

No. 43-3

**Office of State Engineer
DOCUMENT FILE**

*Northern States Power Co.
Sioux Falls, S. D.*

NO. 42-3

Water Division No. 3 Sioux River District
(Blanks to be filled by the State Engineer.)APPLICATION FOR PERMIT
To appropriate Water within the State of South Dakota

3:30 p.m.

(NOTE—Draw a line through items not applicable.)

1. Name of applicant NORTHERN STATES POWER COMPANY, a Minnesota corporation
 Postoffice address Sioux Falls, County Minnehaha, State South Dakota
- I. If a corporation
- (a) Name of same NORTHERN STATES POWER COMPANY
- (b) Date and place of incorporation June 16, 1909 - Minnesota
- (c) Amount of capital stock Cum. Pref. Stock—\$27,500,000.00
Common Stock—\$49,297,368.00
- (d) Amount paid in fully paid
- (e) Names and address of directors: Fred W. Anderson, Eau Claire, Wisconsin
T.D. Crocker, 15 S. 5th St., Mpls, Minn. Henry M. Gallagher, Waseca, Minn.
S.P. Duffy, 618 N. 3rd St., Mpls, Minn. Bradley C. Marks, Fargo, N.Dak.
M.F. Pack, 15 S. 5th St., Mpls, Minn. W.S. Moserip, Lake Elmo, Minn.
T.G. Harrison, 300 6th Ave. N., Mpls, Minn. Thos. A. Phillips, 156 E. 6th St., St. Paul, Minn.

(NOTE—A certified copy of article of incorporation must accompany the application.)

II. Method of accomplishing the work and financial resources of the applicant:

- (a) Method of accomplishing work (Whether by contract, employment of others, or by direct labor) Contract
- (b) Cash on hand, \$..... (c) Treasury stock, \$.....
- (d) Bonds to be issued, \$..... (e) Other resources, \$.....
2. Name of diversion work Northern States Power Company Steam Plant
3. Quantity of water claimed 2.67 cubic feet per second.
4. Source of water supply Big Sioux River
5. Location of point of diversion §1 Sec. 36, T. 102 N., R. 49 W., Minnehaha Co., S.Dak.
at point shown on accompanying map on Right bank.
 (Right or left bank looking down stream.)
6. Annual periods during which water is to be used continuously
7. To be used for:

I. Irrigation or domestic use:

(a) Number of acres to be irrigated acres.

(b) Legal subdivisions to be irrigated.....

(NOTE—List of lands to be irrigated, giving each subdivision and fraction with average thereof, should be written here, or may be appended as a part of this application. Same must also be shown on accompanying map.)

(c) Statement as to domestic use (giving location, etc.)

II. Mining, power, manufacturing, transportation, or other purposes:

(a) Nature of use Cooling and boiler water for Steam Plant(b) Amount of power to be generated 54,000 horse power.(c) Location of plant §1 Sec. 36, T. 102 N., R. 49 W., Minnehaha Co., S.Dak.(d) Method of developing power Steam(e) Point where water will be returned to stream §1 Sec. 36, T. 102 N., R. 49 W.

8. Estimated cost of works:

(a) Head gates. (b) Pumping plant, \$10,000
(c) Fluming, \$. (d) Canal earth, \$. Rock, \$.
(e) Other structures \$. Total, \$.

9. Description of diversion works:

I. Nature of works: (Reservoir, dam, ditch, flume, pumping plant, etc.)

Pumping Plant

II. Dimensions of works:

(a) Dam: Height none feet; length at bottom feet; length at top feet thickness at bottom feet; thickness at top feet; slope of front (water) face; slope of back face; material used in construction
(b) Reservoir: Capacity when filled none acre feet. Surface area at highwater mark acres.

DEPTH AT OUTLET-FEET	SURFACE AREA AT EACH DEPTH AT OUTLET-ACRES	FEET OF CAPACITY ACRE-FEET

(c) Head gate: Width feet; height feet;
Material

(d) Canal: Total length miles.

LOCATION BELOW HEADGATE	DEPTH	BOTTOM WIDTH	WIDTH AT WATER LINE	GRADE PER MILE
At Mile	 feet	 feet	 feet	 feet
At Mile	 feet	 feet	 feet	 feet
At Mile	 feet	 feet	 feet	 feet
At Mile	 feet	 feet	 feet	 feet
At Mile	 feet	 feet	 feet	 feet
At Mile	 feet	 feet	 feet	 feet

(Give dimensions where reductions in size are made.)

10. Time required for completion of work 2 years.

11. Time required for complete application of water to the proposed beneficial use 2 years.

12. Choice of newspaper for publication of notice of intention to appropriate
Daily Argus Leader, Sioux Falls, So. Dakota.

MINNESOTA
STATE OF SOUTH DAKOTA } ss.
County of HENNEPIN

I, H. C. CUMMINS, being first duly sworn on my oath depose and say: That my relation to the above described, undertaking is that of Vice President of the Applicant Company, that I have read the above and foregoing statement, and examined the map accompanying the same, and that I know of my own personal knowledge that the matters herein stated and shown are true.

Signed H. C. Cummins

Subscribed and sworn to before me this 31st day of December, 1946

E. C. Erickson
Notary Public (or other qualified officer.)
E. C. ERICKSON
Notary Public, Hennepin County, Minn.
My Commission Expires April 21, 1951.

Remarks by State Engineer:

STATE OF SOUTH DAKOTA
County of HUGHES

ss.

Pierre, South Dakota, March 27, 1947.

This is to certify that the foregoing application was received at this office at 8:30 o'clock
a. m. upon the 17th day of January, 1947 and that after examination it
was found to comply with the Water Laws of South Dakota was duly advertised and
one objection was filed. The permit is hereby approved as provided below.

Dean W. Loucks

Dean W. Loucks, State Engineer.

Number of permit 43-3

Date of first receipt of application January 17, 1947.

Date of return to applicant for correction _____, 19____.

Date of receipt of corrected application _____, 19____.

Date from which applicant may claim right January 17, 1947.

Approved March 27, 1947, Recorded in Book 2 Page 566-67

This is to certify that I have examined the foregoing application for a permit to appropriate water of the state of South Dakota, and I hereby grant the same as stated herein, subject, however, to the following limitations and conditions:

1st. The equivalent of at least one-fifth, of the work above specified is to be completed on or before March 27, 1948.

2nd. The whole of said work is to be completed on or before March 27, 1949.

3rd. The limit of time for proof of beneficial use of water appropriated in accordance herewith is March 27, 19____.

4th. The water appropriated shall be used for the purpose of cooling and boiler water for steam plant.

5th. 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.

6th. The amount of the appropriation herein granted shall not exceed 2.67 or more ^{than 2/3} of flow feet of water per second of time; neither shall it exceed the capacity of the above described system of diversion works, ~~nor the least amount of water that experience may hereafter indicate; nor~~ ^{in the} river as ~~may be required for the production of crops in the exercise of the right herein granted; and further said appropriation shall not be limited to not more than one second of 100 ft. or cubic foot of water per second of time for each acre of land to which water is actually and beneficially applied for irrigation or other~~ ^{provided} attached sheet.
~~before~~ _____; said water to be used during the following described annual period:

continuously as provided above

Witness my hand this 27th day of March, 1947.

Dean W. Loucks

Dean W. Loucks, State Engineer.

March 17, 1947

Basis for granting a permit to appropriate 2.67 cu. ft. per sec. of the flow of the Sioux River to the Northern States Power Company for "cooling and boiler water for a new Steam Power Plant".

Since the effluent from the city sewer provides a dependable and increasing flow in the Sioux River in excess of the amount of the permit and since approximately one-third of the original diversion will be returned to the stream in a clear and softened condition and at a temperature only slightly above atmospheric temperature and since the permit provides that not more than 2.67 cu. ft. per sec. or more than two-thirds of the flow in the river at the point of diversion and including the flow from the sewage effluent (whichever is the smaller) can be diverted at any time, because of these reasons and because it can be expected that there will be a substantial flow past the point of diversion at all times when there is otherwise a flow in the river, it is the opinion of the State Engineer that the diversion will not be detrimental to any present beneficial uses below the point of diversion. It is further pointed out that any use of the Power Company of water from wells under their present permits will result in a return of a portion of the water so used to the Sioux River and thus add to the flow of that stream.

