. As a result, Otter Tail Power Company retained Stearns-Roger Incorporated to conduct a waste water management study to determine the optimum treatment system required to allow continuous Plant operation during extended period of drought while maintaining a zero discharge condition."

Stearns-Roger performed their study in 1978 and construction work began in 1979. Attached you will find a letter dated August 21, 1979 to the Division of Water Management from Otter Tail Power Company outlining the progress of the study and its recommendation. Taken from the second page of this letter is the following quotations:

"It became obvious that we must:

1. Increase the area of the evaporation ponds or reduce the quantity of blowdown water.

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

Chief Engineer
Water Rights Division

Page 3

2. Minimize the quantity of makeup water required from Big Stone Lake.

To implement this, it was decided to install a brine concentrator to treat part of the cooling pond blowdown water and dispose of the balance in an area originally planned for evaporation ponds.

The brine concentrator is designed to treat 660 GPM maximum. We estimate that a normal, average treatment rate will be 400 GPM with higher flow rates available for extreme drought years."

As mentioned above, the studies objective was to retain the zero discharge status at the Big Stone Plant, and improve our ability to withstand drought conditions. The results of the study indicated that the best option for us was to install a brine concentrator to reprocess and reuse water from our cooling pond, also to install evaporation and holding ponds. It must be remembered that quality, as well as quantity, is a concern for our cooling water. This must be kept in mind when understanding why the study chose certain equipment. With the addition of the brine concentrator and its associated ponds, we are able to minimize the quantity of water needed from Big Stone Lake, and our pumping records over the past eight years do reflect this change. Also, the equipment added has improved our ability to control the water quality in our ponds. The study showed that the brine concentrator would have capacity that would be used during extreme drought conditions. That is just what has happened this year. The changes made at Big Stone Plant, as a result of this investigation, cost close to \$12,000,000.00. However, the project was not intended to alleviate completely any chance of requesting a waiver of some of the qualifications of our water rights permit.

The drought conditions experienced during 1987 and 1988 are by far the worst that we have experienced in this area for many years. The drought condition over most of the country is a reflection of this severity. The record fires out West, the low water level in the Mississippi and Missouri River valleys are further testimony to this drought condition. I could go on and on listing the proof of the extreme drought. The point I wish to make is that this drought is one of the worst on record. The Big Stone Plant is in considerably better position now than it was in 1976, however, we are not able to get by without requesting a small amount of additional water. Since the completion of the study and its associated project, the Big Stone Plant has not given up further investigation

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

Chief Engineer
Water Rights Division

Page 4

on our water supply and our water treatment. During 1988, we have initiated a new state-of-the-art chemical treatment of our cooling pond. This was in response to the drought condition, and changes in technology. This change in treatment shall further improve our ability to maintain our zero discharge status and reduce the amount of water taken from the lake. We, at the Plant, are taking every effort to look at alternatives to improve our water situation.

One item that was not addressed directly in the study was an alternative source of water for the Plant. There are two primary sources of water, ground water and surface water. The Big Stone Plant uses surface water from Big Stone Lake. The only other source of surface water in the immediate area is the Whetstone River, which during this drought year has dried up completely. The Whetstone River does not provide a very hopeful source for surface water. The other possible source is ground water. Ground water has not been seriously looked at for a source of water for the Plant for a number of reasons. First, ground water in this area is very hard. Hardness is a very undesirable condition in the water for our cooling pond, as it scales our heat exchanger equipment. Also, preliminary ground water investigation prior to Plant construction indicated that the ground water reserves in this area are not extensive. If we were to drill wells to provide us a backup source of water, we would need the ability to pump approximately 4,000 gallons per minute continuously during drought conditions. 4,000 gallons per minute would be a large draw on the ground water supplies in this area. Most of the wells in this area are at a depth similar to the ground water that supplies Big Stone Lake. In other words, if we use wells, we may end up affecting lake level the same as if we were pumping directly out of the lake.

The point I wish to make is that we are not questioning the Chief Engineer's recommendation to do an investigation. We feel that the investigation has already been done, and we have taken the actions recommended by the investigation. The fact that we normally take only a fraction of our possible allotment of water, attests to the value of the equipment installed and the value of the investigation recommendation. The investigation was not intended to provide us with a source of water during all possible conditions. The study was aimed at improving our ability to withstand normal drought conditions, and maintaining our zero discharge. We feel we have accomplished that, and the best alternative for the future is the very infrequent request for additional water from Big Stone Lake.

BIG STONE PLANT

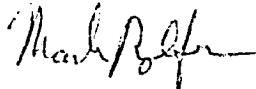
P. O. BOX 218
BIG STONE CITY, S.D. 57216

Chief Engineer
Water Rights Division

Page 5

If you have any questions or need copies of any of our information, please let me know.

Very truly yours,



Mark Rolfes
Plant Manager
Big Stone Plant

MR:rt

cc: Richard Green, NWPS
Earl Backhaus, MDU
Dana L. Holter
Bill Giesen
Don Vraspir
Jay Myster
Al Kubousek
FILE: X-4

FILE X-10

Nay Thomas

August 21, 1979

Mr. Jim Nelson, Deputy Division Director
Division of Water Management
South Dakota State Department of Water
and Natural Resources
Joe Foss Building
Pierre, SD 57501

Dear Mr. Nelson:

Subject: BIG STONE PLANT
WATER MANAGEMENT PROGRAM

Big Stone Plant was designed as a zero discharge facility as far as wastewater is concerned. The original design which was approved by the State of South Dakota included evaporation ponds to hold and evaporate our cooling pond blowdown water. Our consulting engineers predicted that it would take from five to seven years for the concentrations in the cooling pond to build up to such a point that it was necessary to blowdown any water. After a period of two years of operation we found that it was necessary to blowdown the cooling pond and that the quantity of blowdown exceeded original predictions.

The cooling pond was blown down to an area that we had diked for ash disposal to keep any surface water from flowing over the ash and escaping to any body of water. This blowdown water was subsequently pumped to two center-pivot irrigators which distributed the water over the area originally intended for the evaporation ponds.

Recognizing that the disposal of blowdown water through the center-pivot irrigators was not a permanent solution to our attempts to maintain the zero discharge concept, we retained Stearns-Roger Inc. of Denver, Colorado, to study the problem and come up with a solution.

Review of the original engineering design, plant operations and subsequent engineering studies revealed the following problems with original design:

1. The concentrations in the cooling pond increased at a faster rate than anticipated.

2. The quality of makeup water available from Big Stone Lake was not as good as the basic series of water samples indicated.
3. The evaporation pond area was not large enough to dissipate the increased quantity of blowdown water.
4. Short duration droughts could limit the quantity of water available from Big Stone Lake.

It became obvious that we must:

1. Increase the area of the evaporation ponds or reduce the quantity of blowdown water and,
2. Minimize the quantity of makeup water required from Big Stone Lake.

To implement this, it was decided to install a brine concentrator to treat part of the cooling pond blowdown water and dispose of the balance in the area originally planned for evaporation ponds.

The brine concentrator is designed to treat 660 GPM maximum. We estimate that a normal average treatment rate will be 400 GPM with higher flow rates available for extreme drought years. Approximately 98% of the cooling pond blowdown water to the brine concentrator is returned to the cooling pond with a total dissolved solid content not greater than 5 PPM. The remaining brine will be disposed of in a sludge evaporation pond adjacent to the brine concentrator site. A contract was awarded to Resources Conservation Company early in 1979 so that construction could begin in 1979 and the facility be in service in the fall of 1980.

In the meantime, Stearns-Roger is completing design of the sludge evaporation pond, and the evaporation ponds for cooling pond blowdown. The cooling pond blowdown evaporation ponds will be in the area originally designated for evaporation ponds. Part of the area will be used to contain the blowdown and will be designated as a holding pond. Once flooded, of course, the surface of the holding pond will also serve as an evaporation area. The holding pond will essentially be a storage pond so that we provide cooling pond blowdown water to the brine concentrator all year.

We have requested Stearns-Roger to prepare a plot plan locating the various facilities which will be forwarded to you as soon as available. Soil exploration data and sealing details should be available by mid-September for the sludge evaporation pond.

