TWENTIETH BIENNIAL REPORT OF THE NEBRASKA POWER REVIEW BOARD



to the Governor of Nebraska July 1, 2016 through June 30, 2018

INTRODUCTION

The Nebraska Power Review Board is pleased to present its Biennial Report covering the period of July 1, 2016 through June 30, 2018. The report is prepared in compliance with the requirements set out in Neb. Rev. Stat. § 70-1003(4). The report contains information on the Board's budget and activities during the two-year period, and provides a brief description for each application upon which the Board took action. These include applications for generation facilities, transmission facilities located outside a power supplier's service area, amendments to retail service area agreements, and amendments to public power district charters.

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BOARD MEMBERS

Chair	.Frank Reida, Omaha Term expires January 1, 2019
Vice Chair	.Rick Morehouse, Scottsbluff Term expired January 1, 2018
Member	.Chuck Hutchison, Bellevue Term expires January 1, 2021
Member	.Greg Moen, Norfolk Term Expires January 1, 2021
Member	.Dennis Grennan, Columbus Term expires January 1, 2022

STAFF

Executive Director and General Counsel	.Timothy J. Texel
Business Manager	.Rebecca Hallgren
Paralegal	.Sara Birkett

EXPENDITURE REPORTS

	2016-17	2017-18
PERSONAL SERVICES		
Salaries, wages, and per diem	199,395.43	207,586.84
	TOTAL 199,395.43	207,586.84
OPERATING EXPENSES		
Postage	1,838.07	1,340.75
Communications	0.00	0.00
Data Processing Expense	4,343.67	3,927.85
Publications & Printing	1,101.56	1,009.13
Awards	132.55	
Dues and Subscriptions	3,688.27	3,732.74
Conference Registrations	2,977.87	2,444.12
Job Applicant Expense	0.00	0.00
Rent Expense - building	13,600.92	13,600.92
Rent Depreciation Surcharge	5,563.32	5,768.16
Repair and Maintenance - Building	0.00	0.00
Repair and Maintenance - Office Equipment	0.00	0.00
Repair and Maintenance - Data Processing	0.00	0.00
Office Supplies	2,297.44	1,647.65
Miscellaneous Sup. Exp.	0.00	0.00
Non-Capitalized Equipment	0.00	
Food Expense	0.00	0.00
Accounting and Auditing Services	367.00	420.00
Purchasing Assessment	196.00	309.00
HRMS Assessment	178.00	178.00
Legal Related Expenses	2,096.30	35.00
SOS Temp Service - Personnel	0.00	0.00
Temp Serv - Outside	0.00	0.00
Engineer & Architectural Services	162,000.00	166,400.00
Management Consultant Services	8,500.00	8,500.00
Janitorial/Security Services	0.00	120.00
Software Renewal/Maintenance Fee	500.00	0.00
Software New Purchase	0.00	0.00
Customized Development	0.00	6,040.00
Insurance Expense	19.46	25.41
Surety & Notary Bonds	83.98	16.47
Other Operating Expense	0.00	0.00
	TOTAL 209,484.41	215,515.20
RAVEL EXPENSE		
Board and Lodging	4.300.33	4.864.20
Meals - One Day Travel	0.00	0.00
Commercial Transportation	1.436.90	1.031.96
State-Owned Transportation	0.00	0.00
Personal Vehicle Mileage	6 514 29	8 431 38
Miscellaneous Travel	313.95	351.00
	TOTAL 12,565.47	14,678.54
GRAND	TOTAL 421,445.31	437.780.58

STATISTICAL SUMMARY OF BOARD ACTIVITIES

July 1, 2016, to June 30, 2018

	<u>2016-2017</u>	<u>2017-2018</u>
Number of Regular Board Meetings	08	11
Hearings Before the Power Review Board:		
Formal Complaints	0	1
Hearings	4	0
Construction Applications:		
Approved New Generation Facilities ¹	0	0
Microwave Communication Facilities ²	1	0
Transmission Lines Over ½ Mile Outside		-
Applicant's Service Area ³	3	16
TOTAL Approved Generation & Transmission	Ū.	
Applications to Date	1.623	1,639
Generation & Transmission Applications Denied	.,020	.,
In Current Biennial Period	0	0
	Ũ	Ũ
TOTAL Denied Applications to Date	29	29
Transmission Lines ½ Mile or Less Outside a		
Power Supplier's Service Area ⁴	21	22
TOTAL Lines Approved to Date	2073	2.095
Applications Withdrawn or Dismissed to Date	80	80
Amendments to Service Area Agreements and Public Power District Charte	ers.	
Retail Service Area Amendments	3	9
TOTAL Retail Service Area Agreements	419	419
Wholesale Service Area Agreements	0	0
TOTAL Wholesale Service Area Agreements	22	22
Petitions to Amend Public Power District Charters ⁵	2	1

¹ During the July 1, 2016 through June 30, 2018, biennial period the Board approved a total of 0 applications for generation facilities.

² During the July 1, 2016 through June 30, 2018, biennial period the Board approved one application for microwave facilities for a total estimated cost of \$6,578.37.

³ During the July 1, 2016 through June 30, 2018, biennial period the Board approved 19 applications for transmission lines for an estimated total cost of \$11,248,950.

⁴Applications for construction of transmission lines one-half mile or less outside a power supplier's service area do not require formal approval by the Board if the affected service area holders consent to the project. An application must still be filed with the Board to satisfy notice requirements pursuant to Title 285, Nebraska Administrative Code, Chapter 2, section 3. During the July 1, 2016 through June 30, 2018, biennial period the Board received 43 applications that did not require a formal vote for a total estimated cost of \$622,923.

⁵Public power district charters are also commonly referred to as "petitions for creation." Once a district's petition for creation is approved, it becomes the district's charter. See <u>Custer Public Power District v. Loup River Public Power</u> <u>District</u>, 162 Neb. 300, 75 N.W. 2d 619 (1956).

GENERATION FACILITIES

PRB-3835-G Bluestem Energy Solutions

On September 1, 2016, Bluestem Energy Solutions, LLC filed an application to construct a 37.36 megawatt natural gas generation facility. The facility would be located north of the City of Beatrice, Nebraska. It was the understanding of the staff that the city would have a contract to purchase capacity rights from the facility, but the energy output would be sold into the Southwest Power Pool (SPP) market. The capacity would have given the City the capacity required in order to participate in the SPP market. A Notice of Filing and Hearing Date was sent out to those parties the PRB deemed interested. On September 14, 2016, the City of Beatrice and its Board of Public Works (Beatrice) filed a Petition to Intervene. On September 21, 2016, Nebraska Public Power District (NPPD) filed a Protest. On September 22, 2016, the Omaha Public Power District filed a Petition for Protest. There were several requests for continuances by the Applicant and Protestants. The hearing officer held a prehearing conference via telephone on October 13, 2017. On Friday, October 20, 2017, the Board received a Motion to Withdraw Application filed by the Applicant. The Board's rules state that "a party shall not be permitted to withdraw said application or pleading without the Board's approval." The Board's rules state that an application must be set for hearing within 120 days of filing. Since the Applicant was requesting the continuance and there was no objection, the hearing officer granted the continuances. The purpose of the statute is to protect the Applicant's right to a timely hearing, so if the Applicant waives that right by requesting a continuance, it has been the practice of the hearing officer to grant such a continuance. At the Board's October 27, 2017 public meeting, the Board voted unanimously to approve the Motion to Withdraw Application PRB-3835-G without prejudice.

MICROWAVE COMMUNICATION FACILITIES

PRB-3846-M Twin Valleys Public Power District 1-2017

On December 12, 2016, the Twin Valleys Public Power District filed an application requesting approval to add an additional microwave communication facility in its service area. The cost for the project was estimated at \$6,578.37. The Board previously approved an application for Twin Valleys PPD to construct a microwave communication facility. The original application was filed in August 2012, and was designated PRB-3692-M. In the original application, Twin Valleys PPD allowed Cambridge Telephone Co. to provide the communications services at two locations, which were the Cambridge and Medicine Creek substations. Then in October 2013 Twin Valleys PPD filed another application to take over the communications service at the Medicine Creek substation due to the service being available only 82% of the time. That application was designated PRB-3738-M, and was approved. In the above referenced application, PRB-3846-M, Twin Valleys PPD requested to remove the cellular communication system at the Cambridge substation and replace it with its own microwave communications system. The service at the Cambridge substation has had to be rebooted numerous times and the equipment has been replaced by the Cambridge Telephone Company several times.