Also, since the water will be used as an element in producing power and for the purpose of cooling equipment being used to produce power, it is our opinion that the use would come within the legal definition of "beneficial use (SDC 61.0102)" since the definition does not limit beneficial use to any particular application of power.

Also, since there has been no decision by the Federal Power Commission that the waters of the Sioux River are deemed navigable waters and since "the South Dakota Supreme Court has not yet had occasion to define a navigable stream in relation to the right to appropriate waters for consumptive uses, but has defined navigable waters in an action to quiet title and to determine conflicting rights to an island in an inland lake, and in an action to enjoin the cutting

and removal of hay in a dry lake bed within the meander line contiguous to the land of a riparian owner. ⁴⁹ The conclusion reached was that the test as to whether waters are navigable depends upon the natural availability of such waters for public purposes, taking into consideration the natural character and surroundings of the lake or stream, being equivalent to a classification of public and private waters. The term "navigable" was held to imply not merely the idea that the waters could be navigated, but also the idea of public use - that is, use by the public for fishing, fowling, boating, and other like purposes - so that waters are deemed navigable if they are more reasonably adapted to public than to private uses", and since the waters of the Sioux River would seem to be most adaptable to such private uses as power and irrigation and since the precedent of granting appropriative rights on the Sioux River dates back to 1907 and has been exercised in 1932, 1937, 1939 and later, it is the State Engineers opinion that until and unless the courts render further opinions, applicable to the case in question, that the waters of the Sioux River are subject to appropriation for beneficial use under SDC 61.0101. (For above quotation see page 37 "United States Department of Agriculture, Miscellaneous Publication No. 418 Washington, D. C. , 1942)

Section 61.0126 SDC provides that "any applicant may appeal from such decision of the State Engineer, or from any other decision by him which denies a substantial right, within sixty days from the date thereof, to the Circuit Court of the county in which the proposed place of diversion or storage is situated". In the absence of such appeal the decision of the State Engineer shall be final."


Dean W. Loucks,
State Engineer.

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 43 - 3

WHEREAS, On the 17 day of January A. D. 19 47

Northern States Power Company, a Minnesota Corporation

of Sioux Falls, County of Minnehaha and State of

South Dakota duly made application (No. 43-3) to me for a permit to use 2.67

cubic feet per second of the waters of the Big Sioux River

County of Minnehaha State of South Dakota, for Power Plant

purposes; and

WHEREAS, On the 27 day of March A. D. 19 47

Permit No. 43-3 was issued to said applicant for the diversion of said water, and providing for the completion of the works of diversion therein described on or before the 27 day of

March A. D. 19 49 and for the application to beneficial use of said

water on or before the 27 day of March A. D. 19 49

and, said completion was extended to March 27, 1952.

WHEREAS, On the 2 day of April A. D. 19 52

the holder of said permit duly made proof of the completion of adequate works for the diversion of

2.67 cubic feet per second of said waters, as evidenced by my Certificate No. 43 - 3

dated March 19, 1952 confirming the completion of works of sufficient capacity for

diverting and conveying to the place of intended use 2.67 cubic feet per second of water,

with date of priority of January 17, 1947 and,

WHEREAS, On the 21 day of April A. D. 19 52

proof was duly made of the application to beneficial use of 2.67 cubic feet per second of

said water;

NOW, THEREFORE, By virtue of the authority vested in me by the laws of the State of South Dakota, I hereby grant and confirm to Northern States Power Company, a Minnesota Corporation of Sioux Falls, South Dakota the holder and owner of said permit No. 43 - 3 a water right, dating from January 17, 1947 to the use of 2.67 cubic feet per second of the waters of the Big Sioux River in the County of Minnehaha and State of South Dakota, or so much thereof as may be necessary for the purposes hereinbelow mentioned, to be diverted at S¹ Section 36, T102N, R49W and conducted to ~~Rockwell~~ Power Plant in S¹ Section 36, T102N, R49W for the purpose of Steam Power Plant cooling and boiler water

subject, however, to the laws of the State of South Dakota applicable to a license for the use of the waters of the State, and subject, also, to the local or community customs, rules and regulations which have been or may be adopted from time to time by a majority of the users from a common source of supply, canal or lateral from which such water may be taken, when such rules and regulations have for their object the economical use of such water.

WITNESS, My hand and the seal of my office at Pierre, South Dakota, this 26 day of April A. D. Nineteen 52 Hundred and

DEAN W. LOUCKS,

State Engineer.

STATE OF SOUTH DAKOTA

Water License No. 43 - 3

To Northern States Power Company

Sioux Falls, South Dakota

Source of Supply Big Sioux River

County Minnehaha

Am't 2.67 Sec. Feet

Point of Diversion S¹ Section 36,

T102N, R49W

Place of Use S¹ Section 36,

T102N, R49W

Purpose Power Plant Purposes

Date of Priority January 17, 1947

Recorded March 27, 1947 566

in Book 2 of 2 Page 567

(First Publication 194.....)

APPROPRIATION OF WATER

Office of State Engineer,

Pierre, So. Dak. January 23, 1947

Notice is hereby given that Northern States Power Company whose postoffice address is Sioux Falls, So. Dak., has made an application in accordance with the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use 2.67 cubic feet of water per second of time from the Big Sioux River Northern States Power Co. through the Steam Plant, the point of diversion of which is to be located on the right bank of said stream in the ~~140th~~ 8¹/₂ 11 of Section 36 Twp. 102 N. Range 49 W. Said water to be used for the purpose of providing power

This application will be taken up by the State Engineer at his office at Pierre for consideration upon the 7th day of March, 1947, at 10:00 A. M. All persons who believe that their prior rights would be injuriously affected, or that the allowance of the permit would be detrimental to the public welfare shall file such protest with the State Engineer in writing prior to the above date and may appear on the day above mentioned in person for the purpose of discussing further, the information presented.

Appropriate action will be taken by the State Engineer after suitable time has elapsed for the consideration of any or all information presented.

Dean W. Loucks,
State Engineer

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA }
 County of Minnehaha } ss.
A. A. Roesler being duly
 sworn, deposes and says the annexed printed copy of Notice
 of Intention to Appropriate Water was taken from the
Daily Argus Leader 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 Sioux Falls County of
Minnehaha and State of South Dakota;
 that the said notice was published in said newspaper on the
 following dates:

Friday, January 31, 1947
Friday, February 7, 1947
Friday, February 14, 1947
Friday, February 21st, 1947
 in each and every issue of the full number thereof, the first
 publication being made on the 31st day of January
1947 and the last publication on the 21st day of
February 1947, upon which days or times
 of publication aforesaid the newspaper was regularly pub-
 lished, and that during the whole time of said publication he
 was the printer and publisher of
 the said newspaper.

Subscribed and sworn to before me this 21st day of February A. D. 1947.

Notary Public Minnehaha County, S. D.

Office of State Engineer, Pierre,
 Dakota, January 23, 1947.
 Notice is hereby given that Northern
 States Power Company whose postoffice
 address is Sioux Falls, 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 2.67 cubic feet of water per
 second of time from the Big Sioux River
 through the Northern States Power Co.
 Steam Plant, the point of diversion of
 which is to be located on the right bank
 of said stream in the S½ of Section 36,
 Township 102 N Range 49 W. Said water
 to be used for the purpose of providing
 power.
 The application will be taken up by
 the State Engineer at his office at Pierre
 for consideration upon the 7th day of
 March, 1947 at 10:00 A. M. All persons
 on the day above mentioned
 for the purpose of discussing further, the
 information presented.
 Appropriate action will be taken by the
 State Engineer after suitable time has
 elapsed for the consideration of any or
 all information presented.
 —Dean W. Loucks,
 State Engineer
 (Jan. 31, Feb. 7, 14, 21).