We have presented a resume of the plans for modification of the Big Stone Plant

Mr. Jim Nelson

-3-

August 21, 1979

Water Management Program. If in reviewing this resume or future submittals you feel additional information is required, please contact us.

Yours very truly,



O. B. Johnson
Director, Production Engineering
& Construction

lm

cc: Mr. Don Vraspir
Mr. R. O. M. Grutle
Mr. R. F. Middleton
Mr. R. G. Johnson
Mr. V. H. Menze
Mr. Nay Thomas
Mr. Wayne Thompson

Revised Report on Request for Interim Waiver
of Water Right Qualification
Big Stone Power Plant
September 22, 1988

Big Stone Power Plant, near Big Stone City, SD, has requested the Water Management Board to consider a request for an interim waiver from qualification No. 2 on Water Right No. 1983-3. This qualification specifies when the power plant can pump water from Big Stone Lake based on the water level in the lake. Water License No. 1983-3, with a priority date of July 24, 1970, authorizes a diversion of 7000 acre-feet of water annually from Big Stone Lake when lake levels are at or above elevation 966 feet project datum (963.64 msl) during the period of October thru April and when lake levels are at or above elevation 967 feet project datum (964.64 msl) during the period of May thru September. Water is used for cooling, steam generation, and make-up water in plant operations.

During 1988, Big Stone Power has pumped approximately 25% of the annual 7000 acre-feet authorized. Due to the current drought conditions, the level of Big Stone Lake has fallen below the minimum levels at which pumping can occur. This request is to pump 500 acre-feet of water from Big Stone Lake, below elevation 966 feet project datum. Approval of the request would enable the plant to continue normal operation until next spring, when normal spring runoff should occur. The 500 acre-feet withdrawal would be made after the normal summer recreation season is over and before the lake freezes.

DISCUSSION

The location of the point of diversion is in the E1/2 NW1/4, Section 8, T121N, R46W. Reservoir area and capacity data indicate a 500 acre-foot withdrawal, at elevation 963 feet project datum, would result in a 0.044 foot drop (0.50 inch) in elevation of the lake, and at elevation 966 feet project datum, would result in a 0.039 foot drop (0.47 inch). There are no other existing water permit/right holders that potentially would be affected by this withdrawal. Previous requests of this nature have been made by Big Stone Power in September of 1976 and March of 1977. Since that time, a brine concentrator has been incorporated into the operation that enables recycling of water and additional storage ponds have been added. Big Stone Power is currently taking steps to conserve water including running the brine concentrator at full capacity and draining all ponds into a single pond to reduce losses to evaporation.

CONCLUSION

Water is available for the 500 acre-foot withdrawal. Adverse impacts should be minimized by the fact that the normal recreation season is over. Should the current drought conditions continue into next spring, it is quite possible that Big Stone Power will make another request to pump water when lake levels are below the permitted elevations.

The request should be granted subject to the following conditions:

- 1) That all remaining qualifications on Water Right No. 1983-3 be adhered to.
- 2) That withdrawal of the 500 acre-foot may not exceed the rate of 10 cubic feet of water per second.
- 3) Diversion of the 500 acre-foot is to be completed by April 30, 1989.
- 4) That Big Stone Power investigate and develop alternative sources of water to be used during emergency situations. The results of this investigation are to be submitted to the Chief Engineer within one year.

Susan A. Bowar

Susan A. Bowar
Natural Resources Engineer



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

September 23, 1988

Mark Rolfes, Plant Manager
Big Stone Power Plant
P.O. Box 218
Big Stone City, SD 57216

Dear Mr. Rolfes:

I am writing in response to your request for clarification of the discrepancy in the project datum elevations that you refer to in your letter of September 19, 1988.

You are correct, the project datum elevation above which water can be withdrawn from Big Stone Lake during the period of October 1 through April 30 is 966 feet.

You will need to present your objections to Recommendation Nos. 2 and 4 to the Water Management Board at their meeting on October 5, 1988.

Please contact us, if you have further questions.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division
605 773-3352

cc: Larry Donovan, Assistant Attorney General



Conversation or File Documentation

NAME OF PERSON OR FILE: Mark Rolfe - Big Stone Power PlantADDRESS: P.O. Box 218 Big Stone City, SD 57216 COUNTY GrantDATE: Oct. 2, 1988 TELEPHONE 862-8125RE: Interim Waiver of Quota - Actual Elevations on License.

COMMENTS:

I called Mr. Rolfe today to explain that both the letter sent to him (9/23/88) and their understanding of the minimum lake levels above which pumping can occur appear to be wrong. I told him that after going through their files it appeared that the following was correct:

(I) Water Permit No. 1768-3 (issued 9/14/70) authorized:

1. Diversion, not to exceed 100 cfs, when water surface elevation is @ or above proj. stream elev. 967 feet.
2. Diversion, not to exceed 10 cfs or its daily A/E equiv., when water surface elevation is between 965 and 967 feet (pd) during the period Oct to Apr, incl.
3. Diversion below elev. 967 feet during the period May to Sept, incl. may not occur w/o permission of SD-MN Boundary Waters Commission.
4. 7000 ac-ft of storage for cooling pond purposes.

(II) Water Permit No. 1983-3 (issued 6/13/73) authorized:

1. 25 cfs.... at any time during the period Oct. thru April when water levels are at 966' (pd). The volume cannot exceed 462 ac-ft in any cons. 7 days.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: _____

Water Rights Division - DWRP
Conversation or File Documentation

1983-3
File No. 1768-3

NAME OF PERSON OR FILE: _____

ADDRESS: _____ COUNTY _____

DATE: _____ TELEPHONE _____

RE: _____

COMMENTS:

When the permits were combined into 1 License, # 1983-3, in May 5, 1982, all applicable conditions from both permits were incorporated. The following is a condensed (& simplified) version of the conditions of Water License # 1983-3:

- (1) 7000 ac-ft of storage per year
- (2) During the period Oct 1-Apr 30:
 - (a) @ elev 965' (pd) - 10 cfs
 - (b) @ elev 966' (pd) - 35 cfs (10+25)
- (3) At elev. 967' (pd) - 100 cfs
- (4) Diversion below 967' during May 1-Sept 30 requires permission from SD-MN Boundary Waters Commission

All are conditions from Water Permit No. 1768-3 except 3.b.

Mr. Rolles said in this case a hearing would not be necessary as they could pump @ 10 cfs and the current level of the lake (as of 9/30/88) is 965.38 and they would not go below 965.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

4/82

NAME: _____

(2)

Water Rights Division - DWR
Conversation or File Documentation

File No. ¹⁷⁸³ 176-3

NAME OF PERSON OR FILE: _____

ADDRESS: _____ COUNTY _____

DATE: _____ TELEPHONE _____

RE: _____

COMMENTS:

He also said his records did not indicate this but wanted to do some checking. He said he would call back and ask for J. Hatch or myself

I also told him that out of this will be followed up in writing upon hearing from him.

10/6/88 - Mr. Relfes appeared at the WMB hearing yesterday. After going through their records, they concurred w/ us on elevation 965'. They did decide to ask the WMB to be allowed to pump the 500 AF @ a diversion rate not to exceed 100 cfs. This request was granted at the meeting - see memo

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

4/82

NAME: Aaron A. Bowman

 **Department of
Water & Natural Resources**

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3131

October 11, 1988

NOTICE

TO: Mark Rolfes, Plant Manager
Big Stone Power Plant
P.O. Box 208
Big Stone City, SD 57216

FROM: John Hatch, Chief Engineer 
Water Rights Division
(605) 773-3352

SUBJECT: Review of Request for Interim Waiver of
Qualification No. 2 on Water Right No. 1983-3

The Water Management Board approved the request for an Interim Waiver of Qualification no. 2 on Water Right No. 1983-3 on October 5, 1988 with the following conditions:

- 1) That all remaining conditions on Water Right No. 1983-3 be adhered to.
- 2) That the withdrawal of the 500 acre-feet may not exceed the rate of 100 cubic feet of water per second.
- 3) Diversion of the 500 acre-feet is to be completed by April 30, 1989.
- 4) That Big Stone Power Plant investigate and develop alternative sources of water to be used in emergency situations. The results of this investigation are to be submitted to the Chief Engineer within one year.