Pursuant to the requirements in Neb. Rev. Stat. § 70-1021, notice of the application and an opportunity to file an objection or protest was sent via certified mail to all potentially interested regulated telecommunications carriers. The Board sent notice to telecommunications companies registered with the Nebraska Public Service Commission operating in the Twin Valleys PPD's service area or in counties served by Twin Valleys PPD. Notice was sent to the following carriers: CenturyLink QC, headquartered in Minneapolis, Minnesota; Great Plains Communications, headquartered in Blair, Nebraska; Arapahoe Telephone Company, headquartered in Arapahoe, Nebraska; Rural Telephone Services, Co., Inc., headquartered in Lenora, Kansas; Cambridge Telephone Company, headquartered in Cambridge, Nebraska; Glenwood Telephone Membership Corp., headquartered in Blue Hill, Nebraska; Consolidated Telecom, Inc., headquartered in Lincoln, Nebraska; Harman Telephone Exchange d/b/a BW Telecom, headquartered in Benkelman, Nebraska; Curtis Telephone Company, headquartered in Lincoln, Nebraska; and Citizens Telecommunications Co. of Nebraska, headquartered in Mound, Minnesota. The Board did not receive any protests or objections to the application. In order to approve a microwave communication application the Board must follow Neb. Rev. Stat. § 70-1021. The statute has three criteria that need to be met. First, in the judgment of the Board the district is not receiving the required quality of service and will not within a reasonable time receive the required quality of service from the regulated carriers. Second, the regulated carriers would not provide the required quality of service by the same or alternate methods, at the same or lower costs to the district. Third, that such construction would be in the public interest. As required by Neb. Rev. Stat. § 13-807(3), the PRB consulted with the Nebraska Game and Parks Commission to ensure that the

PRB's approval of the application would not harm any threatened or endangered species or their critical habitat. On December 29, 2016, the Commission provided the Board with a letter stating that the proposed facilities and approval would have no effect on any threatened or endangered species or critical habitat. The proposed facility is described as a 900 megahertz band unlicensed microwave communications system. It will operate in the frequency band of 902 to 928 MHz as a point-to-multi point system. At the Board's public meeting on January 27, 2017, the Board voted unanimously to approve application PRB-3846-M.

TRANSMISSION LINE APPLICATIONS REQUIRING BOARD APPROVAL

PRB-3848 City of Fairbury Light & Water Department

On January 13, 2017, the City of Fairbury Light & Water Department filed an application to construct 1.25 mile of 13.2 kV distribution line in Jefferson County. The proposed construction is in the service area of Norris Public Power District. A signed Conditional Consent and Waiver form was filed by Norris PPD consenting to the construction and waiving a hearing. The total cost of the project is estimated to be \$20,000. The Board did not receive any protests or objections. The project would construct a new section of 13.2 kV line to replace an existing section of line that is located one mile to the east along a dirt road. Approximately only three quarters of a mile of the line will be in Norris PPD's service area. The condition on the Consent and Waiver form is that if Norris builds facilities to that area and wants to serve the customers served by the line, Norris can do so if it pays Fairbury the depreciated value of the line. As required by Neb. Rev. Stat. § 37-807(3), the Board consulted with the Nebraska Game and Parks Commission to ensure that the project would not harm any threatened or endangered species or needed habitat. In a letter dated January 25, 2017, the Game and Parks Commission determined the project would have "no effect" on any threatened or endangered species or critical habitat and does not object to approval of the project. At the Board's January 27, 2017, public meeting, the Board voted to approve PRB-3848.

PRB-3849 Lincoln Electric System

On February 17, 2017, LES filed an application to construct approximately 8 miles of 115-kilovolt transmission line south of the City of Lincoln in Lancaster County. The PRB consulted with the Game and Parks Commission (the Commission) as required by Neb. Rev. Stat. §37-807(3). In a letter dated March 15, 2017, the Commission informed the Board that there are no records of threatened or endangered species in the project area. The Commission determined that the project would have "No Effect" on any threatened or endangered species and it did not object to the Board approving the project. The Board also published notice in the Lincoln Journal Star newspaper on March 1. The notice stated that anyone may file an objection or protest to the project prior to the hearing. None were filed. The Board also sent notice to alternate and potentially interested power suppliers in the area. In addition to LES, notice of the hearing was sent to the City of Hickman, the City of Bennet, Nebraska Public Power District, Omaha Public Power District and Norris Public Power District. On March 24, 2017 an evidentiary hearing was held during a recess of the Board's public meeting. At the hearing LES put on evidence regarding the need for the project. The Board voted to approve PRB-3849 during its public meeting on March 24, 2017.

PRB-3856 Nebraska Public Power District

On May 24, 2017, NPPD filed an application to construct 1.07 mile of 69 kilovolt (kV) transmission line, .09 mile of 115 kV transmission line and a 115 kV substation in Rock County, Nebraska. The purpose of the line and substation is to provide increased reliability in the general vicinity of the City of Basset. The construction is located in the service area of KBR Rural Public Power District. KBR Rural PPD filed a Consent and Waiver Form. The Board consulted with the Nebraska Game and Parks Commission as required by Neb. Rev. Stat. section 37-807(3). A letter was received on June 21, 2017 explaining the Commission's findings. The project is in the range of the endangered American Burying Beetle and Whooping Crane, as well as the threatened Northern Long-Eared Bat, Redbelly Dace, Finescale Dace and Small White Lady's Slipper. The Commission believes it is unlikely the species listed inhabit the project area, with exception of American Burying Beetle. NPPD agreed to implement conservation measures to minimize the possibility of harming any American Burying Beetles. The Commission determined that the project "May Affect, but is not likely to adversely affect" any threatened or endangered species, and the Commission did not object to approval of the project. At the Board's June 23, 2017, public meeting, the Board voted to approve PRB-3856.

PRB-3857 Dawson Public Power District

On June 5, 2017, Dawson PPD filed an application to construct .98 mile of 69 kV transmission near the Village of Elm Creek, Buffalo County, Nebraska. An existing line will be rebuilt in the same location, but the new line will be upgraded to 69 kV, but operated at 34.5 kV. The plan is to switch over to 69 kV in the future. The project is located in the service area of the Nebraska Public Power District. NPPD filed a Consent and Waiver Form. The Board consulted with the Nebraska Game and Parks Commission as required by Neb. Rev. Stat. section 37-807(3). A letter was received on June 21, 2017 explaining the Commission's findings. The project is in the range of the endangered Whooping Crane, Interior Least Tern, as well as the threatened Piping Plover and Northern Long-Eared Bat. The Commission determined that the project "May Affect, but is not likely to adversely affect" any threatened or endangered species, and the Commission did not object to approval of the project. At the Board's June 23, 2017, public meeting, the Board voted to approve PRB-3857.

PRB-3862 Loup River Public Power District

On September 19, 2017, the Loup River Public Power District filed an application to construct 1.25 miles of 12.5 kV distribution line in Platte County, Nebraska. The line would serve a dairy facility operated by Larson Farms. The construction is in Cornhusker Public Power District's service area. Cornhusker PPD filed a Consent and Waiver Form waiving a hearing and consenting to approval of the application. The Board consulted with the Nebraska Game and Parks Commission as required by Neb. Rev. Stat. section 37-807(3). The Board received a letter from the Commission on October 2, 2017. The Commission determined there are no threatened or endangered species in the project area, nor critical habitat. The Commission did not object to the Board's approval of this project. At the Board's October 27, 2017, public meeting, the Board voted to approve PRB-3862.

PRB-3868 Midwest Electric Cooperative Corporation

On December 11, 2017, the Midwest Electric Cooperative Corporation filed an application to build 1.5 miles of 12.47 kV distribution line in Lincoln County, Nebraska. The line would serve two center irrigation pivots owned by Marvin Knoll. The construction is in McCook Public Power District's service area. McCook PPD filed a Consent and Waiver Form. Midwest ECC already serves two pivots in McCook PPD's service area near the two involved in this application. The line would extend from an existing line serving the pivots that are already being served by Midwest ECC. The Board consulted with the Nebraska Game and Parks Commission as required by Neb. Rev. Stat. section 37-807(3). The Board received a letter from the Commission on December 7, 2017. The Commission determined there are no threatened or endangered species in the project area, nor critical habitat. The Commission did not object to the Board's approval of this project. At the Board's December 15, 2017, public meeting, the Board voted to approve PRB-3868.

PRB-3873 Butler Public Power District

On March 12, 2018, the Butler Public Power District filed an application to replace one mile of 34.5 kilovolt (kV) line with a new 69 kV line. The existing line has been in place since the 1950's and needed to be replaced. The new 69 kV line would be operated at 34.5 kV voltage. The Omaha Public Power District (OPPD) submitted a letter informing the Board that it did not object to the approval of the project and did not consider itself an alternate power supplier to build the new line. OPPD submitted this letter instead of the Board's Consent and Waiver form because OPPD believed it did not have sufficient information to stipulate that Butler PPD "can most economically and feasibly supply the electric service resulting from the proposed construction." The Board consulted with the Game and Parks Commission as required by Neb. Rev. Stat. section 37-807(3). In a letter dated March 21, 2018, the Commission determined there are no threatened or endangered species in the project area, nor habitat for them. The Commission determined the project would have "no effect" on such species, and did not object to the Board's approval of the project. At the Board's March 23, 2018, public meeting, the Board voted to approve PRB-3873.

PRB-3874 Nebraska Public Power District

On March 12, 2018, the Nebraska Public Power District filed an application to construct a 230 kV substation and two 230 kV tie lines. The purpose of the construction would provide service to the Rattlesnake Creek wind farm in Dixon County, Nebraska. Northeast Nebraska Public Power District filed a Consent and Waiver Form. The application estimated the cost of the project to be \$1,415,000. Due to a misunderstanding this amount did not include the cost of the substation. NPPD submitted a letter with a corrected cost estimate of \$6,250,000 for the project. The customer/developer will be pay the entire construction cost for this project. The Board consulted with the Game and Parks Commission as required by Neb. Rev. Stat. section 37-807(3). In a letter dated March 22, 2018, the Commission determined the project is in the range of the threatened Northern Long-Eared Bat, but there are no records of the bats in the project area, nor is there habitat for them. The Commission determined the project "may affect, but is not likely to adversely affect" any state or federally listed endangered or threatened species. The Commission did not object to the approval of the project. At the Board's March 23, 2018, public meeting, the Board voted to approve PRB-3874.