DEAN W. LOUCKS, STATE ENGINEER
STATE OF SOUTH DAKOTA
OFFICE OF STATE ENGINEER
PIERRE

*Present :- State Engineer
Mr. Huei
Mr. Goldsmith
Mr. Hill
Mr. Funder
Mr. Drewry*

Additional Discussion (March 7, 1947)

Mr. Hill:

City sewage discharge is approximately 8 cu. ft/sec at the new plant location.

No objections to passing 4 cu. ft/sec.

Plant located at present site to take advantage of effluent flow from sewers.

2.67 cu. ft/sec. needed for ultimate developments of units. All units not being installed by original installation but it is expected that all units will be installed by end of limitation to effect right.

Northern States Power Co. records at present hydro plant show zero readings when actual flow is not completely 0, because closing of gates at dam does not cut off entire flow.

Wells for which water permit was granted is to be used only as stand-by supply.

Approximately one-third of diverted flow will be returned to River.
Temperature of return flow.

Approx. 20 gal/min from pipe under tank plus miscellaneous cooling purposes.

All goes into tank 150'x200' then flows from tank to River at slightly above atmospheric temperature.

Sludge - Water pumped from river to precipitation - lime and alum added -

Result - forms sludge which is discharged in above tank and clear water flows to river.

Amount sludge - 10,000 cu. ft. 1 year.

The plant is located in the industrial area of locality.

Artesian wells don't flow.

Minimum daily sewage flow is 4.1 sec ft. - avr. 2.8 million
- min. 1.5 million.

Copy of resolution of city filed -

Average weekly flow - 4 sec. ft. at site or flow at plant 5 sec. ft.

Drewry: *(Suggested)* At no time take more than 2/3 of the flow at the point of diversion.

Hill: Present use at hydro plant at Sioux Falls

100 sec. ft. 20% of time

50 sec. ft. 55% of time

Zero flow for many days and often several months consecutively.
Wells will add to stream flow.

Dean W. Loucks
Dean W. Loucks,
State Engineer.

QUANTITY OF SEWAGE EFFLUENT

According to Mr. Bradney, Chemist at the Sewage Plant, there is no accurate record of sewage flow prior to 1941. Prior to 1945 the influent only was measured; separately for that from Morrell, total industrial, and total domestic. This record is inaccurate. Beginning with 1945, the total effluent is measured through a 24" Parshall flume, integrating, to a stated accuracy of 5%. Thus the records for 1945 and subsequently are very good, but prior to 1945 are not good.

Industrial sewage represents about 2.5 m.g.d., of which Morrell accounts for 1.9 m.g.d. Domestic sewage represented about 3.6 m.g.d., in 1945-46.

MONTHLY RECORDS, m.g.d.

	<u>Influent</u>						<u>Effluent</u>			
	<u>1941</u>			<u>1944</u>			<u>1945</u>			<u>1946</u>
	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Avg.
Jan.	6.82	3.44	5.60	6.80	3.78	6.25	6.38	3.21	5.47	5.46
Feb.	5.94	3.23	5.30	7.54	4.74	6.24	7.05	3.60	5.69	5.69
Mar.	7.86	3.37	5.76	7.97	2.79	6.79	6.72	3.73	5.26	6.71
Apr.	6.07	3.46	5.37	6.27	2.46 ²⁰	5.63	6.62	2.63 ^{4.57}	4.65	
May	6.31	2.91	5.77	7.91	3.87	6.77	6.13	3.46	4.23	
June	6.17	3.21	5.15	7.22	3.42	6.33	7.73	4.43	6.08	
July	5.61	3.06	4.59	7.91	3.64	6.21	7.18	4.12	6.08	
Aug.	5.36	3.15	4.43	8.03	3.49	6.25	7.71	3.94	6.06	
Sept.	5.72	3.07	4.42	6.37	3.10	5.04	6.79	3.73	5.67	
Oct.	5.60	3.78	4.62	6.11	3.03	5.38	5.95	3.75	5.43	
Nov.	5.78	2.36 ^{4.25}	4.25	7.33	3.14	5.88	8.79	4.13	6.32	
Dec.	5.82	2.63	4.98	6.65	2.92	6.02	7.06	3.15	5.83	
Yr.	7.86	2.36	5.02	8.03	2.46	6.06	8.79	2.63	5.57	
	12.8	3.68	4.99	12.45	3.80	7.21	12.6	4.08	8.67	
Water Pumped at City Wells										
	5.39			7.61*			7.18*			

* Includes Airbase use, which was decreasing from midsummer to small quantity in December, 1945. Airbase sewage is not included in above tabulations. Morrell has separate water supply, in part.

HOURLY RATES - The Parshall flume charts are not preserved, hence only a few recent records were available for inspection. From these the following figures, giving maximum and minimum rates on selected days, were taken. The records tabulated were selected as those days of extreme minimum flow.

MISCELLANEOUS RECORDS, SEWAGE FLOW

<u>Date</u>	<u>Hourly Rates, M.g.d.</u>			<u>Remarks</u>
	Avg.	Minn.	Max.	
Sun. Dec. 2, 1945	2.811	1.0 ^{1/2}	4.7	Lowest minimum found.
Sat. Jan. 19, 1946	4.105	1.8	6.3	
Sun. Jan. 20, 1946	3.690	2.5	5.6	
Tues. Jan. 22, 1946	4.434	1.5 ^{1/2}	7.0	) During Morrell strike,) which ended Jan. 26.
Fri. Jan. 25, 1946	4.030	1.5	4.8	
Tues. Jan. 29, 1946	6.324	4.0	8.8	
Wed. Jan. 30, 1946				
Thurs. Jan. 31, 1946	6.520	4.0	7.5	
Fri. Feb. 1, 1946	6.158	2.8	7.6	
Sat. Feb. 2, 1946	6.150	3.7	7.0	
Sun. Feb. 3, 1946	4.274	3.0	6.0	
Mon. Feb. 4, 1946	6.714	4.5	9.6	Rain during night.
Mon. Feb. 25, 1946	8.007	3.4	12.4	Rain
Sat. Mar. 23, 1946	5.078	2.6	6.6	
Mon. Mar. 25, 1946	5.707	3.6	8.1	
Wed. Mar. 27, 1946	7.190	5.2	8.8	
Tues. Apr. 2, 1946	7.403	5.0	9.8	

Note:- The minimum occurs about 3 to 4 a.m.
Maximums are likely to be rather sharp peaks.

RATE OF GROWTH - The rate of growth of water consumption by the City of Sioux Falls has been quite uniformly 0.246 m.g.d. per year. The ratio between this use and sewage effluent, because of inaccuracy of the records, cannot be well determined, but it appears to be about 85%, thus an annual increase of sewage of 0.2 m.g.d. With an average sewage flow of 5.5 m.g.d. in 1945, this rate of increase gives:

Year	Average Sewage Effluent Flow	
	M.G.d.	C.F.S.
1945	5.5	8.55
1950	6.5	10.02
1955	7.5	11.68

SECURITY OF SUPPLY FROM EFFLUENT - The above data clearly show that the sewage effluent alone will supply the plant needs. It is conceivable, however, that this effluent might become unavailable to the steam plant because of relocation of the sewage plant or because of diversion of the effluent to some other use.

Since site 3 is some $3\frac{1}{2}$ miles below the present sewage plant and outside of the City limits, it appears very unlikely that the sewage plant will ever be moved below site 3. As heretofore mentioned, the City Commissioner in charge of the plant has stated that the City has no plan to move, does have plans to expand on the present site, and has such an investment at the present site that it cannot afford to consider moving.