Please contact us, if you have any questions concerning action taken by the Board.



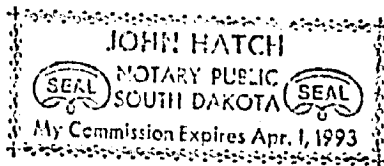
CERTIFICATION

I hereby certify that on October 11, 1988 I have personally deposited with the U.S. Mail a postage prepaid envelope containing a Notice to Big Stone Power Plant addressed as stated on the notice.

Karen Schlack
KAREN SCHLACK
Senior Secretary

STATE OF SOUTH DAKOTA)
COUNTY OF HUGHES) SS

Sworn to, before me, this 12th day of October, 1988.



John Hatch
Notary Public

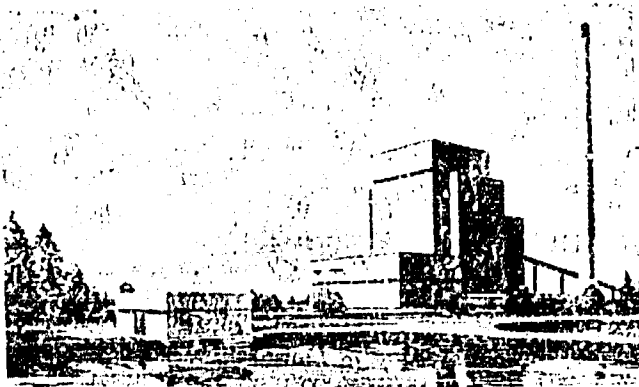
BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, SOUTH DAKOTA 57216
(605) 862-8125

MONTANA-DAKOTA UTILITIES CO.
400 North Fourth Street
Bismarck, North Dakota 58501

OTTER TAIL POWER COMPANY
215 South Cascade Street
Fergus Falls, Minnesota 56537

NORTHWESTERN PUBLIC SERVICE COMPANY
100 Northwestern National Bank Building
Huron, South Dakota 57350



February 15, 1989

Mr. John J. Smith
Secretary Department of
Natural Resources Development
Joe Foss Building
Pierre, SD 57501

Dear Mr. Smith:

SUBJECT: REQUEST FOR WAIVER OF PUMPING RATE RESTRICTION
FOR ALLOCATION OF WATER FROM BIG STONE LAKE -
SOUTH DAKOTA PERMIT NO. 1768-3 & 1983-3

The 420 megawatt Big Stone Power Plant jointly owned by Montana-Dakota Utilities Company, Northwestern Public Service Company and Otter Tail Power Company began commercial operation on May 1, 1975 and has been a large supplier of electric energy for the customers of the three companies. It is one of the largest generating units on the three owners' system and thus it is vital to the task of supplying adequate and reliable service to the companies customers.

The Plant utilizes a 340 acre man-made pond for cooling purposes, with makeup water being supplied from Big Stone Lake whenever lake levels, as specified in our water appropriations permit, will allow. The Plant is a zero discharge facility, which means all water at the Plant is reprocessed for reuse through a water treatment facility known as a brine concentrator. The only water loss is through evaporation.

Briefly, our water permit authorizes the appropriation of up to 7,000 acre feet of water annually from Big Stone Lake provided the pumping is restricted to the times when the lake level exceeds project data elevation of 967 feet during the period from May 1 through September 30, and 965 feet during the period of October 1 through April 30.

During the fall of 1987 and the entire year of 1988, our area has experienced drought conditions. There was very little rain in the



fall of 1987, little or no spring runoff in 1988, and extremely high temperatures and low humidities, coupled with high winds during much of the summer in 1988. Because of this, the level of Big Stone Lake has declined along with the level of our cooling pond. At this point in the winter of 1988-89, it is too early to tell with any certainty what the 1989 spring runoff will be. The level of Big Stone Lake for the balance of 1989 is still very much uncertain.

Though the level of Big Stone Lake is lower than it has been in the recent past, it is not below the minimum level for pumping under the condition of our South Dakota permit. However, because Big Stone Lake is a border lake, the Big Stone Power Plant has water rights permits from both the States of South Dakota and Minnesota. Under the terms of our Minnesota permit pumping is not allowed when the lake level is below 966 feet. Consequently, we have not procured water during the winter season that we are allowed to under our South Dakota permit. At the present time, we are pursuing with the State of Minnesota to amend our permit so that the Minnesota permit has the same restrictions as our South Dakota permit.

Because of the drought conditions, we project that the level in our cooling pond by May 1 would be so low that operation of the Plant would not be possible. Because of these projections, we feel that water must be taken during the spring runoff period in order to allow the Plant to operate during the balance of 1989.

Request

Because the spring runoff conditions for 1989 are uncertain at this time, the Big Stone Plant is requesting that the pumping rate restrictions be waived under our Water Appropriation Permit such that the Big Stone Plant may pump approximately 3,700 acre feet of water prior to May 1, 1989. This amount is approximately equal to the amount of water we would have appropriated under our existing permit if we had pumped during the winter period. It is our hope and expectation that normal spring runoff will happen and waiver of this restriction would not be necessary. However, we are submitting this request at this time so that you have time to evaluate and consider our request.

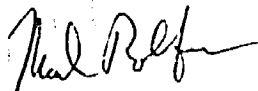
As directed by your Department in the fall 1988, the Big Stone Plant is pursuing an investigation on alternative water supplies for the Big Stone Plant. This effort is nearing completion and a report should be available shortly. However, it is impossible in the time frame between now and May 1 to implement any alternative water supplies. The Big Stone Plant has been making every effort during the drought period to reduce the amount of water required for the operation of the Plant.

SUMMARY

In summary, because of the dry year the level of Big Stone Lake has dropped below what would be considered normal levels. Because of the differences in our Minnesota and South Dakota Water Appropriation Permits, the Big Stone Plant has not pumped water that we were entitled to under our South Dakota permit. Because of this, we are asking that the pumping rate restriction be waived for a period ending May 1 to allow us to appropriate 3,700 acre feet of water. This is the minimum appropriation of water that would be required to maintain the operation of the plant for the summer months. The Big Stone Plant is investigating alternative sources of water and will present a report on our findings shortly. It is our hope that normal spring runoffs return Big Stone Lake to an acceptable level and that water can be appropriated under the conditions of our permit. However, that is an unknown at this time and we are making this request now so that you have time to consider it.

We will be in contact with your Department within the next month to review our alternative sources of water. Please contact us at once if more information or clarification is needed concerning our request. Our telephone number is 605-862-8125. We very much appreciate your speedy consideration of this request.

Very truly yours,



Mark Rolfes
Plant Manager
rt

cc: Mr. John C. McFarlane
Mr. Joseph R. Maichel
Mr. A. D. Smith
Mr. Richard Green
Mr. Earl Backhaus
Mr. Dana L. Holter
Mr. Don Vraspir
Mr. Jay Myster
Mr. Bill Giesen
Mr. Al Kubousek
Mr. Roy Larson
Mr. Verlin Menze
Upper Minnesota River
Watershed District
FILE: X-4

Water Rights Division -DWNR
Conversation or File Documentation

NAME OF PERSON OR FILE: Otter Tail Power Company, Big Stone Power

ADDRESS: Big Stone City

COUNTY:

DATE: February 28, 1989

TELEPHONE:

RE: Meeting with Big Stone Power Plant

COMMENTS:

On February 28, 1989, John Hatch Jim Goodman, and Susan Bowar, Water Rights Division, met with Mark Rolfes, Terry Graumann, and Jan Rudolf, representatives from Big Stone Power Plant. The purpose of this meeting was to discuss both Big Stone Power's progress in the investigation of alternative sources of water available for the plant's use during emergency situations (a requirement of the waiver granted October 6, 1988) and their request of February 15, 1989 for another waiver from their permit qualifications to allow pumping of 3700 acre-feet of water prior to May 1, 1989.