PRB-3875 through PRB-3883 Highline Electric Association

On March 15, 2018, the Highline Electric Association (Highline) filed applications for authority to continue serving nine customers in Dundy County, Nebraska. The customers are in Southwest Public Power District's retail service area. Highline has been serving these customers since the 1980's with Southwest's knowledge and consent, but evidently Highline never filed an application with the Power Review Board to officially transfer the right to provide service the customers to Highline. Southwest PPD filed a consent and waiver form for each of the nine services. The parties had identified the issue recently and wanted to make the transfers official. At the Board's March 23, 2018, public meeting, the Board voted to approve the applications.

PRB-3886 Elkhorn Rural Public Power District

On March 29, 2018, the Elkhorn Rural Public Power District filed an application to construct 3,100 feet of 34.5 kV three-phase subtransmission line. The purpose of the construction would provide an alternate feed to the City of Madison. Madison filed a Consent and Waiver Form. The application estimated the cost of the project to be \$1,048,644. The Board consulted with the Game and Parks Commission as required by Neb. Rev. Stat. section 37-807(3). In a letter dated June 5, 2018, the Commission determined the project is in the range of the threatened Topeka Shiner and the threatened Northern Long-eared Bat and Western Prairie Fringed Orchid. Since the project was completed already it is unknown if the project affected any endangered or threatened species. The Commission did not object to the approval of the project. At the Board's March 23, 2018, public meeting, the Board voted to approve PRB-3886.

PRB-3896 Loup River Public Power District

On May 7, 2018, the Loup River Public Power District filed an application to construct 2.5 miles of 34.5 kV three-phase transmission line. The purpose of the construction is to replace the overhead line that provides service to the town of Petersburg and the surrounding area. The overhead line would be replaced with underground line due to the amount of wind and ice storms that put the line out of service. Cornhusker Public Power District and Nebraska Public Power District filed a Consent and Waiver Form. The application estimated the cost of the project to be \$350,000. The Board consulted with the Game and Parks Commission as required by Neb. Rev. Stat. section 37-807(3). In a letter dated May 10, 2018, the Commission determined the project is in the range of the endangered Whooping Crane, and threatened Western Prairie Fringed Orchid and Northern Long-eared Bat, but there are no records of the species in the project area, nor is there habitat for them. The Commission determined the project "no effect" any state or federally listed endangered or threatened species. The Commission did not object to the approval of the project. At the Board's May 18, 2018, public meeting, the Board voted to approve PRB-3896.

RETAIL SERVICE AREA

AGREEMENT AMENDMENTS

SAA 7-16-A Nebraska Public Power District Southern Public Power District

On July 29, 2016, the Nebraska Public Power District and Southern Public Power District submitted a joint application to amend their retail service area agreement. The application was designated as SAA 7-16-A. NPPD does not have any facilities in the vicinity of the unincorporated community of Murphy. NPPD agreed to transfer its service area rights to Southern PPD. Southern PPD agreed to accept the territory in and around Murphy into its service area. At the Board's August 26, 2016 public meeting, the Board Voted to approve SAA 7-16-A.

SAA 418-16-A Elkhorn Rural Public Power District Loup River Public Power District

On August 25, 2016, Loup River Public Power District and Elkhorn Rural Public Power District filed a joint application to create a retail service area agreement. This agreement would provide a written agreement specifying the service area boundary. The City of Newman Grove has been served by Loup River PPD since 1977, when Nebraska Public Power District transferred the City to Loup River PPD. At that time, the two utilities did not realize that this required a new agreement to be created. S.A.A. 418 is the next available agreement number to assign. At the Board's September 23, 2016 public meeting, the Board voted to approve SAA 418-16-A.

SAA 66-16-A Village of Bartley Twin Valleys Public Power District

On August 31, 2016, the Village of Bartley and Twin Valleys PPD filed a joint application to amend their retail service area agreement. Bartley annexed territory that is currently part of Twin Valleys PPD's service area. The area is referred to as the "Ag Valley-Smith Property." This amendment transferred the annexed territory from Twin Valleys PPD to Bartley. At the Board's September 23, 2016 public meeting, the Board voted to approve SAA 66-16-A.

SAA 400-16-A City of Neligh Elkhorn Rural Public Power District

On July 13, 2016, the City of Neligh filed an application to amend its service area agreement with Elkhorn Rural Public Power District. Neligh annexed territory and wished to include the territory into its service area. It also requested that the Board determine the total economic impact of the service area transferred. Neligh annexed territory on the northwest edge of the City and on the southeast edge of the City. Since the application was not filed jointly, a Notice of Filing and Hearing Date was sent to Elkhorn RPPD on July 15, 2016. On August 4, 2016, Elkhorn RPPD filed a Protest opposing approval of the application and notifying the Board that the parties had not agreed on the total economic impact of the transfer. On August 15, 2016, The Battle Creek Farmers' Cooperative filed a Petition for Intervention in the proceeding. Neligh opposed the intervention. On September 23, 2016, the Board issued an order granting the intervention. On October 28, 2016, the Board held a hearing on the issue of what the Board's controlling standard of review is in situations where a municipal electric utility annexes territory and files a timely application with the Board to transfer the annexed territory into its retail service area. The Board issued an order establishing Neb. Rev. Stat. section 70-1008 as the standard of review to apply. On January 27, 2017, the Board held a hearing on the total economic impact of the transfer and the level of compensation to be paid by Neligh. The parties agreed on a significant portion of the compensation for the loss of the service area, customers, and facilities in the north and south annexations. This amount was \$490,445.90. The remaining issue was whether Neligh must compensate Elkhorn PPD for two customers located in the north annexation that are currently and for some time have been served by Neligh and whether Neligh must pay a portion of the costs to relocate a substation owned by Elkhorn RPPD located outside the south annexation. On March 24, 2017, the Board issued its order stating that Neligh did not need to compensate for the move of the substation and for the customers that Neligh already was serving, only the \$490,445.90 that was negotiated already needed to be paid. On April 24, 2017, Elkhorn RPPD filed an Appeal to the Board's March 24, 2017 decision. On March 30, 2018, the Supreme Court issued its opinion. The Court reversed and remanded for further proceedings on the issue of the compensation for moving the south substation. The Board is scheduled to hear oral arguments on questions related to the cost of the substation relocation on September 28, 2018.

SAA 419 Twin Valleys Public Power District Southern Public Power District

On January 6, 2017, Twin Valleys PPD and Southern PPD filed a joint application to create a new service area agreement. The next available number was 419. Currently, the two power suppliers have two service area agreements: SAA 256 and SAA 301. There are two agreements because many years ago Franklin Co. PPD merged with Southern PPD. The separate service area agreements were never merged. The new service area agreement does not involve any change in the service area boundary between Southern PPD and Twin Valleys PPD, it would just merge the two agreements to create one agreement, so Southern PPD and Twin Valleys PPD would have one service area agreement delineating their boundary instead of two. At the Board's January 27, 2017 public meeting, the Board voted to approve SAA 66-16-A.

SAA 253-17-A City of South Sioux City Nebraska Public Power District

On February 13, 2017, the City of South Sioux City and the Nebraska Public Power District filed a joint application to amend retail service area agreement 253. The amendment would transfer territory annexed by the City from NPPD to the City. The annexations occurred in 2007 and 2015, so the transfer is beyond the one year time frame in which a municipality can acquire annexed service area as of right. This is a joint application and the parties have worked out the details for the transfer of customers and territory prior to filing the application with the Board. At the Board's March 24, 2017 public meeting, the Board voted to approve SAA 253-17-A.

SAA 318-17-A City of Wahoo Butler Public Power District

On June 22, 2017, the City of Wahoo and the Butler Public Power District filed a joint application to amend retail service area agreement 318. The application requests to transfer territory from Butler PPD to Wahoo. The amendment is not based on an annexation. Exhibit A is a map that shows the territory to be transferred. Due to the fact that the boundary follows a curved path through a couple of sections, the Board's staff had asked for a metes and bounds

description of the boundary location. The parties responded that there is no metes and bounds description of the boundary. The Board members noted that the new boundary follows the new Highway 77 bypass on the Northwest side of Wahoo. The Board members expressed concern about exactly where the boundary is located. The Board also wanted to know if the boundary in sections 32 and 33 west of Wahoo is intended to be the north-south midpoint or half-section line. The Board members asked if the new boundary would be the middle of Highway 77, or on the north or south side of the highway. The Board considered not approving the application until an exact description of the location was provided, but decided instead to take action on the application today, but have the parties provide a written clarification of where the boundary is located. The Board asked the executive director to send a letter with the approval order asking both parties to provide the Board with written clarification stating the parties' intent regarding the location of the boundary line in relation to Highway 77. At the Board's July 28, 2017 public meeting, the Board voted to approve SAA 318-17-A. The General Manager of Wahoo confirmed the boundary location in a letter dated August 10, 2017.