Riparian owners between the sewage plant and site 3, and the City, have a right to use the sewage effluent. There is, however, a natural reluctance to use this water for any manufacturing or consumptive purpose. Further, the amount of effluent is in excess of the requirement at site 3. It is then doubly unlikely that any consumptive use will develop for an amount sufficient to reduce the residual at site 3 below the requirements there. This matter must be watched, however, and appropriate steps taken to preserve the availability of sufficient effluent at site 3.

South Dakota has an appropriative doctrine imposed on the riparian doctrine. At the hydro plant, N.S.P.Co. has an appropriation of about 300 c.f.s., number 1 priority on the river. The Morrell Co. has an appropriation of 2.2 c.f.s., just downstream from the hydro plant, priority No. 3. There is no present appropriation downstream from Morrell, hence if N.S.P.Co. obtains an appropriation at site 3, it would be protected against this form of diversion of the sewage effluent, except as against riparian owners. Such an appropriation should be applied for.

QUALITY OF WATER - In general, the quality of the water is acceptable. Treatment appropriate to the waters from the various sources will be required. Samples from the river at high and low flow, from the sewage plant outfall, and from various deep and shallow wells have been analyzed by the N.S.P. Co. testing laboratory, and the results furnished to the designing engineers. Some of these data are given in the following tabulation.

was impermeable silt. Beneath the shale an artesian basin was discovered, but since its extent and intake is unknown, reliance upon it to continuously furnish 1200 g.p.m. was impossible, though it forms a reserve supply of very material amount. The limited extent of the sands along the river, above the shale, was disappointing, though these will yield material amounts of water and will recharge from the river.

The borings showed that the topographically best site was equal or superior to the others from the standpoint of wells and foundations. Further attention was therefore centered on this site, hereafter referred to as site 3. This site comprises about 7½ acres lying between the G.N. Ry. and the river, in the S½ of Sec. 36, T 102N, R 49W. It is in a farming area, about 2 miles NE of the Sioux Falls City limits, about 3-3/4 miles from the present Sioux Falls plant, and on the industrial side of Sioux Falls. Aside from other factors, it is thus in a favorable position from the standpoint of fly ash and smoke nuisance, and from the probability that no future move in connection with the Sioux Falls sewage plant will place the outfall of that plant below the site.

An option on the site, expiring June 22, 1946, was obtained, and detailed well, foundation and other investigations made. These are described under various headings hereafter.

WATER SUPPLY

A plant of 40,000 kw requires 2.67 c.f.s. of water for cooling with cooling towers. The natural stream flow at Sioux Falls exceeds 15 c.f.s. for at least 55 percent of the time. There are, however, months consecutively when the natural flow is near or at zero. At site 3, the natural flow is supplemented by effluent from the Sioux Falls sewage plant, to an average present amount of 8.6 c.f.s., and to a minimum amount of 4.1 c.f.s. on the minimum day in 1945. The average quantity of effluent will grow with the City, at the rate of about .3 c.f.s. per year. This effluent will assure a sufficient water supply at site 3 during dry periods. All possible steps, by appropriation under the law and future vigilance, must be taken to assure its continued availability at site 3. With this in mind, the following resolution, which serves to notify the City of our interest, was obtained:

RESOLUTION

WHEREAS, Northern States Power Company now has electric generating plants and an electric distributing system in the City of Sioux Falls used in delivering electric service to its customers in the Sioux Falls area; and

WHEREAS, the growth of its business requires additional generating facilities and Northern States Power Company proposes to construct an electric steam generating plant of 10,000 kilowatts capacity with a possible ultimate capacity of 40,000 kilowatts to insure an adequate and continuous supply of electric energy in the Sioux Falls area; and

WHEREAS, the Company is confronted with the problem of locating such plant on the Big Sioux River above or below the City of Sioux Falls at a location where it is assured of an ample supply of water for power purposes; and

WHEREAS, location of such plant above the City with resultant use of water from wells on the Company's property and the river might tend to limit the amount of water available for the City's municipal water supply and the Company is willing to locate its plant down stream from Sioux Falls where it will be able to use the effluent discharged into the river by the City's sewage disposal plant if the Company is assured there will be no unnecessary changes by the City that will affect the availability of the sewage effluent to the proposed plant;

NOW, THEREFORE, BE IT RESOLVED that in view of the plan of Northern States Power Company to locate its proposed steam generating plant on the Big Sioux river down stream from the City of Sioux Falls, South Dakota, the City states that it contemplates no changes that will affect the availability of the sewage effluent to the proposed generating plant of the Company at such location unless required in the interests of public health.

Adopted this 1st day of May, 1946.

(Signed) C. M. Whitfield
Mayor

Countersigned:

G. W. Elmer (Signed)
City Auditor

(SEAL)

STATE OF SOUTH DAKOTA }
COUNTY OF MINNEHAWA } SS

I, G. W. Elmen, the duly appointed, qualified and acting City Auditor of the City of Sioux Falls, South Dakota, hereby certify that the above resolution is a true and correct copy of the resolution adopted by the Board of Commissioners of the City of Sioux Falls at a meeting held on May 1, 1946.

Witness my hand as City Auditor and the official seal of the City of Sioux Falls, South Dakota.

(SEAL)

(Signed) G. W. Elmen
City Auditor

Since water supply may become a limiting factor in the future development at this site, observations should be begun and continued from the time the plant is put in service, to accumulate the data upon which to base future judgments. These observations should include:

A. River observations

1. Stages at site 3.
2. Careful measurements during all periods when the flow is less than about 25 c.f.s. to determine
 - a. Flow passing the hydro plant
 - b. Addition by the sewage plant
 - c. Flow passing site 3
 - d. Local inflow (by subtraction)

B. Shallow well observations

1. Quantity of water pumped and drawdown of well.
2. Effect of pumping on ground water levels in other wells on the site, by recording the elevations in these wells from time to time.

OBJECTION TO APPLICATION OF NORTHERN STATES
POWER COMPANY FOR PERMIT TO APPROPRIATE WATERS
FROM THE BIG SIOUX RIVER
No. 43-3

TO HONORABLE DEAN W. LOUCKS, STATE ENGINEER:

Herman F. Chapman, a resident of Sioux Falls, South Dakota, whose post office address is 504 Security Bank Building, Sioux Falls, South Dakota, hereinafter referred to as "Protestant", hereby objects to and protests against the consideration and/or approval of the application of Northern States Power Company for a permit to appropriate for alleged beneficial use 2.67 cubic feet of water per second of time from the Big Sioux River through the Northern States Power Co. steam plant at a point of diversion to be located on the right bank of said stream in the South Half of Section 36, Township 102 North, Range 49 West, in which application it is alleged that said water is to be used for the purpose of providing power.

This objection and protest is based upon the following facts and is made for the following reasons, among others:

Protestant is the owner of an interest in the Northeast Quarter of the Northeast Quarter of said Section 36, Township 102 North, Range 49 West, less highway and railroad right of way;

That said Big Sioux River is a definite stream, formed by nature, which, below or downstream from the proposed point of diversion stated in said application of said Northern States Power Company, passes through said Northeast Quarter of the Northeast Quarter of said Section 36, in a winding course, there being approximately 3,000 feet of river channel within said Northeast Quarter of the Northeast Quarter of said Section 36;

That the presence of said stream within the boundaries of protestant's property affords protestant the present, existing right to use and enjoy said stream, which will be impaired and substantially curtailed if said application is granted, and that it will be to the detriment of and in interference with protestant's riparian rights in and upon said stream if said application is granted;

That there is a substantial growth of mature valuable timber along both banks of said stream throughout its entire course within the boundaries of protestant's property, and there is a highly fertile and productive field within the bend of the river, which is not subject to overflow, both of which uses are valuable and depend upon and exist by reason of the present undiminished flow of water in said channel, and both of which uses will be materially adversely affected by the proposed diversion of a part of the flow of said stream;