The following information was obtained during the meeting:

- 1) Annual water use for Big Stone Power Plant is 2400 acre-feet per year (averaged since 1980).
- 2) The current request to be allowed to pump 3700 acre-feet of water from Big Stone Lake would be accomplished over a 3-week period.
- 3) The current level of the lake is at 965.4 feet project datum elevation.
- 4) Their Minnesota permit does not allow pumping when the lake elevation is below 966 feet project datum. They are currently in the process of negotiating with the State of Minnesota to amend their permit to allow pumping at 10 cfs, during the period of October 1 through April 30, when the elevation of the lake is at or above 965 feet project datum. This amendment would make the allowable pumping conditions the same in each of the State permits.
- 5) Big Stone Lake has a surface area of approximately 12,000 acres and an average depth of 10 feet.
- 6) A 3700 acre-foot withdrawal will lower the lake by approximately 3.5 inches.
- 7) 500 acre-feet of water was withdrawn last fall pursuant to the waiver granted by the Water Management Board on October 6, 1988.

- 8) The 3700 acre-feet request now being made is in anticipation of below-normal runoff this coming spring. The chemical concentrations in the water currently in use exceed allowable concentrations. Without this additional water, plant production will have to be reduced or stopped altogether.

Because the next Board meeting is after May 1, John Hatch explained that he would consult with the attorneys to determine whether or not there was a way to grant permission of this request without requiring it to go before the Board. If this is not possible, a special Board meeting may have to be scheduled.

One of the conditions of the waiver granted by the Water Management Board last October was that Big Stone Power conduct an investigation of alternative sources of water that may be available to the plant during these types of emergency situations. A preliminary study of the options available has been conducted. In order to provide adequate water, an alternative source would need to yield at least 1000-1500 gpm. Some of the alternatives considered include an alternate surface water source, a groundwater source, and a rural water system arrangement. The option determined to be the most feasible is that of discharging a groundwater source, developed adjacent to Big Stone Lake, into the lake. This option would not require the construction of a separate piping system and the required water quality for plant operations would be maintained. This option would, however, still be very expensive and may contain several complications including the fact that it may be necessary to locate the wells on the Minnesota side of the lake and NPDES permits from the state of Minnesota and/or South Dakota may be necessary.

The representatives from the plant made it clear that the most desirable option to them and to their customers is to continue to be allowed to make emergency allocation requests as they are doing now and as they did last fall. They pointed out the fact that the only other request of this nature was made in 1976. John Hatch requested that they continue with the feasibility study of their preferred option for the development of an alternative water source.

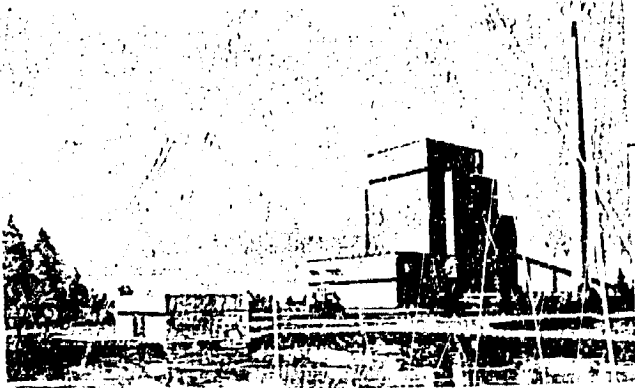
The possibility of amending their existing water right to accommodate these emergency allocations was also discussed. Amendment options include:

- 1) Changing the water right qualifications to allow the Chief Engineer to grant a waiver from the pumping restrictions during emergency situations.
- 2) Amend the water right to include a qualification that triggers a variance from restrictions when certain parameters meet specific conditions. Parameters that may be considered include rainfall, runoff, water quality, storage pond levels, and the lake level.
- 3) Changing the elevation of the lake at which pumping can occur.

Any changes made in their South Dakota Water Right would also need to be made in their Minnesota Water Right to be of any value to them.

For their current 3700 acre-feet request, John Hatch requested they submit a letter outlining some of the technical difficulties they are encountering, or will encounter, if an emergency allocation is not granted.

Loran A. Bowar



March 2, 1989

Mr. John Hatch
Chief Engineer
South Dakota Department of
Water & Natural Resources
Water Rights Division
Joe Foss Building
Pierre, South Dakota 57501

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, SOUTH DAKOTA 57216
(605) 862-8125

MONTANA-DAKOTA UTILITIES CO.
401 North Fourth Street
Bismarck, North Dakota 58501

OTTER TAIL POWER COMPANY
215 South Cascade Street
Fergus Falls, Minnesota 56537

NORTHWESTERN PUBLIC SERVICE COMPANY
100 Northwestern National Bank Building
Huron, South Dakota 57350



Dear Mr. Hatch:

Thank you for the opportunity last week to discuss our water needs with you and members of your staff. We feel the meeting was very beneficial for us, and we appreciate your cooperative approach to our problem. As you requested, I am providing this letter to document some of our water quality problems and concerns faced by the Big Stone Plant.

The Big Stone Plant procures water from Big Stone Lake with the main purpose of that water being cooling for our condenser. Our main surface condenser contains 150,000 square feet of area. Thus, the cleanliness of this unit is very important for our continued operation and efficiency. To control the cleanliness of this unit the Big Stone Plant has two concerns, organic growth and scaling. Chlorine has been used to control organic growth. To control scaling we monitor two parameters, pH and calcium concentration. Sulfuric acid has been used to control the pH level and water additions used to control the calcium level in the ponds. Our water consultant established 800 ppm calcium (as calcium carbonate) as the limit on our water quality to ensure that we do not scale our condenser. To stay under this 800 ppm limit we have added water from Big Stone Lake during the spring of the year with prior blowdown of concentrated water. The Big Stone Plant is a zero discharge Plant, so the evaporation from the pond is the main contributor to the increased calcium level. In other words, we are concentrating the water in the pond. That is the reason for the blowdown and refilling from Big Stone Lake. Because of the drought conditions in 1988, we were approaching the 800 ppm limit by late summer. Because of the shortage of water, we began an investigation to determine alternatives. In August, we began a new chemical

Address Reply To: BIG STONE PLANT

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

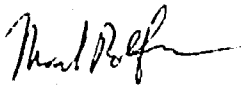
Page 2

Mr. John Hatch
Chief Engineer
Water Rights Division

treatment of the pond using polymers. Polymers are relatively new development in the area of water treatment. With the use of polymers, we are basically attempting to keep the calcium in suspension long enough to get through our condenser. So far, it appears our treatment has been successful, as we are running at over 900 ppm calcium now and appear to have good condenser performance. Of course, the new treatment is costlier than running with better quality water. We hope the conditions in the spring will allow us to refill our pond with better water from Big Stone Lake, thus improving the water quality and greatly reducing the amount of chemical required to control our waters scaling potential.

I hope this information will give you some background into our water quality concerns at the Plant. If there is any more information that you desire, please let me know.

Very truly yours,



Mark Rolfes
Plant Manager
Big Stone Plant

MR:rt

cc: FILE: X-4

Water Rights Division - DWR

File No. 1983-3

Conversation or File Documentation

NAME OF PERSON OR FILE: Ottertail Paper Co.

ADDRESS: Big Stone City, SD COUNTY

DATE: March 3, 1989 TELEPHONE

RE:

COMMENTS:

The attached motion was presented
and passed at the March 1989
Water Management Board meeting.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: Susan Brown

MOTION
to
DELEGATE AUTHORITY
to the
CHIEF ENGINEER

Pursuant to SDCL 46-2-3.1, the Chief Engineer is authorized to allow Big Stone Power Plant, Big Stone City, South Dakota, to withdraw up to 3790 acre-feet of water from Big Stone Lake prior to May 1, 1989, provided the level of Big Stone Lake remains at or above elevation 965 feet project datum established by Water Right No. 1983-3. This withdrawal will be made over an approximate 3 week period.

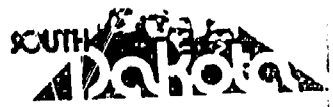
This permission is subject to the publication requirements of SDCL 46-2A-4. A hearing before the Water Management Board will be scheduled if a petition opposing this withdrawal by Big Stone Power Plant is received.