SAA 100-17-A Twin Valleys Public Power District Dawson Public Power District

On January 3, 2018, Twin Valleys Public Power District and Dawson Public Power District filed a joint application to amend retail service area agreement 100. The amendment would transfer territory from Twin Valleys Public Power District to Dawson Public Power District. Twin Valleys PPD would also transfer ownership of approximately two miles of 69 kilovolt subtransmission line located in the area to be transferred. Dawson PPD agreed to upgrade the line, which is in need of new conductors and support structures. The territory to be transferred is Sections 27, 28, 33 and 34 and the east half of sections 29 and 32, Township 7 North, Range 22 West, in Gosper County. This area is located southeast of the Village of Elwood. At the Board's January 26, 2018, public meeting, the Board voted to approve SAA 318-17-A.

SAA 363-18-A City of Hickman Norris Public Power District

On May 8, 2018, the City of Hickman and Norris Public Power District filed a joint application to amend its retail service area agreement. The amendment is based on an annexation. The city annexed a tract of land on the northeast edge of the city. Ordinance 2018-2 authorized the annexation. A map designated as Exhibit A-1 showed the location and the outline of the new territory. The annexation was completed in one ordinance, but the development of the area will be in two stages. At the Board's May 18, 2018, public meeting, the Board voted to approve SAA 363-18-A.

SAA 186-18-A City of Gothenburg Dawson Public Power District

On May 9, 2018, the City of Gothenburg and Dawson Public Power District filed a joint application to amend its retail service area agreement. The City recently annexed a tract of land identified in Exhibit B. Ordinance 964 describes the annexation. Exhibit A describes another tract of land that was annexed and will be transferred, however that annexation occurred in 2004. Dawson PPD agreed to the application. Dawson PPD did not have any infrastructure or customers located in the annexed areas. At the Board's May 18, 2018 public meeting, the Board voted to approve SAA 186-18-A.

SAA 304-18-A Nebraska Public Power District Perennial Public Power District

On May 16, 2018, the Nebraska Public Power District and Perennial Public Power District filed a joint application to amend their retail service area. The utilities are exchanging two tracts of territory around the City of Geneva. There are two exceptions identified that NPPD will continue to serve. One is a billboard and the other is a streetlight. The services are located in the tract of territory NPPD will be transferring to Perennial PPD. Counsel for NPPD stated the transfer was a request by a customer and this is how the two utilities worked the transfer out. At the Board's June 22, 2018 public meeting, the Board voted to approve SAA 304-18-A.

SAA 339-18-A Norris Public Power District Nebraska Public Power District

On May 16, 2018, the Norris Public Power District and Nebraska Public Power District filed a joint application to amend their retail service area agreement. The amendment is the result of Seward Co. PPD merging into Norris PPD in May 2017. This is a clean-up of the service area boundaries. S.A.A. 6 was the agreement between Seward Co. PPD and NPPD. This amendment basically make S.A.A. 6 part of S.A.A. 339. At the Board's June 22, 2018 public meeting, the Board voted to approve SAA 339-18-A and terminate S.A.A. 6.

WHOLESALE

SERVICE AREA AGREEMENT

MODIFICATIONS

The Power Review Board did not receive any applications to amend or create a wholesale service area agreement during this biennial period.

A M E N D M E N T S

ΤO

PUBLIC POWER DISTRICT CHARTERS

Southern Public Power District Charter Amendment 8

On October 25, 2016, the Southern Public Power District filed a Petition for Charter Amendment 8. The amendment would restate the District's chartered territory, as well as numerous administrative clean-up changes such as updating dates and the list of directors. Southern PPD follows county lines for its subdivisions, therefore under Neb. Rev. Stat. section 70-612 the District is exempt from the normal requirement that the population in each subdivision be substantially equal. The changes to the chartered territory are needed to correct errors such as where the chartered territory overlaps that of bordering districts, or territory that is served by the district but is not included in the chartered territory. Notice was published in the *Hastings Tribune* and the *Grand Island Independent* on November 9, 16 and 23, 2016. No protest or objections were filed. At the Board's December 16, 2016, public meeting, the Board voted to waive the hearing and approve Southern Public Power District's Petition for Charter Amendment 8.

Norris Public Power District Charter Amendment 19

Seward Public Power District Dissolution

On January 30, 2017, the Norris Public Power District filed a Petition for Charter Amendment 19. The Petition outlined the details of the Norris PPD's merger with the Seward County Public Power District. On February 23, 2017, the Seward Co. PPD filed a Petition to Dissolve. Notice of Norris PPD's charter amendment was published in the Lincoln Journal Star, the Beatrice Daily Sun, and the Seward County Independent on February 15, February 22, and March 1, 2017. No protests or objections were filed. The Board can waive a hearing on the charter amendment; however, due to the significance of the merger of Seward Co. PPD and Norris PPD, the Board combined the two hearings. On March 24, 2017, the Board held an evidentiary hearing addressing both the Norris PPD's charter amendment and Seward Co. PPDs Petition for Dissolution. Norris PPD and Seward Co. PPD presented evidence during the hearing that it was in the best interests for Seward Co. PPD to merge with and become part of Norris PPD. Seward Co. PPD's chartered territory would become part of Norris PPD's chartered territory and two additional directors would be added to the Norris PPD's board. Norris PPD's charter amendment would incorporate the Seward PPD's chartered territory and include the two directors. The Seward Co. PPD's

dissolution would terminate the existence of Seward Co. PPD as a district, allowing Norris to incorporate all its debts and assets into its business. One issue in this amendment is that absorbing Seward Co. PPD's population creates some disparity in the population of the District's subdivisions. The general rule is if the population difference is within a 10% variance, the presumption is that the district exercised due diligence to perform a reasonable apportionment and the population is substantially equal. Population figures on Exhibit C show one subdivision will be slightly over the 10% variance, while two subdivisions will be slightly under the 10% variance. The subdivisions under 10 % were from Norris PPD's territory. The District acknowledged that there is a slight variance. The population variances will be addressed in the next census. The plan is for the merger and charter amendment to become effective on May 1. At the Board's public meeting on March 24, 2017, the Board approved the dissolution of Seward County Public Power District and the merger with Norris Public Power District to be effective on May 1, 2017.

Perennial Public Power District Charter amendment 5

On June 22, 2017, the Perennial Public Power District's filed a Petition for Charter Amendment 5. The purpose of the amendment is to reduce the number of directors from seven to six. All changes are in Section VI of the charter. Perennial PPD divides its territory into two subdivisions. One subdivision has four directors and the other has two directors. Notice was published in the *York News-Times* and the *Nebraska Signal* on July 5, 12, and 19, 2017. No protests or objections were filed. At the Board's August 25, 2017, public meeting, the Board voted to approve the Perennial Public Power District's Petition for Charter Amendment 5.

COMPLAINTS

C-52 James Bensinger Against City of Lyons, Nebraska

On April 3, 2018, Mr. James Bensinger filed a formal complaint against the City of Lyons. A Notice of Hearing was sent to the City. On April 26, 2018, Mr. Bensinger sent a request to withdraw the complaint, citing "personal reasons" as the basis. Since the request to withdraw was submitted prior to the City's reply deadline, and the Complainant had made the City aware of the request to withdraw, the City did not submit a reply to the Complaint. Under the Board's Rules of Practice and Procedure, Chapter 3, section 14, a party shall not be permitted to withdraw a filed application or pleading without the Board' approval. At the Board's May 18, 2018 public meeting, the Board voted unanimously to approve the withdrawal of the formal complaint.

ROSTER OF POWER SUPPLIERS

OPERATING IN

THE STATE OF NEBRASKA

		Assessment		Assessment
Wholesale Power	Gross Income	Fiscal Year	Gross Income	Fiscal Year
Suppliers	Calendar Year 2016	2017-2018	Calendar Year 2017	2018-2019
Central Nebraska Public Power & Irrigation District	\$22,685,005.00	2,671.89	\$17,092,752.00	2,115.66
*Loup River Public Power District	\$106,143,752.00	12,501.83	\$106,670,767.00	13,203.21
Municipal Energy Agency of Nebraska	\$55,374,260.00	6,522.10	\$54,572,434.00	6,754.72
*Nebraska Public Power District	\$1,152,853,000.00	135,785.45	\$1,100,549,000.00	136,220.86
*Omaha Public Power District	\$1,126,476,000.00	132,678.71	\$1,104,300,315.56	136,685.18
Tri-State G and T Association, Inc.	\$80,723,495.77	9,507.78	\$85,218,498.37	10,547.95

*Indicates power suppliers that sell electricity at both wholesale and retail.