That the natural or normal flow of water in the Big Sioux River at and above Sioux Falls and the proposed point of diversion is small and has been steadily diminishing with no prospect that said natural or normal flow or rate of flow will increase; that during the recent drought phase of the climatic cycle, the natural flow of waters in the Big Sioux River at Sioux Falls steadily diminished until it entirely disappeared; and that if applicant is granted authority to appropriate the amount of water stated in its application, that is, 2.67 cubic feet per second from said stream, it will be in position to take the entire flow in said channel during the entire time when the flow in the channel is diminished and becomes less than that amount and again when the flow is increasing until it reaches that amount, and that during a substantial

period before and after such total consumption the amount of water which applicant would be authorized to appropriate would constitute an unduly large portion of the entire volume of water in the stream which will result in detriment to protestant's riparian rights;

That applicant has already applied for and, as protestant is informed and believes and, therefore, alleges the fact to be, its application has been granted, for the use of a very substantial amount of underground water to be obtained by it in the immediate vicinity of the proposed point of diversion and of protestant's said property, which will undoubtedly result in a substantial lowering of the water table or level in the area here involved to protestant's detriment;

That there is not a sufficient amount of unappropriated water available for the benefit of the applicant after the existing public and private rights thereto are met to justify approval of the application;

That by its application applicant asserts that it seeks to appropriate such water for "beneficial use . . . through the Northern States Power Co. steam plant . . . for the purpose of providing power;" but that it appears from said application that said plant will be a steam plant and not a hydro plant; and protestant is informed and believes, and, therefore, alleges the fact to be that applicant does not propose to use said water for the purpose of generating or providing power and to then return said water to the channel of said stream, but does intend to use all or a substantial part of such water as "make-up water" in the cooling tower or towers of its said steam plant and for other similar purposes, and that all of the water so used will eventually be evaporated on applicant's premises and will not be returned by applicant to the river

channel, and that if any water is returned by applicant to the stream, it will be changed in character and of a high temperature to the detriment of lower riparian owners, including protestant; and that such uses of said water do not constitute "beneficial use" or "the use of water for . . . power" within the intent and meaning of the statutes of the State of South Dakota and particularly SDC 61.0101 and SDC 61.0102, as amended by Chapter 289 of the Session Laws of 1939;

That, while protestant has been a citizen, resident and elector of Sioux Falls, South Dakota, for many years, and continuously since 1923, and as such has at all such times had a general or public interest in the matter here involved, protestant's individual interest in and right to the continuance of the natural flow of water in said stream originated on November 19, 1943, at which time protestant was the successful bidder at the public auction of said real property conducted by the Commissioner of School and Public Lands of the State of South Dakota, and that the written Contract of Sale, hereinbefore referred to, was dated February 2, 1944, and which said Contract was filed for record in the office of the Register of Deeds of Minnehaha County, South Dakota, March 5, 1947, and recorded in Book 158 of Deeds at pages 575-76 thereof; and that applicant did not obtain title to the real property at proposed point of diversion until some time in August or September, 1946;

That the waters of said Big Sioux River at the proposed point of diversion are "navigable waters", and, therefore, are not subject to appropriation by applicant, under the provisions of SDC 61.0101;

That the approval of said application will be contrary to the interests of protestant and all other lower

riparian owners and contrary to the public interests and the approval and granting thereof will deny and deprive protestant and those similarly situated a substantial right or rights;

That the granting, allowance or approval of the permit applied for in this instance will constitute the taking of property of this protestant and all other property owners similarly situated without due process of law and will deny this protestant and all others similarly situated the equal protection of the law in violation of the 14th Amendment to the Constitution of the United States of America and will be in violation of Section 2 of Article VI of the Constitution of the State of South Dakota;

WHEREFORE protestant prays that said application and the permit sought thereby be wholly denied and rejected.

Dated March 5, 1947

Herman F. Chapman (signed)

Protestant

For himself and all others similarly situated, and in the public interest,
Sioux Falls, South Dakota

State of South Dakota,)
: SS
County of Minnehaha.)

Herman F. Chapman, being duly sworn, says
that he is the protestant in the above and foregoing
objection to application and knows the contents thereof
and that the same is true, except as to matters therein
stated on information and belief, and as to them, he
verily believes them to be true.

Herman F. Chapman (signed)

Subscribed and sworn to
before me March 5, 1947.

Delores Hillers (signed)
Notary Public, South Dakota.
My Commission expires 11-23-49

(SEAL)

APPLICATION FOR EXTENSION OF TIME FOR COMPLETING WORKS

To the State Engineer,

Pierre, South Dakota.

Dear Sir:-

I hereby request that an extension of time ~~XX~~ to November 1, 1950

_____ be granted me for the completion of works to be done
under permit No. 43-3.

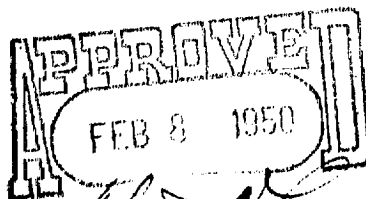
Said works are located in Minnehaha County and
are described as follows:-

Location of headworks: In the ~~xxxxxxxxxxxxxxxxxxxx~~ S 1/2 1/4
of Section 36 Township 102N Range 49W
E., B.H.M.

The water is to be used for the purpose of cooling water.

The extension of time for the completion of these works is requested
for the following reasons: Construction uncompleted because of delay of
equipment deliveries.

APPROVED:-



Dean W. Loucks
STATE ENGINEER
Dean W. Loucks
State Engineer

State Engineer.

Worham State Power Company
by R. D. Fisher
Holder of Permit No. 43-3

APPLICATION FOR EXTENSION OF TIME FOR COMPLETING WORKS

To the State Engineer,

Pierre, South Dakota.

Dear Sir:-

I hereby request that an extension of time of three years to
March 27, 1952 be granted me for the completion of works to be done
and two additional years to March 27, 1954 for application to beneficial use
under permit No. 43-3.

Said works are located in Minnehaha County and
are described as follows:-

Location of headworks: In the S¹/₂ of the X¹/₂
of Section 36 Township 102N Range 49W
E., B.H.M.

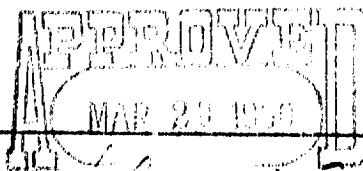
The water is to be used for the purpose of cooling and boiler
water for Steam Plant

The extension of time for the completion of these works is requested
for the following reasons: Because of physical and engineering difficulties
which could not be reasonably anticipated.

H. C. Ammons

Holder of Permit No. 43-3

APPROVED:-



STATE ENGINEER

Permit No. 43-3Water Division No. 3

Water District

CERTIFICATE OF EXAMINATION OF WORKS**Report of Examining Engineer**

To the State Engineer, Pierre, South Dakota:

Dear Sir: I hereby certify that in accordance with your letter of authorization dated March, 11 1952, I have this day made a thorough examination of the diversion works constructed by Northern States Power Co., of Sioux Falls, S.D. Minnehaha County, South Dakota, holder of permit No. 43-3, issued upon application No. 43-3, bearing date of priority of _____, 19____, authorizing the diversion of 2.67 second feet of the waters of Sioux River for Power Provisions purposes. I have to report on the condition of the same as follows:

The diversion works comprise: 2- vertical 600 G.P.H. Max. Layne Pumps
80 H.P. Motors Powered - 1-8" line 1200' long to the plant.
Pumps and diversion point are well housed. 2- automatic screens.
Pressure gauges are attached to the pump line. Metering can be
done at the plant where the water enters the filters to a capacity of
1050 G.P.H.
 and the system is in the following condition: Excellent

The point of diversion is located S.W. 1/4 Sec 36-T102-R49

The works are capable of diverting and conveying to the place of use 2.67 second-feet of water, which is to be used for Power Provision

The legal sub-divisions to be irrigated are: None

_____ comprising a total of _____ acres of land.
 The domestic use intended comprises None

The utilization for power, mining, or other beneficial uses comprises: Steam Power for
cooling, water heating, for boilers, cooling tower applications
cooling; ash quenching.