BACKGROUND

Water Right No. 1983-3, held by Big Stone Power Plant, authorizes withdrawal of 7000 acre-feet of water annually from Big Stone Lake. During the period of October 1 through April 30, water may be withdrawn from the lake at a rate of 10 cubic feet per second (cfs) when the lake level is at or above elevation 965 feet project datum and at a rate of 35 cfs during this period when the lake level is at or above elevation 966 feet project datum. Withdrawals can be made at the rate of 100 cfs when the lake level is at or above elevation 967 feet project datum. Any diversions from the lake during the period of May 1 through September 30 when the lake level is below elevation 967 feet project datum requires permission from the South Dakota-Minnesota Boundary Waters Commission.

On October 6, 1988, the Water Management Board granted a waiver from these qualifications allowing Big Stone Power Plant to withdraw up to 500 acre-feet of water from Big Stone Lake at a rate not to exceed 100 cfs. This 3700 acre-foot withdrawal request is being made in anticipation that there will be little, if any, spring runoff. The plant is using water that is above maximum chemical concentration and may be required to reduce power production or shut down without replacement water.

Currently, the level of Big Stone Lake is at elevation 965.4 feet project datum elevation. The alternative water supply study required by the Board on October 6, 1988 has been started with several options under study.



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT THE
NEWSPAPER RIGHT AWAY.

March 8, 1989

Mark Rolfes, Plant Manager
Big Stone Power Plant
P.O. Box 218
Big Stone City, SD 57218

Dear Mr. Rolfes:

On March 1, 1989, pursuant to SDCL 46-2-3.1, the Water Management Board granted the Chief Engineer the authority to allow Big Stone Power Plant to withdraw up to 3700 acre-feet of water from Big Stone Lake prior to May 1, 1989. The Chief Engineer is recommending APPROVAL of this request received from you February 15, 1989. This approval is subject to the publication requirements found in SDCL 46-2A-4. The approval will become final 20 days following the date of the second publication of the enclosed notice if no petitions opposing the recommendation are received. A notice of your intent to withdraw this water has been sent to the Publishers of the Grant Co. Review printed at Milbank, South Dakota and the Sisseton Courier printed at Sisseton, SD. For your information, a copy of this notice is enclosed. Please review this notice prior to publication and notify this office, if you have any corrections or questions.

BE SURE TO CONTACT THE ABOVE NEWSPAPERS IMMEDIATELY TO AUTHORIZE PUBLICATION OF YOUR NOTICE OF INTENT TO WITHDRAW 3700 ACRE-FEET OF WATER FROM BIG STONE LAKE PRIOR TO MAY 1, 1989 AND TO ARRANGE FOR PAYMENT. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks. We must receive Proof of Publication before the request can be approved by the Chief Engineer.

Sincerely,

Susan A. Bowar
Natural Resources Engineer
Water Rights Division
(605) 773-3352

enclosure

SOUTH DAKOTA Department of
Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

March 8, 1989

Sisseton Courier
117 E. Oak
Sisseton, SD 57262

Dear Sir:

Enclosed is a Notice of Request by Big Stone Power Plant to be published twice. Please publish the first notice on or before March 15, 1989 with the second publication 7 days later.

BIG STONE POWER PLANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. Please BILL BIG STONE POWER PLANT, P.O. BOX 218, BIG STONE CITY, SD 57216.

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned immediately with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or billing cycle. This request cannot be considered by the Chief Engineer until proof of publication has been received.

Sincerely,

Susan A. Bowar

Susan A. Bowar
Natural Resources Engineer
(605) 773-3352

enclosures

-----CUT HERE-----
FIRST TRANSMITTAL NOTICE
Big Stone Power
Water Right No. 1983-3
TO: Water Rights Division
Joe Foss Building
523 E. Capitol
Pierre, SD 57501

Date _____
We are in receipt of your letter of March 8, 1989 enclosing Notice of Request By Big Stone Power Plant which was first published in our issue of _____.
ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper

**South Dakota Department of
Water & Natural Resources**

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

March 8, 1989

Grant Co. Review
Box 390
Milbank, SD 57252

Dear Sir:

Enclosed is a Notice of Request by Big Stone Power Plant to be published twice. Please publish the first notice on or before March 15, 1989 with the second publication 7 days later.

BIG STONE POWER PLANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. Please BILL BIG STONE POWER PLANT, P.O. BOX 218, BIG STONE CITY, SD 57216.

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

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Sincerely,

Susan A. Bowar

Susan A. Bowar
Natural Resources Engineer
(605) 773-3352

enclosures

-----CUT HERE-----
FIRST TRANSMITTAL NOTICE
Big Stone Power
Water Right No. 1983-3
TO: Water Rights Division
Joe Foss Building
523 E. Capitol
Pierre, SD 57501

Date _____
We are in receipt of your letter of March 8, 1989 enclosing Notice of Request By Big Stone Power Plant which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper



PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Grant) ss.

I, Phyllis Justice hereby
certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Grant County Review

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____
City _____ of Milbank
County of Grant and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

March 15, 1989

March 22, 1989

Phyllis Justice
(Signature)

Rebberher
(Title)

3/23/89
(Date Signed)

Cost of Printing: 47.53

WNR-908-7/79
Proof of Publication

NOTICE OF REQUEST
BY BIG STONE POWER PLANT
FOR AUTHORIZATION TO
WITHDRAW UP TO 3700 ACRE-FEET
OF WATER FROM BIG STONE LAKE
PRIOR TO MAY 1, 1989

Notice is given that Big Stone Power
Plant, P.O. Box 218, Big Stone City, SD
57216, has requested permission to
withdraw up to 3700 acre-feet of water
from Big Stone Lake prior to May 1,
1989. Withdrawal will be made over an
approximate three week period at a
maximum pumping rate of 100 cubic
feet of water per second (cfs).

Water Right No. 1983-3, held by Big
Stone Power Plant, authorizes the
withdrawal of up to 7000 acre-feet of
water annually from Big Stone Lake.
During the period of October 1 through
April 30, Water Right No. 1983-3 allows
water to be withdrawn from the lake at
a rate of 10 cfs when the lake level is at
or above elevation 955 feet project
datum and at a rate of 35 cfs when the
lake level is at or above elevation 960
feet project datum elevation. With-
drawals can be made at the rate of up to
100 cfs when the lake level is at or above
elevation 967 feet project datum. Any
diversions from the lake during the
period of May 1 through September 30
when the lake level is below elevation
967 feet project datum requires permis-
sion from the South Dakota-Minnesota
Boundary Waters Commission.

The present level of Big Stone Lake is
elevation 955.4 feet project datum.
Estimated storage capacity of Big
Stone Lake at elevation 965.4 feet
project datum is 125,000 acre-feet.
Withdrawal of 3700 acre-feet of water
will lower the lake by 0.3 feet. The
pumping authorization request to with-
draw up to 7000 acre-feet of water from
Big Stone Lake is for a waiver of the 10
cfs maximum diversion rate qualifica-
tion during the period October 1
through April 30 and to allow a maxi-
mum pumping rate of 100 cfs. This
request has been made in anticipation
of below normal runoff occurring this
spring. Without additional water, the
plant manager has advised that pro-
duction will have to be reduced or
stopped altogether.

Pursuant to the applicable portions of
SDCL 46-2A-3, the Chief Engineer is
recommending APPROVAL of this re-
quest to withdraw up to 3700 acre-feet of
water from Big Stone Lake prior to May
1, 1989 at a maximum pumping rate of
100 cfs, provided the water level in Big
Stone Lake does not drop below eleva-
tion 955 feet project datum.

Any person who wants to oppose or
support the Chief Engineer's recom-
mendation must file a written petition
with BOTH Big Stone Power Plant and
the Chief Engineer, March 31, 1989. A
copy of the Big Stone Power Plant re-
quest may be obtained by contacting
the Chief Engineer. A hearing will be
scheduled before the Water Manage-
ment Board, if a petition opposing the
Chief Engineer's recommendation is
received. The Chief Engineer's address
is "Water Rights Division, DVNR, Joe
Foss Building, 523 E. Capitol, Pierre,
SD 57501 (605 773-3352)". The petition
may be informal, but must include a
statement describing the petitioner's
interest in the request, the petitioner's
reasons for opposing or supporting the
request, and the signature and mailing
address of the petitioner or legal coun-
sel if legal counsel is obtained.