Public Power Districts and Cooperatives					
Burt County Public Power District	\$12,321,956.00	1,451.31	\$12,439,632.00	1,539.72	
Butler Public Power District	\$18,809,465.00	2,215.42	\$19,384,070.00	2,399.27	
Cedar-Knox Public Power District	\$22,191,254.21	2,613.73	\$23,621,531.00	2,923.76	
Cherry-Todd Electric Cooperative, Inc.	\$3,146,300.26	370.58	\$3,528,123.61	436.69	
Chimney Rock Public Power District	\$6,865,438.00	808.63	\$7,146,965.00	884.62	
Cornhusker Public Power District	\$34,568,958.16	4,071.60	\$37,890,997.97	4,689.97	
Cuming County Public Power District	\$9,892,673.76	1,165.18	\$10,071,158.00	1,246.56	
Custer Public Power District	\$27,100,000.00	3,191.90	\$29,736,557.00	3,680.65	

		Assessment		Assessment
Public Power Districts	Gross Income	Fiscal Year	Gross Income	Fiscal Year
and Cooperatives	Calendar Year 2016	2017-2018	Calendar Year 2017	2018-2019
Dawson Public Power District	\$61,094,873.00	7,195.88	\$61,838,532.00	7,654.09
Elkhorn Rural Public Power District	\$28,092,617.72	3,308.81	\$28,827,959.80	3,568.19
High West Energy, Inc.	\$11,434,385.00	1,346.77	\$12,274,594.07	1,519.29
Highline Electric Association	\$9,133,671.38	1,075.78	\$10,435,603.35	1,291.67
Howard Greeley Rural Public Power District	\$13,539,496.00	1,594.71	\$13,334,164.00	1,650.44
Imperial Public Power District	\$2,390,229.00	281.53	\$2,298,495.00	284.50
K.B.R. Rural Public Power District	\$13,261,913.00	1,562.02	\$13,298,356.00	1,646.01
LaCreek Electric Association, Inc.	\$607,254.71	71.52	\$681,017.43	84.29
Loup Valleys Rural Public Power District	\$13,833,887.00	1,629.38	\$14,552,904.80	1,801.29
McCook Public Power District	\$15,619,865.00	1,839.74	\$17,561,141.00	2,173.64
Midwest Electric Cooperative, Inc.	\$28,785,522.15	3,390.42	\$29,482,291.00	3,649.18
Niobrara Electric Association, Inc.	\$1,337,577.00	157.54	\$1,368,745.00	169.42
Niobrara Valley Electric Membership Corporation	\$14,324,923.00	1,687.22	\$14,783,985.00	1,829.89
Norris Public Power District	\$71,614,840.00	8,434.95	\$84,729,825.00	10,487.47
North Central Public Power District	\$14,930,882.81	1,758.59	\$14,905,125.04	1,844.89
Northeast Nebraska Public Power District	\$25,271,342.00	2,976.51	\$26,117,280.00	3,232.68
Northwest Rural Public Power District	\$10,366,263.00	1,220.96	\$10,460,473.18	1,294.75

		Assessment		Assessment
Public Power Districts	Gross Income	Fiscal Year	Gross Income	Fiscal Year
and Cooperatives	Calendar Year 2016	2017-2018	Calendar Year 2017	2018-2019
Panhandle Rural Electric Membership Association	\$13,081,471.00	1,540.76	\$13,180,750.00	1,631.45
Perennial Public Power District	\$27,994,346.00	3,297.23	\$27,104,046.00	3,354.81
Polk County Rural Public Power District	\$13,665,180.00	1,609.51	\$13,172,356.00	1,630.41
Rolling Hills Electric Cooperative, Inc.	\$20,177.65	2.38	\$21,766.07	2.69
Roosevelt Public Power District	\$7,650,033.00	901.04	\$8,011,792.83	991.66
Seward County Public Power District	\$10,734,926.00	1,264.38	\$0.00	0.00
South Central Public Power District	\$18,909,261.00	2,227.17	\$18,503,523.00	2,290.28
Southern Public Power District	\$98,627,191.00	11,616.52	\$96,829,753.00	11,985.14
Southwest Public Power District	\$20,708,834.00	2,439.13	\$21,026,568.95	2,602.57
Stanton County Public Power District	\$11,912,607.87	1,403.09	\$12,805,185.00	1,584.97
Twin Valleys Public Power District	\$16,304,464.00	1,920.37	\$16,325,679.00	2,020.72
Wheatbelt Public Power District	\$17,739,783.00	2,089.43	\$18,787,136.00	2,325.38
Wyrulec Company	\$2,453,966.62	289.03	\$2,724,967.00	337.28
Y-W Electric Association, Inc.	\$660,497.88	77.79	\$711,507.41	88.07

Municipal Power Suppliers - Generation & Distribution	Gross Income Calendar Year 2016	Assessment Fiscal Year 2017-2018	Gross Income Calendar Year 2017	Assessment Fiscal Year 2018-2019
Alliance, City of	\$13,773,423.00	\$1,622.26	\$13,606,453.00	\$1,684.14
Ansley, Village of	\$575,221.29	\$67.75	\$610,667.12	\$75.59
Arnold, Village of	\$857,794.37	\$101.03	\$906,751.31	\$112.23
Auburn, City of	\$6,098,091.44	\$718.25	\$6,130,197.00	\$758.77
Beaver City, City of	\$229,232.68	\$27.00	\$770,073.72	\$95.32
Benkelman, City of	\$1,090,960.87	\$128.50	\$1,555,418.61	\$192.52
Blue Hill, City of	\$722,445.41	\$85.09	\$728,748.77	\$90.20
Broken Bow, City of	\$7,937,136.78	\$934.85	\$8,980,139.97	\$1,111.52
Burwell, City of	\$1,543,978.50	\$181.85	\$1,712,819.55	\$212.00
Callaway, Village of	\$762,300.23	\$89.79	\$852,644.33	\$105.54
Cambridge, City of	\$3,512,853.91	\$413.75	\$3,435,585.52	\$425.24
Campbell, Village of	\$247,478.21	\$29.15	\$245,195.76	\$30.35
Chappell, City of	\$919,437.00	\$108.29	\$897,021.91	\$111.03
Crete, City of	\$9,914,383.00	\$1,167.74	\$11,141,700.00	\$1,379.07
Curtis, City of	\$1,725,268.34	\$203.21	\$1,915,701.00	\$237.12
David City, City of	\$4,841,803.12	\$570.28	\$4,841,222.18	\$599.22
Deshler, City of	\$822,535.00	\$96.88	\$834,559.00	\$103.30
Emerson, City of	\$672,914.69	\$79.26	\$678,481.50	\$83.98
Fairbury, City of	\$8,510,335.30	\$1,002.37	\$6,169,691.49	\$763.66
Falls City, City of	\$4,647,571.40	\$547.40	\$5,146,993.00	\$637.07
Franklin, City of	\$1,289,153.56	\$151.84	\$1,299,061.18	\$160.79
Fremont, City of	\$37,576,075.00	\$4,425.79	\$38,502,414.00	\$4,765.65
Grand Island, City of	\$73,372,727.00	\$8,641.99	\$82,475,712.00	\$10,208.46
Hastings, City of	\$35,932,357.00	\$4,232.19	\$37,217,712.00	\$4,606.64
Holdrege, City of	\$9,784,854.00	\$1,152.48	\$9,443,478.00	\$1,168.87

Municipal Power	Assessment			Assessment	
Suppliers - Generation & Distribution	Gross Income Calendar Year 2016	Fiscal Year 2017-2018	Gross Income Calendar Year 2017	Fiscal Year 2018-2019	
Imperial, City of	\$3,124,857.00	\$368.05	\$3,277,624.00	\$405.69	
Kimball, City of	\$2,970,432.07	\$349.86	\$3,260,211.00	\$403.53	
Laurel, City of	\$1,328,579.02	\$156.48	\$1,234,225.51	\$152.77	
Lincoln, City of	\$308,163,896.00	\$36,296.19	\$314,242,643.00	\$38,895.50	
Lodgepole, Village of	\$299,525.35	\$35.28	\$2,986,303.69	\$369.63	
Lyons, City of	\$845,350.32	\$99.57	\$841,282.63	\$104.13	
Madison, City of	\$5,088,037.76	\$599.28	\$4,690,107.78	\$580.52	
Minden, City of	\$3,297,986.16	\$388.44	\$3,343,758.00	\$413.87	
Mullen, City of	\$566,277.88	\$66.70	\$566,948.19	\$70.17	
Nebraska City, City of	\$15,488,630.84	\$1,824.28	\$15,584,218.58	\$1,928.94	
Neligh, City of	\$1,995,297.66	\$235.01	\$1,812,359.81	\$224.33	
Ord, City of	\$3,498,177.43	\$412.02	\$321,900.81	\$39.84	
Oxford, Village of	\$945,586.52	\$111.37	\$979,387.96	\$121.22	
Pender, Village of	\$1,703,910.07	\$200.69	\$1,696,597.16	\$210.00	
Plainview, City of	\$1,543,270.61	\$181.77	\$1,551,023.76	\$191.98	
Randolph, City of	\$898,621.64	\$105.84	\$898,422.33	\$111.20	
Red Cloud, City of	\$1,450,129.96	\$170.80	\$1,499,711.51	\$185.63	
Sargent, City of	\$640,959.34	\$75.49	\$723,936.16	\$89.61	
Schuyler, City of	\$13,617,928.00	\$1,603.95	\$12,613,000.00	\$1,561.18	
Sidney, City of	\$9,086,443.00	\$1,070.22	\$9,321,968.00	\$1,153.83	
Spalding, Village of	\$703,272.50	\$82.83	\$699,256.05	\$86.55	
Stratton, Village of	\$351,428.47	\$41.39	\$442,744.00	\$54.80	
Stuart, Village of	\$745,031.00	\$87.75	\$825,551.06	\$102.18	
Tecumseh, City of	\$2,853,037.59	\$336.04	\$3,010,581.17	\$372.64	
Trenton, Village of	\$685,030.46	\$80.68	\$576,201.10	\$71.32	