Witness my hand, this 12 day of March

A. D. 19 52

J. H. [Signature]
 Examining Engineer

Permit No. 43-3

Water Division No. 3 Sioux River Water District

Certificate of Construction of Works.

TO ALL WHOM IT MAY CONCERN:

This is to Certify, That Northern States Power Company
 of Sioux Falls, County of Minnehaha and State of
South Dakota, the holder of Permit No. 43-3, issued upon Application
 No. 43-3, bearing date of priority of January 17, 1947, authorizing the diversion of
2.67 second-feet of the waters of the Big Sioux River
 County of Minnehaha, State of South Dakota, ~~in~~ in the S.W. 1/4 Sec. 36,
T.102N, R.49W.
 for Power Provisions

~~has~~ ^s fully 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 adequate for divert-
 ing and conveying to the place of intended use 2.67

second-feet of water; ~~and that the lands proposed to be irrigated by the use of said water are not in the hands of the~~
~~owner~~

Witness my hand this 2 day of April A. D. 1952

DEAN W. BOLCKS, State Engineer of South Dakota.

Permit No. 43-3

Water Division No. 3 Sioux River Water District

**CERTIFICATE OF APPLICATION
OF WATER TO BENEFICIAL USE****DEPOSITION OF HOLDER**

Ques. 1. State your name, residence, occupation and postoffice address.

Ans. A. G. Buchholz, Division Manager

Sioux Falls, S. D.

Ques. 2. If acting in behalf of a corporation, state its name, principal place of business (if a foreign corporation, give name and postoffice of statutory agent), your position with reference to same, and your authority for appearing in its behalf.

Ans. Northern States Power Co. of Minnesota, 15 S. 5 Street,

Minneapolis 2, Minn. Sioux Falls Division Manager

Ques. 3. State number and date of permit, and date of priority you propose to establish under the permit.

Ans. 43-3 January 17, 1947

Ques. 4. State source of water supply and give exact location of point of diversion.

Ans. Big Sioux River; S $\frac{1}{2}$ Sec. 36, T 102 N, R 49 W.

Minnehaha County, S. D.

Ques. 5. Describe your works of diversion, and state amount of water they are capable of conveying from point of diversion to place of use, and give name of canal or ditch or other works by which water is conducted to such place of use.

Ans. Pump house of steam plant. 2.67 c.f.s.

Ques. 6. State for what purpost water is used and describe place of use (If for irrigation, name each subdivision in which used, and number of acres in each subdivision that have ACTUALLY been irrigated with said water.)

Ans. Steam Power Plant cooling and boiler water, at plant

in S $\frac{1}{2}$ Sec. 36, T 102 N, R 49 W.

Ques. 7. If for other than irrigation purpose, state how applied, amount of horse power generated, etc.

Ans. 54,000 hp steam plant

Ques. 8. What is the minimum amount of water required for the use specified above?

Ans. 2.67 c.f.s.

Ques. 9. If you are not the person or representative of the corporation to whom above mentioned permit was originally issued, please state how ownership was acquired by present holder.

Ans.

Ques. 19. State when, how, in what amount and to what extent the water diverted under above mentioned permit has been used.

Ans. Has been used in the amount of 2.67 c.f.s. at various times since November 1951.

(Sign.) A. T. Buehlofmyer

I hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in Sioux Falls, County of Minnehaha,

State of South Dakota, on this 21st day of April A.D., 1952

M. Engel
Notary Public
Comm Expires 2-15-54

Permit No. 43 - 3

Proof of Application of Water to
Beneficial Use.

DEPOSITION OF HOLDER.

Amount of water 2.67 second feet

Source Big Sioux River

County Minnehaha

Purpose Steam Power Plant cooling & boiler water

Place of Use S $\frac{1}{2}$ Section 36,

T102N, R49W

Date of priority January 17, 1947

Received and filed April 22, 1952

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

Joe Foss Building
Pierre, South Dakota 57501

1-3, 2-3, 3-3, 4-3, 7-3, 8-3, 41-3
42-3, 43-3, 61-3, 70-3, 519-3, 519-3A
561-3 & 742-3

August 15, 1979

Neal Nelson-Construction Manager
Northern States Power Co.
Box 988, 500 W Russell St.
Sioux Falls, SD 57101

Dear Mr. Nelson:

This will confirm our discussion regarding water rights presently held by Northern States Power Co. in the Sioux Falls area.

Permit No. 1-3 was issued with a diversion of 500 cfs at a point in the NE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 16, T101N, R49W, with a priority date of July 2, 1907.

Permit No. 2-3 was issued with a diversion of 500 cfs at a point in the NE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 16, T110N, R49W, with a priority date of July 2, 1907.

Permit No. 3-3 was issued with a diversion rate of 400 cfs at a point in the NE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 16, T101N, R49W, with a priority date of July 2, 1907.

Permit No. 4-3 was an uncompleted permit to use up to 300 cfs from the Sioux River in Hamlin County at a point in the NE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 19, T114N, R51W.

Permit No. 7-3 was issued with a diversion rate of 500 cfs at a point in the NE $\frac{1}{4}$, Section 16, T101N, R49W, with a priority date of September 17, 1907.

Permit No. 8-3 was issued with a diversion rate of 500 cfs at a point in the NE $\frac{1}{4}$, Section 16, T101N, R49W, with a priority date of September 17, 1907.

On August 21, 1912, the Sioux Falls Power and Light Company petitioned the State Engineer to consolidate permits 1-3, 2-3, 3-3, 7-3 and 8-3. This action was approved by the State Engineer on August 24, 1912.

With the Abandonment of the Hydro Operations, by resolution dated December 6, 1961, Northern States Power Co. surrendered and abandoned its right to appropriate 2,325 cfs of the 2,400 cfs authorized under Permits No. 1-3, 2-3, 3-3, 7-3 and 8-3, retaining 75 cfs for operation of the steam facilities.

A letter from G.V. Welk dated August 9, 1974 indicated Northern States Power Co. had conveyed its Sioux Falls Generating Plant and associated land to the City of Sioux Falls, and requested that the 75 cfs retained under the above permits also be transferred to the City. Inasmuch as the water rights held by the Northern States Power were essentially non-consumptive, it was determined that they would be of no value to the City, and the Permits could be cancelled.

Equal Opportunity Employer

Under the above relinquishment and abandonment, the Permits 1-3, 2-3, 3-3, 7-3 & 8-3 all pertaining to the Hydro Plant and subsequently the steam plant, had not been officially cancelled by the Water Rights Commission. In official action by the Commission the above permits were cancelled on November 14, 1974. Uncompleted Permit No. 4-3 was also cancelled under this action. The above permits except for 4-3 were used in connection with the Bennett Dam and/or what you referred to as the Weber Plant.

The following Water Rights were issued in connection with the Lawrence Plant.

Water License No. 41-3 covers Well #1 and authorizes diversion of 1.11 cfs (500 gpm) with a priority date of July 18, 1946.

Water License No. 42-3 covers Well No. 2 and authorizes diversion of .067 cfs (30 gpm) with a priority date of July 18, 1946.

Water License No. 43-3 covers diversion from the Sioux River authorizing diversion of 2.67 cfs (1200 gpm) with a priority date of January 17, 1947.

Water License No. 61-1 covers Well No. 3 and authorizes diversion of 1.0 cfs (450 gpm) with a priority date of October 10, 1960.

Water License No. 70-3 covers Well No. 4 and authorizes diversion of 1.55 cfs (700 gpm) with a priority date of April 21, 1951.

In our discussion you indicated that the Lawrence Plant had been deactivated on September 30, 1977, but because of energy requirements, that it may be reactivated. South Dakota Water Laws state that a 3 year period of non-use is a basis for forfeiture of water rights. If the plant is reactivated prior to September 30, 1980, the water rights would be valid, and remain in force as long as the water is used beneficially. We request that you notify us if the plant is reactivated.

The following water rights were issued in connection with the Pathfinder Plant.