The Water Management Board has
authorized the Chief Engineer, Pursu-
ant to SDCL 46-2-3.1, to allow Big Stone
Power Plant to withdraw 3700 acre-feet
of water from Big Stone Lake over an
approximate three week period prior to
May 1, 1989 at a maximum pumping
rate of 100 cfs, provided the level of Big
Stone Lake remains at or above eleva-
tion 955 feet project datum established
by Water Right No. 1983-3. The Chief
Engineer's recommendation will be-
come the final decision on April 11, 1989
if no petition opposing the recom-
mendation is received by March 31,
1989.

No. 1983-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County ROBERTS) ss.

I, JACK ADAMS hereby
certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the THE SISSETON COURIER

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

CITY of SISSETON

County of ROBERTS and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

MARCH 15, 1989

MARCH 22, 1989

James E. Adams
(Signature)
PUBLISHER

(Title)

3-22-89

(Date Signed)

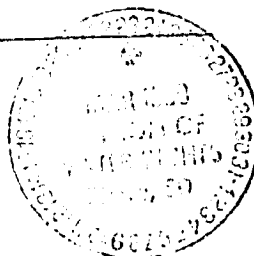
Cost of Printing: 117 LINES @ 24.4¢ 1st PUBL.
80% 2nd PUBL., FOR A TOTAL
OF \$51.39

NOTICE OF REQUEST
BY BIG STONE POWER PLANT
FOR AUTHORIZATION
TO WITHDRAW UP TO
3700 ACRE-FEET OF
WATER FROM
BIG STONE LAKE
PRIOR TO MAY 1, 1989

Notice is given that Big Stone Power Plant, P.O. Box 218, Big Stone City, SD 57216, has requested permission to withdraw up to 3,700 acre-feet of water from Big Stone Lake prior to May 1, 1989. Withdrawal will be made over an approximate three week period at a maximum pumping rate of 100 cubic feet of water per second (cfs).

Water Right No. 1983-3, held by Big Stone Power Plant, authorizes the withdrawal of up to 7,000 acre-feet of water annually from Big Stone Lake. During the period of October 1 through April 30, Water Right No. 1983-3 allows water to be withdrawn from the lake at a rate of 10 cfs when the lake level is at or above elevation 965 feet project datum and at a rate of 35 cfs when the lake level is at or above elevation 966 feet project datum. Withdrawals can be made at the rate of up to 100 cfs when the lake level is at or above elevation 967 feet project datum. Any diversions from the lake during the period of May 1 through September 30 when the lake level is below elevation 967 feet project datum requires permission from the South Dakota-Minnesota Boundary Waters Commission.

The present level of Big Stone Lake is elevation 965.4 feet project datum. Estimated storage capacity of Big Stone Lake at elevation 965.4 feet project datum is 125,000 acre-feet. Withdrawal of 3,700 acre-feet of water will lower the lake by 0.3 feet. The pumping authorization request to withdraw up to 3,700 acre-feet of water from Big Stone Lake is for a waiver of the 10 cfs maximum diversion rate qualification during the period October 1 through April 30, and to allow a maximum pumping rate of 100 cfs. This request has been made in anticipation of below normal runoff occurring this spring. Without additional water, the plant manager has advised that production will have to be reduced or stopped altogether.



Pursuant to the applicable portions of SDCL 46-23, the Chief Engineer is recommending APPROVAL of this request to withdraw up to 3,700 acre-feet of water from Big Stone Lake prior to May 1, 1989 at a maximum pumping rate of 100 cfs, provided the water level in Big Stone Lake does not drop below elevation 965 feet project datum.

Any person who wants to oppose or support the Chief Engineer's recommendation must file a written petition with BOTH Big Stone Power Plant and the Chief Engineer March 31, 1989. A copy of the Big Stone Power Plant request may be obtained by contacting the Chief Engineer. A hearing will be scheduled before the Water Management Board, if a petition opposing the Chief Engineer's recommendation is received. The Chief Engineer's address is "Water Rights Division, DWNR, Joe Foss Building, 523 E. Capitol, Pierre, SD 57501 (605-773-3352)". The petition may be informal, but must include a statement describing the petitioner's interest in the request, the petitioner's reasons for opposing or supporting the request, and the signature and mailing address of the petitioner or legal counsel if legal counsel is obtained.

The Water Management Board has authorized the Chief Engineer, pursuant to SDCL 46-23.1, to allow Big Stone Power Plant to withdraw 3,700 acre-feet of water from Big Stone Lake over an approximate three week period prior to May 1, 1989 at a maximum pumping rate of 100 cfs, provided the level of Big Stone Lake remains at or above elevation 965 feet project datum established by Water Right No. 1903-3. The Chief Engineer's recommendation will become the final decision on April 11, 1989 if no petition opposing the recommendation is received by March 31, 1989.

(March 15-22-2w)

NOTICE OF REQUEST BY BIG STONE POWER PLANT FOR
AUTHORIZATION
TO WITHDRAW UP TO 3700 ACRE-FEET OF WATER FROM BIG STONE LAKE
PRIOR TO MAY 1, 1989

Notice is given that Big Stone Power Plant, P.O. Box 218, Big Stone City, SD 57216, has requested permission to withdraw up to 3700 acre-feet of water from Big Stone Lake prior to May 1, 1989. Withdrawal will be made over an approximate three week period at a maximum pumping rate of 100 cubic feet of water per second (cfs).

Water Right No. 1983-3, held by Big Stone Power Plant, authorizes the withdrawal of up to 7000 acre-feet of water annually from Big Stone Lake. During the period of October 1 through April 30, Water Right No. 1983-3 allows water to be withdrawn from the lake at a rate of 10 cfs when the lake level is at or above elevation 965 feet project datum and at a rate of 35 cfs when the lake level is at or above elevation 966 feet project datum elevation. Withdrawals can be made at the rate of up to 100 cfs when the lake level is at or above elevation 967 feet project datum. Any diversions from the lake during the period of May 1 through September 30 when the lake level is below elevation 967 feet project datum requires permission from the South Dakota-Minnesota Boundary Waters Commission.

The present level of Big Stone Lake is elevation 965.4 feet project datum. Estimated storage capacity of Big Stone Lake at elevation 965.4 feet project datum is 125,000 acre-feet. Withdrawal of 3700 acre-feet of water will lower the lake by 0.3 feet. The pumping authorization request to withdraw up to 3700 acre-feet of water from Big Stone Lake is for a waiver of the 10 cfs maximum diversion rate qualification during the period October 1 through April 30, and to allow a maximum pumping rate of 100 cfs. This request has been made in anticipation of below normal runoff occurring this spring. Without additional water, the plant manager has advised that production will have to be reduced or stopped altogether.

Pursuant to the applicable portions of SDCL 46-2A-3, the Chief Engineer is recommending APPROVAL of this request to withdraw up to 3700 acre-feet of water from Big Stone Lake prior to May 1, 1989 at a maximum pumping rate of 100 cfs, provided the water level in Big Stone Lake does not drop below elevation 965 feet project datum.

Any person who wants to oppose or support the Chief Engineer's recommendation must file a written petition with BOTH Big Stone Power Plant and the Chief Engineer March 31, 1989. A copy of the Big Stone Power Plant request may be obtained by contacting the Chief Engineer. A hearing will be scheduled before the Water Management Board, if a petition opposing the Chief Engineer's recommendation is received. The Chief Engineer's address is "Water Rights Division, DWR, Joe Foss Building, 523 E. Capitol, Pierre, SD 57501 (605 773-3352)". The petition may be informal, but must include a statement describing the petitioner's interest in the request, the petitioner's reasons for opposing or supporting the request, and the signature and mailing address of the petitioner or legal counsel if legal counsel is obtained.