Municipal Power Suppliers - Generation & Distribution	Gross Income Calendar Year 2016	Assessment Fiscal Year 2017-2018	Gross Income Calendar Year 2017	Assessment Fiscal Year 2018-2019
Wahoo, City of	\$5,244,512.94	\$617.71	\$5,861,619.59	\$725.52
Wakefield, City of	\$3,754,079.86	\$442.16	\$4,769,698.53	\$590.37
Wauneta, Village of	\$770,407.23	\$90.74	\$778,528.28	\$96.36
Wayne, City of	\$7,110,983.50	\$837.55	\$7,208,130.25	\$892.19
West Point, City of	\$6,060,346.40	\$713.80	\$6,589,237.14	\$815.59
Wilber, City of	\$1,578,227.38	\$185.89	\$1,575,530.13	\$195.01

Municipal Power Supplier - Distribution Only

Arapahoe, City of	\$1,438,457.46	\$169.42	\$1,418,168.29	\$175.53
Bartley, Village of	\$688,860.56	\$81.14	\$643,184.29	\$79.61
Battle Creek, City of	\$1,029,849.68	\$121.30	\$1,072,312.44	\$132.73
Bayard, City of	\$1,223,324.33	\$144.09	\$1,211,048.65	\$149.90
Beatrice, City of	\$16,058,163.05	\$1,891.36	\$16,398,689.27	\$2,029.75
Bradshaw, Village of	\$295,038.04	\$34.75	\$259,756.30	\$32.15
Brainard, Village of	\$464,357.79	\$54.69	\$429,346.55	\$53.14
Bridgeport, City of	\$2,093,294.09	\$246.55	\$1,852,328.68	\$229.27
Central City, City of	\$3,548,053.85	\$417.90	\$4,314,136.41	\$533.98
Chester, Village of	\$311,793.63	\$36.72	\$289,053.18	\$35.78
Cozad, City of	\$4,747,164.15	\$559.13	\$369,529.79	\$45.74
Davenport, Village of	\$362,644.17	\$42.71	\$369,529.79	\$45.74
Decatur, Village of	\$484,525.85	\$57.07	\$548,502.87	\$67.89
DeWitt, Village of	\$633,791.00	\$74.65	\$497,854.00	\$61.62
Dorchester, Village of	\$689,626.09	\$81.23	\$714,165.99	\$88.40

Municipal Power		Assessment		Assessment
Suppliers - Distribution Only	Gross Income Calendar Year 2016	Fiscal Year 2017-2018	Gross Income Calendar Year 2017	Fiscal Year 2018-2019
Elk Creek, Village of	\$90,211.49	\$10.63	\$94,030.49	\$11.64
Endicott, Village of	\$100,723.28	\$11.86	\$94,433.99	\$11.69
Fairmont, Village of	\$527,719.00	\$62.16	\$515,957.47	\$63.86
Friend, City of	\$1,231,703.01	\$145.07	\$1,200,628.21	\$148.61
Gering, City of	\$9,588,464.17	\$1,129.35	\$9,559,245.12	\$1,183.20
Gilead, Village of	\$36,898.54	\$4.35	\$39,379.83	\$4.87
Giltner, Village of	\$358,248.00	\$42.20	\$339,970.84	\$42.08
Gothenburg, City of	\$4,867,953.08	\$573.36	\$4,955,375.21	\$613.35
Grant, City of	\$2,003,013.79	\$235.92	\$3,034,367.36	\$375.58
Greenwood, Village of	\$538,310.08	\$63.40	\$477,925.91	\$59.16
Hampton, Village of	\$493,241.64	\$58.10	\$515,100.64	\$63.76
Hebron, City of	\$2,128,264.26	\$250.67	\$1,774,284.88	\$219.61
Hemingford, Village of	\$918,915.16	\$108.23	\$1,031,849.02	\$127.72
Hickman, City of	\$1,287,598.26	\$151.66	\$1,328,511.29	\$164.44
Hildreth, Village of	\$329,687.91	\$38.83	\$306,292.47	\$37.91
Holbrook, Village of	\$239,702.91	\$28.23	\$271,403.58	\$33.59
Hubbell, Village of	\$122,131.35	\$14.38	\$103,813.39	\$12.85
Indianola, City of	\$536,033.22	\$63.14	\$547,516.20	\$67.77
Leigh, Village of	\$643,688.81	\$75.82	\$662,935.73	\$82.06
Lexington, City of	\$16,858,810.15	\$1,985.67	\$17,150,984.18	\$2,122.87
Lyman, Village of	\$633,640.04	\$74.63	\$670,436.04	\$82.98
Mitchell, City of	\$1,669,425.69	\$196.63	\$1,449,936.66	\$179.47
Morrill, Village of	\$1,925,632.90	\$226.81	\$2,025,305.39	\$250.68
Nelson, City of	\$501,994.00	\$59.13	\$482,468.13	\$59.72

Municipal Power		Assessment		Assessment
Suppliers - Distribution Only	Gross Income Calendar Year 2016	Fiscal Year 2017-2018	Gross Income Calendar Year 2017	Fiscal Year 2018-2019
North Platte, City of	\$28,038,224.62	\$3,302.40	\$37,946,009.93	\$4,696.78
Pierce, City of	\$2,043,319.45	\$240.67	\$2,083,597.64	\$257.90
Polk , Village of	\$428,000.27	\$50.41	\$415,735.10	\$51.46
Prague, Village of	\$299,033.22	\$35.22	\$291,881.83	\$36.13
Reynolds, Village of	\$155,026.99	\$18.26	\$95,154.13	\$11.78
St. Paul, City of	\$2,489,006.00	\$293.16	\$2,582,000.00	\$319.59
Scribner, City of	\$1,073,288.00	\$126.41	\$1,105,382.70	\$136.82
Seward, City of	\$9,499,034.56	\$1,118.82	\$9,436,017.76	\$1,167.95
Shickley, Village of	\$393,807.96	\$46.38	\$386,779.83	\$47.87
Snyder, Village of	\$729,806.54	\$85.96	\$741,424.00	\$91.77
South Sioux City, City of	\$21,230,600.00	\$2,500.58	\$21,089,528.00	\$2,610.36
Spencer, Village of	\$635,841.00	\$74.89	\$647,046.00	\$80.09
Stromsburg, City of	\$1,633,107.92	\$192.35	\$992,703.46	\$122.87
Superior, City of	\$2,728,680.33	\$321.39	\$2,790,067.89	\$345.34
Sutton, City of	\$1,720,215.15	\$202.61	\$1,673,711.00	\$207.16
Syracuse, City of	\$1,893,091.34	\$222.97	\$1,945,038.67	\$240.75
Talmage, Village of	\$216,404.92	\$25.49	\$215,969.57	\$26.73
Valentine, City of	\$4,284,436.33	\$504.63	\$4,635,262.37	\$573.73
Walthill, Village of	\$508,178.93	\$59.85	\$575,727.59	\$71.26
Weston, Village of	\$224,427.44	\$26.43	\$223,288.15	\$27.64
Wilcox, Village of	\$494,312.81	\$58.22	\$495,883.16	\$61.38
Winside, Village of	\$251,151.63	\$29.58	\$314,723.72	\$38.96
Wisner, City of	\$1,633,107.92	\$192.35	\$1,481,098.25	\$183.32
Wood River, City of	\$1,371,048.58	\$161.48	\$1,453,194.07	\$179.87
Wymore, City of	\$1,152,548.98	\$135.75	\$1,156,094.38	\$143.10

POWER SUPPLIERS BY CATEGORY

	Fiscal Year <u>2015-2016</u>			Fiscal Year <u>2016-2017</u>		
Supplier	Number of Suppliers	C	Gross Income alendar Year 2014	Number of Suppliers	Ca	Gross Income Ilendar Year 2015
Wholesale	5	\$	2,425,044,396.36	5	\$	2,586,301,662.98
Generation and Transmission Associations	1	\$	71,449,265.49	1	\$	68,927,476.06
Public Power Districts and Cooperatives	39	\$	701,080,030.58	39	\$	703,660,739.24
Municipal-Generation and Distribution	56	\$	611,937,340.76	56	\$	597,903,998.75
Municipal-Distribution Only	65	\$	163,075,979.24	65	\$	162,984,766.55
INDUSTRY TOTAL	166	\$	3,972,587,012.43	166	\$	4,119,778,643.58

	Fiscal Year <u>2017-2018</u>			Fiscal Year <u>2018-2019</u>		
Supplier	Number of Suppliers	C	Gross Income alendar Year 2016	Number of Suppliers	Ca	Gross Income alendar Year 2017
Wholesale	5	\$	2,463,532,017.00	5	\$	2,383,185,268.56
Generation and Transmission Associations	1	\$	80,723,495.77	1	\$	85,218,498.37
Public Power Districts and Cooperatives	39	\$	730,998,326.18	38	\$	749,974,556.51
Municipal-Generation and Distribution	56	\$	633,770,585.06	56	\$	654,082,476.10
Municipal-Distribution Only	65		\$166,297,578.57	65		\$167,114,997.27
INDUSTRY TOTAL	166	\$	4,075,322,002.58	165	\$	4,039,575,796.81

LOAD AND CAPABILITY REPORT

PREPARED BY

NEBRASKA POWER ASSOCIATION



2018 NEBRASKA POWER ASSOCIATION LOAD AND CAPABILITY REPORT

August 2018

2018 Nebraska Power Association Load and Capability Report

Executive Summary

In summary, based on existing and committed resources, the statewide deficit occurs after 2037 for the Minimum Obligation as shown in Exhibit 1. The "Minimum Obligation" line is the statewide obligation based on the 50/50 forecast (normal weather) and the minimum 12% reserve margin of the Southwest Power Pool (SPP) Reserve Sharing Pool. The statewide deficit for the Minimum Obligation in the 2017 report showed a State deficit occurring after 2036. Exhibit 2 is the corresponding load and capability data in tabular format.