Water License No. 519-3 covers diversion from the Sioux River, and authorizes diversion of 6.0 cfs, with a priority date of February 10, 1958.

Water License No. 519-3A covers diversion from the Sioux River (enlargement of 519-3) and authorizes diversion of 1.77 cfs (700 gpm) with a priority date of December 12, 1962.

Water License No. 561-3 covers Well A, and authorizes diversion of 1.77 cfs (700 gpm) with a priority date of December 18, 1958.

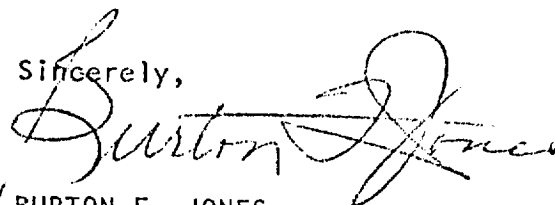
Water License No. 742-3 covers Well B and authorizes diversion of .33 cfs (150 gpm) with a priority date of September 17, 1960.

These permits were primarily for cooling water and plant use for the atomic generators. You indicated that the plant has now been converted to an oil burning plant, and the water is used in connection with this operation. These are considered valid permits and remain in force as long as the water is used beneficially.

page 3 -
August 15, 1979

This summarizes the water rights that are presently active and disposition or those no longer used. We would like to thank you for the time spent discussing the status of your existing use. If you have questions, feel free to contact this office.

Sincerely,

A handwritten signature in cursive script, appearing to read "Burton F. Jones".

/ BURTON F. JONES
Water Rights Specialist

BFJ/gy



43-3
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

August 6, 2012

Dear Water Right Holder;

Due to low flows I am advising water right holders on the Big Sioux River of the possibility of shutoff orders in 2012 for the river reach from Watertown through Sioux Falls. This is **not a shutoff order**.

As a result of the continuing lack of precipitation, tributary flows throughout the Big Sioux River basin remain well below the historical average. The forecast for improved conditions for the near future is not favorable.

This letter is only intended to give you advanced warning that your ability to divert water may be cut short this year. If shut-off orders are issued, you will receive another letter from the department. In the meantime, water right holders can help by closely monitoring water usage and trying to avoid wasting water.

South Dakota water law gives the highest priority to domestic use, which includes livestock watering. There is generally adequate water available to meet both domestic use and other needs. However, once water availability reaches critical low levels, other uses, including irrigation, will begin to interfere with domestic use. If levels become critically low, the department must issue shut-off orders to protect domestic water uses. Once these orders are issued, the department will continue to monitor water availability and should conditions improve, the shutoff orders would be rescinded.

If you are interested, the US Geological Survey has an Internet site showing real-time river flows at 159 stream gauging stations across the state including three gages sites on the Big Sioux River. To access this information go to <http://waterdata.usgs.gov/sd/nwis/rt> and click on the link "Statewide Streamflow Current Conditions Table".

Thank you for your cooperation. If you have any questions, please contact Lynn Beck or Mark Rath at (605) 773-3352.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program

CERTIFICATION

I hereby certify that on August 6, 2012, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelope(s) containing a Notice dated August 6, 2012 regarding shut off warnings on Big Sioux River addressed as stated below:

permitno	fname	lname	addrss2	city	state	zip
1696-3	DONALD G	AHLERS	22920 SD HWY 13	FLANDREAU	SD	57028
5530-3	TERRY & DENISE	ANDERSON	47558 237TH ST	TRENT	SD	57065
6192-3	BERNE B	BAHNSON	26534 N SHORE PLACE	HARTFORD	SD	57033
3806-3	BERNARD	BERGDALE	PO BOX 366	ALCESTER	SD	57001
1175-3	HAROLD	BOEVER	47948 232ND ST	FLANDREAU	SD	57028
4895-3	BILL B	BOYER	4162 BIRCH AVE	HAWARDEN	IA	51023
284-3	LUKE	BOYER, MGR	403 16TH ST	HAWARDEN	IA	51023
7110-3	BRIAN	BURKHART	24482 482ND AVE	DELL RAPIDS	SD	57022
5760-3	BRIAN	CHICOINE	32650 480TH AVE	ELK POINT	SD	57025
2255-3	JAMES H	COLE	29509 488TH AVE	HUDSON	SD	57034
6124-3		DELLS ROCKY RUN GOLF COURSE	47364 GOLF VIEW DR	DELL RAPIDS	SD	57022
4969-3	JOHN GILMAN	FRAZIER FARMS	BOX 423	PARKSTON	SD	57366
4969-3	JOHN TROY D & SANDY F	GILMAN	4162 BIRCH	HAWARDEN	IA	51023
249-3	DARREN & ALLISON	HAHN	6762 SMITH DR	WENTWORTH	SD	57075
2065-3		HAMILTON	22615 480TH AVE	FLANDREAU	SD	57028
2952-3, 956-3	WAYNE	HEADRICK	47926 SD HWY 32	FLANDREAU	SD	57028
279-3	ROBERT	JAGER, MGR	48495 299th ST	HAWARDEN	IA	51023
1350-3, 6042-3	RAYMOND D	JENSEN	24348 478TH AVE	DELL RAPIDS	SD	57022
1302-3	LARRY J	JORGENSEN	24048 477TH AVE	TRENT	SD	57065
1500-3, 213-3	TED	LACEY	24064 478TH AVE	TRENT	SD	57065
	EUGENE	MOLLET	48011 332ND ST	JEFFERSON	SD	57038
3433-3	VIRGIL L	MOLLET JR	47991 334TH ST	JEFFERSON	SD	57038
1801-3	GAIL	MUNK	803 DAKOTA	DELL RAPIDS	SD	57022
113-3	PATTI	NASH	21660 469TH AVE	BROOKINGS	SD	57006
3914-3	OMAR F	PETTERSON	48378 276TH ST	CANTON	SD	57013
2350-3		RIVER VALLEY FARMS	PO BOX 486	ALCESTER	SD	57001
1801-3	HARVEY JOHN T & MELISSA R	SCHMIDT, OPERATOR	47528 244TH ST	DELL RAPIDS	SD	57022
1454-3		SCHUTTE	47973 W 5TH ST	CANTON	SD	57013
5814-3	PATRICK V	WALSH, OPERATOR	47844 COUNTY RD 1B	ELK POINT	SD	57025
597-3	DAN & JUDY	WHIPPLE	11726 NORWAY ST NW	COON RAPIDS	MN	55448
5055-3		WILLOW RUN MANAGEMENT COMPANY	8000 E HWY 42	SIOUX FALLS	SD	57110
519-3A		XCEL ENERGY	7100 E RICE ST	SIOUX FALLS	SD	57110
43-3, 519-3		NORTHERN STATES POWER COMPANY	414 NICOLLET MALL	MINNEAPOLIS	MN	55401
5698-3, 6210-3	GREG ANDERSON	CITY SIOUX FALLS	224 W 9TH ST	SIOUX FALLS	SD	57102

Gail Jacobson

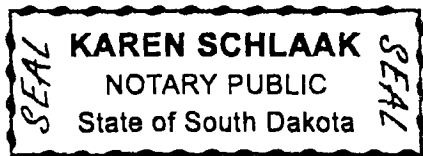
Gail Jacobson
Secretary/Water Rights

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 6th day of August, 2012.

Karen Schlaak

Karen Schlaak
Notary Public
My Commission expires April 1, 2013





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
www.denr.sd.gov

January 31, 2018

43-3 519-3 519-3A

NORTHERN STATES POWER COMPANY
414 NICOLLET MALL
MINNEAPOLIS MN 55401

Subject: Bypass Qualifications on Big Sioux River Water Rights

Dear SIR,

I am writing to inform you of an effort the SD Dept. of Environment and Natural Resources Water Rights Program is undertaking to review and update a number of water right permits authorized to pump water from the Big Sioux River. Since your water right does not have a bypass qualification, we **are not** proposing to amend your permit by adding a bypass qualification. However, I do want to make you aware of what we are proposing for several other junior priority Big Sioux River permits.