The Water Management Board has authorized the Chief Engineer, pursuant to SDCL 46-2-3.1, to allow Big Stone Power Plant to withdraw 3700 acre-feet of water from Big Stone Lake over an approximate three week period prior to May 1, 1989 at a maximum pumping rate of 100 cfs, provided the level of Big Stone Lake remains at or above elevation 965 feet project datum established by Water Right No. 1983-3. The Chief Engineer's recommendation will become the final decision on April 11, 1989 if no petition opposing the recommendation is received by March 31, 1989.



BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

Mr. John J. Smith
Secretary Dept. of Natural
Resources Development

Page 2

I want to thank you and the people who work for you for all their help and cooperation during our drought period. The Big Stone Plant should be in good shape for water for most of 1989. We will want to work with the State to better the water management of Big Stone Lake to help us and to help all people who use the Lake for recreational purposes. A number of things have come to light that could help all using Big Stone Lake, and we will be pursuing these issues during the next few months.

Thank you again for all your help and understanding.

Very truly yours,



Mark Rolfe
Plant Manager
Big Stone Plant

MR:rt

cc: Mr. John Hatch, Chief Engineer
Susan Bower, Natural Resource Engineer
Upper Minnesota River Watershed District
Dana L. Holter
Al Kubousek
FILE: X-4



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

April 24, 1989

Mark Rolfes, Plant Manager
Big Stone Power Plant
P.O. Box 218
Big Stone City, S.D. 57216

Dear Mr. Rolfes:

I am writing in response to your letter received April 4, 1989 withdrawing the request for authorization to withdraw up to 2700 acre-feet of water from Big Stone Lake prior to May 1, 1989.

As you mentioned in your letter, it is important for Big Stone Power to improve its ability to withstand dry years. We are currently reviewing alternatives for amending the conditions of your Water Rights/Permits and plan to work closely with you on this. However, your preferred option for an alternative source of water to rely on during drought years should continue to be investigated.

We look forward to working with you to ensure the availability of adequate water supplies for the Big Stone Power Plant.

Feel free to contact us if you have any questions.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division
(605) 773-3352



Water Rights Division - DWR
Conversation or File Documentation

File No. 1483-3

NAME OF PERSON OR FILE: Mark Rolfe, Ottetail Power

ADDRESS: _____ COUNTY Roberts

DATE: June 23, 1989 TELEPHONE _____

RE: _____

COMMENTS:

Mark Rolfe called today to let us know their progress regarding appropriate water supplies during dry conditions. He said they have been working with the State of Minnesota. Without similar permit conditions in each State, the more stringent would rule. During the latest Legislative Session, which ended in May, the priority of water use for power generation has been raised to a #1. First, however, each utility must have a contingency plan. The State of Minnesota is currently in the process of defining that required contingency plan. They did not use the emergency water allocation that had requested and received this spring. Runoff has been at or above normal. He wanted to let us know where they are right now and will be in touch.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: Susan Bourne

Big Stone Plant
June 7, 1990

DRAFT CHANGES IN OUR SOUTH DAKOTA
WATER APPROPRIATIONS PERMIT

1. The diversion of water from the lake not to exceed 100 cubic feet per second may be made when the surface elevation is at or above project datum elevation 967.
2. Diversion of water from the lake not to exceed 100 cubic feet per second may be made when lake surface levels are between project datum 967 and 965 during the annual period October to May 15 inclusive provided at least 80% of the lake is ice free.
3. Water may not be diverted from the lake when the lake levels are at or below project datum elevation 967 during the annual period May 16 to September inclusive, without permission from the South Dakota Water Resources Commission.
4. This permit includes 9,000 acre feet of off stream storage of water for cooling pond and reserve water supply purposes.



A black and white photograph of a large, multi-story industrial building, possibly a power plant or refinery. The building has a complex, blocky structure with several levels and a tall, thin chimney on the right side. It is situated behind a fence and some vegetation, with a road or path in the foreground. The image is grainy and has a high-contrast, almost stencil-like appearance.

P. O. BOX 218
BIG STONE CITY, SOUTH DAKOTA 57216
(605) 862-8125

OTTER TAIL POWER COMPANY
215 South Cascade Street
Fergus Falls, Minnesota 56537

June 13, 1990

Mr. John Hatch
Chief Engineer
Water Rights Division
South Dakota Department
of Water & Natural Resources
Joe Foss Building
523 East Capital
Pierre, SD 57501-3181

Dear Mr. Hatch:

SUBJECT: BIG STONE PLANT WATER APPROPRIATIONS PERMIT
1768-3 & 193-3

Since the drought that was experienced in this area in 1988, Big Stone Plant has been investigating ways to improve our ability to withstand extended water shortages. We have been looking at many alternatives. One of the items being considered is the possibility of amending our Water Appropriations Permits with the States of South Dakota and Minnesota. To that end, we have had discussions with your office and the Minnesota DNR. It appears that there are some minimal changes that can be made to our permit that will benefit both the Big Stone Plant and recreational users of Big Stone Lake. To that end, I am submitting for your consideration the attached proposed amendments to our South Dakota Water Appropriations Permit.

After discussion with the Minnesota DNR, there are some concerns for the fish population in Big Stone Lake that can be eliminated by the proposed amendments. Their main concern was water appropriation when the Lake is ice covered, since pumping during ice cover could deplete oxygen levels and disrupt the fish population. The proposed amendments would allow Big Stone Plant to appropriate water at a rate of 100 cubic feet per second from the time Big Stone Lake was ice free to May 15, as long as the lake was at or above the established levels. This modification would increase the pumping rate, so that pumping could be done with the minimum disruption to the fish population. Also the window to do the pumping was extended by 15 days in order to accommodate pumping after the ice leaves Big Stone Lake. These changes should provide benefit for the Big Stone Plant and benefit for the recreational users of the Lake.

Address Reply To: BIG STONE PLANT



BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

Mr. John Hatch
Chief Engineer
Water Rights Division

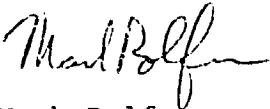
Page 2

The second change that is being proposed is in item 4, which is to amend our permit to allow 9,000 acre feet of off-stream storage of water for the cooling pond and reserve water supply purposes. Our present permit appears to limit our supply storage to 7,000 acre feet. Our ponds have the capacity to hold over 8,000 acre feet when completely full, and we would like to be able to fill the pond completely during times of excessive water in Big Stone Lake. This is another measure that would further enhance our ability to withstand drought conditions.

I request that your Department examine these issues and consider the proposed amendments to pumping restrictions and the permitted storage capacity independently of each other. If you feel that you can support either or both of these proposals, please let me know and we will submit them in a form as a formal request for permit amendment.

I know the information provided in this letter is limited and, if you are in need of more information or have any questions, please feel free to call me at 605-862-8125. We will do whatever we can to help. We very much appreciate all your cooperation and consideration your Department has given us in the past.

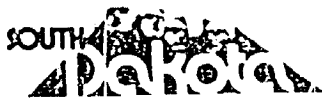
Very truly yours,



Mark Rolfes
Plant Manager
Big Stone Plant

MR:rt

cc: Dave Johnson
Terry Graumann



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

August 14, 1990

Mark Rolfes, Plant Manager
Big Stone Plant
PO Box 218
Big Stone City SD 57216

Dear Mr. Rolfes:

I am writing in response to your June 13, 1990 letter to John Hatch, Chief Engineer, regarding proposed amendments to Water Right No. 1983-3. I apologize for the delay in answering your letter; however, we needed to take the time necessary to analyze your water rights and your rested changes.

I have reviewed your proposed qualifications and have the following comments:

- 1) The diversion of water from the lake not to exceed 100 cfs may be made when the surface elevation is at or above project datum elevation 967.

No change from the existing water right qualification.

- 2) Diversion of water from the lake not to exceed 100 cfs may be made when lake surface levels are between project datum 967 and 965 during the annual period October to May 15 inclusive provided at least 80% of the lake is ice free.