Introduction

This report is the Nebraska Power Association (NPA) annual load and capability report, as per Item 3 in the statute below. It provides the sum of Nebraska's utilities peak demand forecasts and resources over a 20-year period (2018-2037).

State Statute (70-1025) Requirement

70-1025. Power supply plan; contents; filing; annual report.(1) The representative organization shall file with the board a coordinated long-range power supply plan containing the following information:(a) The identification of all electric generation plants operating or authorized for construction within the state that have a rated capacity of at least twenty-five thousand kilowatts;(b) The identification of all transmission lines located or authorized for construction within the state that have a rated capacity of at least two hundred thirty kilovolts; and(c) The identification of all additional planned electric generation and transmission requirements needed to serve estimated power supply demands within the state for a period of twenty years.(2) Beginning in 1986, the representative organization shall file with the board the coordinated long-range power supply plan specified in subsection (1) of this section, and the board shall determine the date on which such report is to be filed, except that such report shall not be required to be filed more often than biennially.(3) An annual load and capability report shall be filed with the board by the representative organization. The report shall include statewide utility load forecasts and the resources available to satisfy the loads over a twenty-year period. The annual load and capability report shall be filed on dates specified by the board. Source Laws 1981, LB 302, § 3; Laws 1986, LB 948, § 1.

Demand and Capacity Expectations

Peak Demand Forecast

The current combined statewide forecast of non-coincident peak demand is derived by summing the demand forecasts for each individual utility. Each utility supplied a peak demand forecast and a load and capability table based on the loads having a 50/50 probability of being higher or lower. Over the twenty-year period of 2018 through 2037, the average annual compounded peak demand growth rate for the State is projected at 0.40% per year (individual utility ranges)

from -0.1%/yr. to 1.7%/yr.). This is the same escalation rate that was shown in last year's report for 2017 through 2036.

Planning Reserve Margin Requirement/Reserve Sharing Pool

In addition to the load requirements of the State's customers, the state utilities must also maintain reserves above their peak demand forecast ("Minimum Obligation"). This is a reserve requirement of the SPP Reserve Sharing Pool. All SPP Reserve Sharing members must maintain the specified reserve requirement in order to assist each other in the case of emergencies such as unit outages. The reserve requirement of the pool is reduced by having a reserve sharing pool, instead of individual utilities carrying the entirety of their own reserves to protect them from the loss of their largest unit on their system. The 2018 NPA L&C Report utilizes the SPP planning reserve margin of 12% for the 20 year period.

The capacity required to meet the SPP planning reserve margin is a significant resource capability over and above the Nebraska load requirement. This amount of capacity equates to 711 MW in 2018 and 775 MW by 2037.

Resources

Existing/Committed

The State has an "Existing" in-service summer accreditable generating resource capability of 7,535 MW. This is up from 7,425 MW shown in the previous report. The additions are mostly accredited new wind in Grande Prairie of 60.8 MW, a number of plant uprate changes, along with retiring Grand Island's Burdick #3.

There are 240 MW of "Committed" nameplate resources included in this report (the projects have Nebraska Power Review Board approval if required – PURPA qualifying projects do not need NPRB approval). This consists of 30 MW coming from the Kimball Wind Farm in 2018 along with 50 MW from Grand Island's Prairie Hills Wind Farm in 2020 and 160 MW from OPPD's Sholes Wind Farm also in 2019. There is also a committed 318 MW Rattlesnake Creek project and it has been publicly announced that 210 MW of this project will be purchased by Facebook and Adobe Systems when it becomes commercial in 2019. Facebook is procuring energy from Rattlesnake Creek for their data facility in Sarpy County. By 2029 Facebook will be utilizing the entire output of the project. Also, OPPD has announced plans for a 5 MW behind the meter community solar project to be operational in 2019.

<u>Planned</u>

"Planned" resources are units that utilities have authorized expenditures for engineering analysis, an architect/engineer, or permitting, but do not have NPRB approval-if that approval is required. There are currently no planned resources scheduled.

<u>Studied</u>

Resources identified as "Studied" for this report provide a perspective of future resource requirements beyond existing, committed and planned resources. For any future years when existing, committed, and planned resources would not meet a utility's Minimum Obligation, each utility establishes studied resources in a quantity to meet this deficit gap. These Studied resources are identified based on renewable, base load, intermediate, and peaking resources considering current and future needs. The result is a listing of the preferable mix of renewable, base load, intermediate and peaking resources for each year. The summation of studied resources will provide the basis for the NPRB and the state utilities to understand the forecasted future need by year and by resource type. This can be used as a joint planning document and a tool for coordinated, long-range power supply planning.

There are 651 MW of "Studied" resources that include 266 MW of nameplate renewable (wind) resources, 25 MW of base load capacity, 50 MW of intermediate capacity, and 310 MW of peaking capacity by 2037.

Committed/Planned/Studied Exhibits

Exhibit 3 shows the statewide load and capability chart considering 7,535 MW of Existing, 450 MW of Committed (nameplate), 0 MW Planned, and 651 MW of Studied resources. Some existing wind renewables are currently shown at "zero" accredited capability due to the small accreditation values allowable under SPP's Criteria (explained in next section). Exhibit 4 is the corresponding load and capability table. As intended, these exhibits show how the Minimum Obligation can be met with the addition of the studied resources.

The Committed, Planned, and Studied accredited capability resources are summarized in Exhibit 5. Exhibit 6 summarizes the Existing, Committed, Planned, and Studied renewable resources.

Non-Carbon, Renewable and Demand Side Resources

The State has 1,656 MW of commercially operating renewable nameplate resources for the peak of 2018 of which 46 MW are behind the utility meter (not net metered) as shown in Exhibit 6. Another 2 MW of committed behind the meter renewable resources could be commercial by the end of 2018 along with 30 MW of utility scale wind scheduled to be commercial in the second half of 2018. These amounts do not include any wind which may be installed by developers in Nebraska for export to load outside the state. Wind with its intermittency is relied upon by Nebraska utilities for only a small percentage of its full nameplate rating to meet peak load conditions. Correspondingly, for wind and solar the SPP has criteria to determine this specific accreditable capacity percentage. The criteria are based on actual performance of solar and wind facilities and how successfully they produce energy during actual utility peak load hours. The rating as determined by following the criteria's methodology is used as the SPP accredited rating for the facility. The accredited rating based on actual performance requires a minimum of 3 year's

history. SPP criteria allows for a 5% accreditation rating for new wind installations with less than 3 years history and 10% for solar. Even with low accredited capacity ratings, in the case of wind, wind and solar generation resources are desirable for being emission-free and having a zero fuel cost. Nebraska utilities are adding renewables to take advantage of these attributes.

Demand side resources are loads that can be reduced, shifted, turned-off or taken off the grid with the goal of lowering the overall load utilities have to serve. Ideally this load is best reduced to correspond to utilities' peak load hours. The advantage for utilities is the demand reduction will reduce the need for adding accredited generation in current or future years.

Exhibit 6.1 shows the Statewide Renewable Generation by Nameplate. Exhibit 7.1 shows the Statewide Renewable and Greenhouse Gas Mitigating Resources.

Included below are summaries of the utilities in regards to their renewable and/or sustainable goals and demand side programs.

<u>NPPD</u>

NPPD's Board of Directors has set a goal of 10% new renewable energy by 2020. With the inclusion of NPPD's Wholesale Customers and Retail Qualifying Local Generation (QLG), it is expected that NPPD will reach approximately 11% new renewables by 2020.

NPPD's Demand Side Management program consists of Demand Response and Energy Efficiency. NPPD presently has a successful demand response program, called the Demand Waiver Program, to reduce summer billable peaks. The majority of savings in this program are due to irrigation load control by various wholesale customers, which accounted for approximately 641 MW of demand reduction from NPPD's billable peak during the summer of 2017. Another 68 MW of demand reduction was realized from other sources.

NPPD has recently implemented a new interruptible rate, Special Power Product #8, allowing qualified large end-use customers (served by wholesale or retail) to curtail demand during NPPD specified periods.

In 2008, NPPD developed and implemented a series of energy efficiency and demand-side management initiatives under the EnergyWiseSM name. Annually, these programs have sought to achieve a first year savings of more than 12,000 MWh and demand reductions greater than 2 MW. Accumulated first year energy savings through 2016 are 248,500 MWh and demand reductions are 42 MW.