When a number of these Big Sioux River permits were issued, they contained a qualification requiring a minimum flow bypass before the user is able to pump water from the river. The bypass qualification was placed on these permits to protect the use of water by downstream senior priority water right holders and domestic water users, which includes livestock watering. The review found, with the passage of time, a number of senior water right permits have been cancelled due to abandonment or forfeiture. Consequently, it may be possible to lower the flow bypass limitation on the remaining permits. In other words, the amount of flow in the river can be lower and pumping will still be allowed. The review also found an inconsistency between permits on where the bypass flow is to be measured. The intent of this effort is to standardize and make consistent the bypass requirements for the remaining water users.

In order to amend a qualification on an existing water right permit, formal action by the SD Water Management Board is needed. In the next few weeks, you can expect to receive official notification scheduling a hearing before the Water Management Board. Again this does not pertain to amending your permit, only junior permit holders. If you wish to participate in the hearing you can, but you are not required to. There will be instructions with the notification on how to participate in the hearing if you so choose.

If you have any questions concerning this effort, please contact Mark Rath of the Water Rights Program at phone (605) 773-3352.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Goodman". The signature is fluid and cursive, with a large loop at the end.

for Jeanne Goodman, Chief Engineer
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

February 12, 2018

43-3, 519-3, 519-3A

Northern States Power Company
414 Nicollet Mall
Minneapolis MN 55401

Subject: Bypass Qualifications on Big Sioux River Water Rights

Dear Sir:

The SD Department of Environment and Natural Resources (DENR) has evaluated the minimum flow bypass condition on water rights that pump from the Big Sioux River. The Chief Engineer is recommending amending the bypass qualification on 21 Big Sioux River water rights. The intent is to bring uniformity to the bypass requirement placed on water rights in past years. The water right you own or operate does not have a bypass qualification and will not be amended by the proposed action.

Even though your water right is not being amended, DENR wants to keep you informed of the proposed action since it involves the Big Sioux River. Enclosed is a notice to be published on or before February 15, 2018, in one newspaper from each of the seven counties that the Big Sioux River flows through. Also, the staff report including affected water rights and the proposed changes is available at <http://denr.sd.gov/public> or contact Mark Rath at 605 773-3352 or mark.rath@state.sd.us.

A hearing before the Water Management Board is scheduled at 11:30 AM, Wednesday, March 7, 2018 in the Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. The enclosed notice provides information on the hearing and ability to file a petition in either support or opposition to the proposed amendment. The filing of a petition must be postmarked by February 26, 2018. Additionally filing a petition affords you the opportunity to participate in the March 7th hearing before the Board if you choose.

Again, this does not pertain to amending your water right, only junior water right holders with existing bypass requirements. If you have questions, please call. DENR is willing to work to answer any questions.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
605 773-3352
Eric.gronlund@state.sd.us

enclosure

I, K.E. Benson, Registered Professional Engineer & Land Surveyor of the State of South Dakota, do hereby certify that I have surveyed & plotted the following described real property situated in Section 36, Township 102 North, Range 49 West of the 5th Principal Meridian, in Minnehaha County, South Dakota:

I further certify that the above plat correctly represents and shows such survey and plotting so made by me, and that the same was made at the request of Edwin Aker, County Auditor of Minnehaha County, South Dakota.

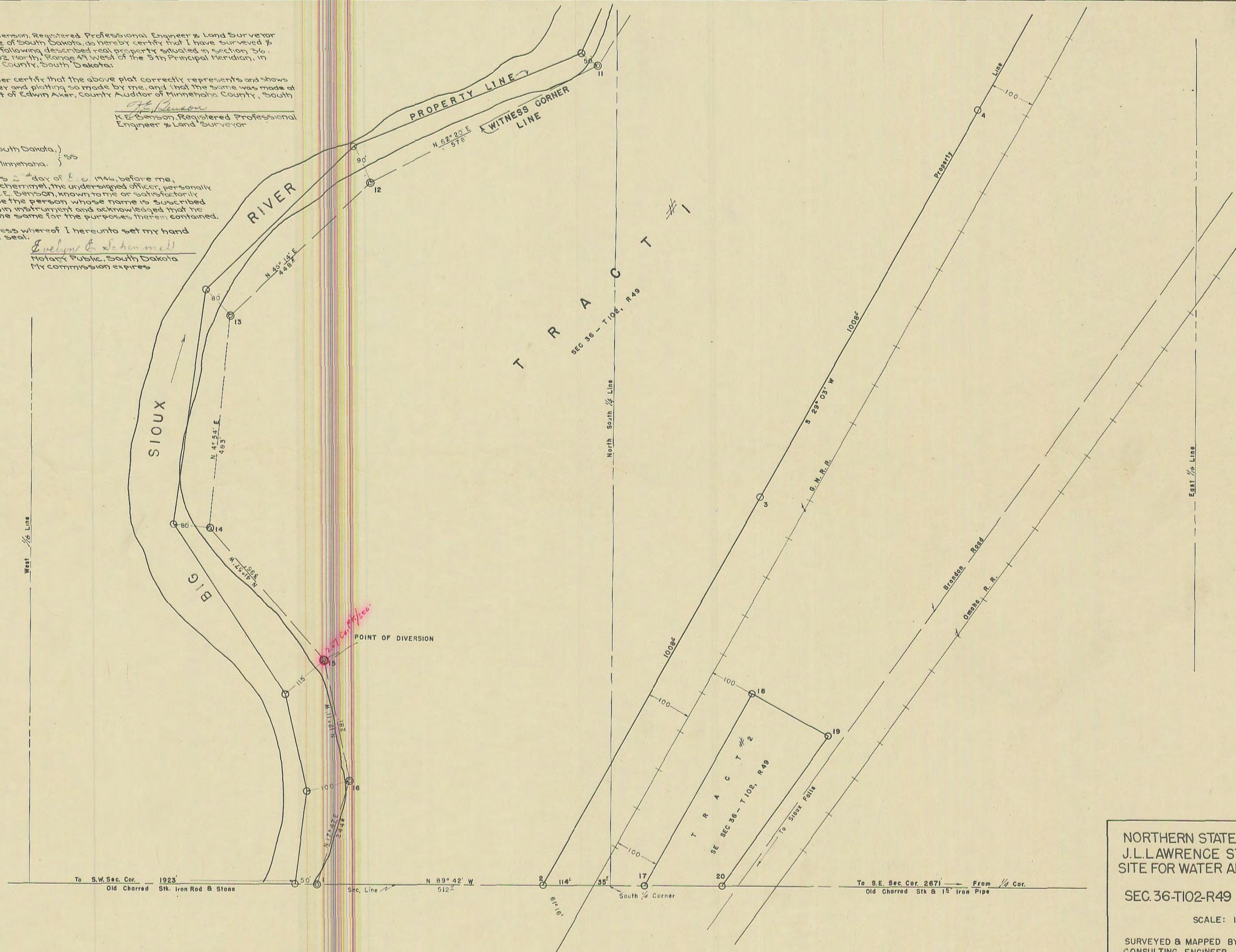
K.E. Benson
K.E. Benson, Registered Professional Engineer & Land Surveyor

State of South Dakota,)
County of Minnehaha.) ss

On this 2nd day of June, 1946, before me, Evelyn E. Schemmel, the undersigned officer, personally appeared K.E. Benson, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I hereunto set my hand and official seal.

Evelyn E. Schemmel
Notary Public, South Dakota
My commission expires



NORTHERN STATES POWER CO
J.L. LAWRENCE STEAM PLANT
SITE FOR WATER APPROPRIATION

SEC. 36-T102-R49 MINN. CO. S.D.

SCALE: 1" = 100'

SURVEYED & MAPPED BY: *K.E. Benson*
CONSULTING ENGINEER SIOUX FALLS, S.D.

MAP # 43-3
Map # 28-2
28-2