I believe the existing qualifications allow diversions up to 100 cfs provided the 10 cfs daily equivalent volume (19.8 ac-ft) is not exceeded when between datums 965 and 966 and provided the 35 cfs daily equivalent volume (69 ac-ft) or weekly volume (460 ac-ft) is not exceeded when above datum 966 but less than datum 967. Therefore, diversions at 100 cfs could be made for 2.4 hours per day to pump 19.8 acre-feet and 8.3 hours per day to pump 69 acre-feet with the weekly number of hours not exceeding 55.7 hours to pump 460 acre-feet.

Pursuant to SDCL 46-5-30.4, a water permit application will be necessary to change your existing water rights to increase the volume of water appropriated and to extend the time period from April to May 15 and/or remove the equivalent volumes specified in the above paragraph.

August 14, 1990
Mark Rolfes, Plant Manager
Page 2

- 3) Water may not be diverted from the lake when the lake levels are at or below project datum elevation 967 during the annual period May 16 to September inclusive, without permission from the South Dakota Water Management Board.

The time period during which pumping can occur is being extended by 15 days according to this qualification. Again, a permit application will be necessary to extend the time period during which pumping may occur.

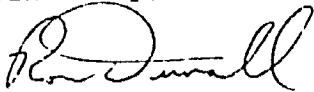
- 4) This permit includes 9,000 acre-feet of off stream storage of water for cooling pond and reserve water supply purposes.

An application will be necessary to increase the authorized storage by 2,000 acre-feet.

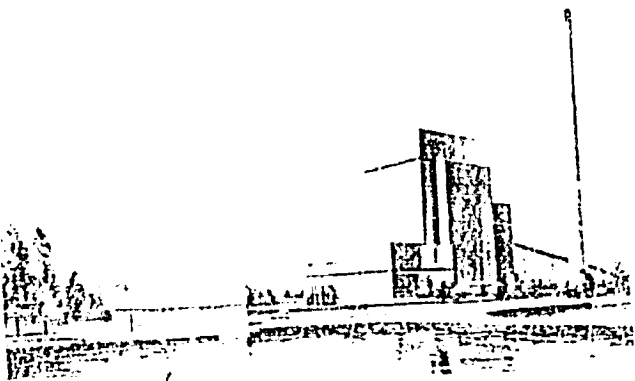
All changes can be included on one application. A report and recommendation will be prepared when the completed application is received, prior to publication for a hearing before the Water Management Board.

Please contact me if you have any questions.

Sincerely,



Ron Duvall
Natural Resources Engineer
605 773-3352



BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, SOUTH DAKOTA 57216
(605) 862-8125

MONTANA DAKOTA UTILITIES CO
400 North Fourth Street
Bismarck, North Dakota 58501

OTTER TAIL POWER COMPANY
215 South Cascade Street
Fergus Falls, Minnesota 56537

NORTHWESTERN PUBLIC SERVICE COMPANY
3rd Street & Dakota Avenue South
Huron, South Dakota 57350

March 26, 1991

Mr. Jim Japps
Division of Waters
Minnesota Department of
Natural Resources
500 LaFayette Road N.
St. Paul, MN 55146

Dear Mr. Japps:

SUBJECT: BIG STONE PLANT MINNESOTA WATER APPROPRIATIONS
PERMIT NO. PA70-1182

The Big Stone Plant, a steam-electric power plant, is jointly owned by Montana Dakota Utilities, Northwestern Public Service Company, and Otter Tail Power Company. The Plant, which is located in Grant County, South Dakota, draws makeup water for the Plant from a pumping station located in Big Stone City, SD on Big Stone Lake. Since the appropriation of makeup water occurs in South Dakota we question the need for a Minnesota Water Appropriations Permit.

Our research has failed to find any other entity in North Dakota, South Dakota, or Wisconsin that draws water from a boundary water source that is required to have a Minnesota Water Appropriations Permit. The Big Stone Plant currently holds Water Appropriations Permits from both South Dakota and Minnesota. We feel it would be proper for us to have one Water Appropriations Permit and that would be a permit from South Dakota.

BIG STONE PLANT

P. O. BOX 218
BIG STONE CITY, S.D. 57216

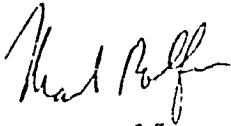
Page 2

Mr. Jim Japps
Division of Waters

This is a formal request for the Minnesota Department of Natural Resources, Water Rights Division, to cancel Permit PA70-1182.

Your timely response to our request would be appreciated.

Very truly yours,



Mark Rolfes
Plant Manager
Big Stone Plant

MR:rt

cc: Mr. John C. McFarlane
Mr. Joseph R. Michaels
Mr. Robert Wilkens
Mr. Richard Green
Mr. Earl Backhaus
Mr. Dave Johnson
Mr. Ward Uggerud
Mr. Jay Myster
Mr. Bill Giesen
Mr. Ron Graham
Mr. Al Kubousek
Mr. LeRoy Larson
Mr. Verlin Menze
Upper Minnesota Water Shed District
SD Dept. of Water & Natural Resources - John Hatch
FILE: X-4

1983-3

South Dakota



GREAT FACES. GREAT PLACES.

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

August 25, 1992

Kent Pederson
Corps of Engineers
1421 Main Post Office Bldg.
St Paul, MN 55101

Dear Mr. Pederson:

Enclosed, as you requested, is a copy of Water Right No. 1983-3.
The water right is currently listed in the name of Ottetail
Power Company.

Water Right No. 1983-3 is the only water right I could find which
utilizes water from Big Stone Lake. If you have any questions
concerning the enclosed water right, please contact us.

Sincerely,

Genny McMath

Genny McMath
Natural Resources Analyst
(605) 773-3352

enclosures

Let in 1933-3 File

STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

500 LAFAYETTE ROAD • ST. PAUL, MINNESOTA • 55155-40

DNR INFORMATION
(612) 296-6157

November 14, 1991

Big Stone Plant
Mark Rolfes
P.O. Box 218
Big Stone City, SD 57216

Dear Mr. Rolfes:

TERMINATION PERMIT 70-1182, BIG STONE LAKE, BIG STONE COUNTY

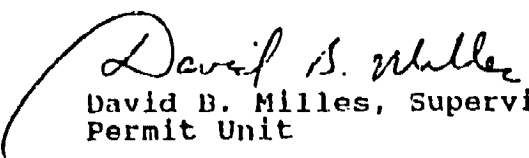
We received your request to terminate Permit 70-1182, authorizing appropriation of water from Big Stone Lake for cooling purposes. In accordance with your request Permit 70-1182 is hereby TERMINATED in all respects.

As you know Minnesota Statutes (Chapter 103G.415) establish a desirable water level for Big Stone Lake at 967' project datum from May 1st to October 1st. We appreciate your past and future cooperation in helping to maintain this lake level. Please feel free to contact us regarding any issues involving protection of this valuable resource.

If you have any questions, please contact Skip Wright (612/796-6271) or Jim Japs (612/297-2835).

Sincerely,

Division of Waters


David B. Milles, Supervisor
Permit Unit

cc: South Dakota
Ray Nyberg, Regional Hydrologist
Skip Wright, Area Hydrologist

1983-3 & 6253-3

Water Rights Program - DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Otter Tail Power Company

ADDRESS: COUNTY: Grant

DATE: November 6, 2006 TELEPHONE: 218-739-8407

RE: Discussion whether P & S for pond lining needed to be submitted for approval

Terry Graumann with Otter Tail called Thursday, November 2nd regarding the planned lining of existing ponds operated as part of the Big Stone I powerplant. Otter Tail is doing some making some changes in their water handling at the facility. As part of this effort some of the ponds will be lined. Mr. Graumann wanted to know if plans and specification needed to be submitted for DENR's approval as part of dam safety regulations. I asked if the work would entail making any structural changes to the berms that form the existing ponds. Mr. Graumann stated that no changes would be made, however during placement of the liner the inside riprap would be removed and then replaced once the liner was installed.

I conferred with Tim Schaal, DENR dam safety official, prior to calling Mr. Graumann. Tim and I concurred that approval of plans and specification is not required for lining the ponds. I contacted Mr. Graumann on November 6th to inform him of our decision. I did ask that a copy of the plans be filed with the Water Rights Program for our records.

NAME: Eric Schaal