In addition to the renewables discussed above, NPPD owns or has agreements with these non-carbon resources:

- 555 MW of hydroelectric generation, including the Western Area Power Administration agreement.
- 770 MW of nuclear power at Cooper Nuclear Station. The output was increased by approximately 5 MW with the replacement of the high pressure turbine to a more efficient model.
- Monolith Materials has broken ground on Phase 1 of its Olive Creek Facility by Sheldon Station. This facility will produce carbon black. NPPD plans to convert the Unit 2 boiler to burn hydrogen rich tail gas after Monolith completes Phase 2 of its facility. The Monolith Materials load and the Unit 2 conversion will be included in the reporting after successful completion of Phase 1.

For 2017, non-carbon generation resources were approximately 65% of NPPD's Native Load Energy Sales from the resources discussed above. Most of the non-carbon generation is due to nuclear.

<u>OPPD</u>

OPPD values a diverse fuel mix for generating electricity as a means of promoting reliability and affordability of its product. OPPD recognizes renewables offer an option to maintain or expand its fuel diversity, help address environmental issues and meet customers' desire for sustainable energy.

At the close of 2017 OPPD met 33.5% of retail customer electrical energy requirements with wind energy, energy from landfill gas and hydro energy. OPPD's renewable portfolio at 2017 year-end consisted of 811.7 MW of wind by nameplate, 6.3 MW of landfill gas generation as well as purchased hydro power.

The Sholes wind facility located in Wayne County, Nebraska has an anticipated commercial operation date of July 2019. OPPD will be taking the full amount of energy from Sholes. With 971.7 MW of wind in OPPD's portfolio, OPPD will be utilizing renewable energy at levels to continue meeting OPPD's environmental stewardship strategic directive on renewable contributions towards retail sales.

OPPD's demand side resource programs can achieve over 100 MW of peak load reduction ability as of the summer of 2018. Existing programs consist of a customer air conditioner management program, thermostat control, lighting incentive programs, and various innovative energy efficiency projects. Additionally, OPPD can reduce its demand with assistance from a number of large customers who utilize OPPD's curtailable rate options. During summer peak days, any demand reductions from these customers are coordinated with OPPD in advance of the peak afternoon hours.

Demand side resource programs have enjoyed the support of OPPD stakeholders. OPPD will continue to grow its demand side programs in the next 10 years. Benefits of this increase in demand side programs include helping OPPD to maintain its SPP reserve requirements. To grow its demand side resource portfolio, OPPD will increase existing programs and promote additional program types. OPPD will build its demand side resource portfolio in manners which are cost effective and take into account customer expectations.

OPPD makes available a net-metering rate to all consumers that have a qualified generator. The qualified generator must be interconnected behind the consumer's service meter located on their premises and may consist of one or more sources as long as the aggregate nameplate capacity of all generators is 25 kW or less. The qualified generator must use as its energy source methane, wind, solar, biomass, hydropower or geothermal.

<u>MEAN</u>

As a member driven and member owned utility, MEAN procures renewable energy assets at the behest of its owners. MEAN annually surveys its owners to determine individual goals for renewable energy requirements. Should there be significant changes in demand for renewable energy, MEAN would ask the Board to approve new renewable purchases. Currently, MEAN has enough renewable generation to satisfy owner demand, with additional energy to satisfy any future demand in the nearer term. As such, MEAN has exceeded self-established goals for renewable energy, where individual municipal utilities have renewable goals that can range from 0% to 100% of energy requirements. In serving the needs of its customers, MEAN's current resource portfolio includes 10% renewables and 32% WAPA hydro allocations.

In 2018, MEAN anticipates a further increase in its renewable energy portfolio. While MEAN's 10.5 MW wind project near Kimball, NE was decommissioned in 2017, a new 30 MW wind farm is currently being constructed at the same Kimball site. MEAN has entered into a PPA to purchase the entirety of the energy generation of the wind farm. The new wind farm was originally scheduled for commercial operation at the end of 2017, but will now come online in the second half of 2018.

MEAN is currently looking into community solar garden type installations to satisfy community demands for localized green initiatives. MEAN is currently in the process of talking with interested communities and is also initiating a project to consider and analyze feasible solar projects, including both utility owned or community owned.

MEAN recently established a committee to focus on the integration of renewable resources within member communities. The increasing presence of renewable distributed generation offers unique opportunities that can benefit both MEAN and local residents. In 2017, MEAN revised its Renewable Distributed Generation policy. The new policy limitations increased the size of allowable community owned and locally-sited renewable energy resources.

MEAN submitted its five-year Integrated Resource Plan (IRP) to WAPA in October 2017. The results of the IRP analysis and modeling favored a plan that would meet

future MEAN capacity and energy needs by incorporating additional renewable resources into the portfolio. Renewable resource portfolios offered comparatively low costs in several scenarios as well as the potential to create local benefits for MEAN communities.

MEAN has utilized a variety of demand side management tools to help reduce load and energy requirements. MEAN presently administers an ENERGYsmart commercial LED lighting program, which includes cash incentives paid directly to commercial customers to help cover the cost of lighting upgrades and replacements. This program is available to commercial businesses of MEAN longterm power participants. Incentives are allocated in the order that applications are received and approved and will be continued until the annual limit of \$75,000 is exhausted. MEAN continues to look for new ways to incent energy efficiency for its member communities to help reduce power obligations from MEAN.

<u>LES</u>

The LES Administrative Board adopted a five-year sustainability target in late 2011, seeking to meet LES' projected demand growth with renewable generation and demand-side management programs. The five-year projected demand growth is derived from LES' annual long-range load forecasts.

Based on the 2017 forecast, the projected total demand growth through 2022 is 36 MW. LES has 102 MW of sustainable generation and demand reduction resources planned through the end of the current five-year target period. Future projects primarily consist of anticipated increases in the accredited capacity ratings of new wind facilities and the continuation of LES' demand-side management portfolio; the Sustainable Energy Program (SEP).

The SEP, originally started in 2009, was extended under an action item from LES' 2017 Integrated Resource Plan. Other decisions from the IRP included execution of a new 30-year agreement to continue LES' hydroelectric contract with the Western Area Power Administration, as well as the launch of a new summer demand response program in 2018. The demand response program will use residential customers' own smart thermostats to pre-cool spaces prior to the initiation of an LES controlled event, allowing for a reduction in peak demand while still maintaining residential comfort.

LES has two programs that support customers wishing to pursue their own renewable generation. Under LES' net-metering rate rider, customers can install a 25-kW or smaller renewable generator to serve their homes or small businesses. LES also has a renewable generation rate for customers interested in generating and selling all output to the utility rather than serving a home or small business. Systems greater than 25 kW up to 100 kW will qualify for this rate. In addition, customers under each rate will also receive a one-time capacity payment based on the value of the avoided generating capacity on system peak.

The energy payment amount for new installations is based on LES' existing retail rates and is scheduled to be reduced as predetermined, total service area renewable-installation thresholds are met over time. In early 2017, LES reached this first milestone, with applications exceeding 1 MW.

In August 2014, LES launched the SunShares program, allowing customers to voluntarily support a local community solar project through their monthly bill. This program led to LES contracting for a local, approximately 5-MWDC/4-MWAC solar facility, which began commercial operation in June 2016. The facility represents the first utility-scale solar project in Nebraska, and is one of the largest projects in the region. A dedication of the facility was held in September 2016 with site tours for LES customers and employees.

In conjunction with the dedication, LES formally announced a new virtual net metering program. As part of this program, in exchange for a one-time, upfront enrollment fee, customers receive a credit on their monthly bill based on their level of enrollment and the actual output of the facility. Enrollment began in December 2016, with the first credits appearing on bills in January 2017. The program will run for nearly 20 years, coinciding with the life of the solar project contract.

The new solar facility further enhances LES' already diverse and balanced portfolio. On a nameplate basis, approximately one-third of LES' resources are fueled by coal, one-third fueled from natural gas, and one-third are renewables (primarily wind and hydro). LES believes this diversity and balance in its resource portfolio are beneficial as they may provide a hedge against future environmental regulations and volatility in fuel prices. In 2018, energy production from renewable sources is expected to be equivalent to 47 percent of LES' retail sales.

Hastings Utilities

Hastings Utilities has no formal renewable energy goals but will monitor the economics and interest of renewable energy. Hastings Utilities will work with customers who are interested in pursuing renewable energy to find mutual benefit for a successful project. Hastings Utilities worked with our customer, Central Community College, to implement a 1.7 MW wind turbine on the Hastings CCC campus.

City of Grand Island Utilities

Grand Island does not have any formal renewable/sustainable goals. The Grand Island City Council has directed the Utilities Department to explore opportunities as they develop. Last year, Grand Island Utilities signed a Power Purchase Agreement with Sempra for the full output (50 MW) of Prairie Hills Wind Farm in Custer County, NE. This wind farm is currently expected to be online by the end of 2020.

Grand Island Utilities approved its first small scale residential solar installation in 2015. Changes were made to City Code to accommodate demand side resources with an expectation that more resources will follow. Since then, several more small scale residential solar generators have been installed.

Grand Island Utilities signed a Power Purchase Agreement for a 1 MW behind the meter solar installation with Sol Systems to be completed by the end of 2018.

City of Fremont Utilities

In the fall of 2016, Fremont signed a Purchase Power Agreement with NextEra for 40.89 MW of wind energy from the Cottonwood Wind Farm in Webster County, NE. Fremont is offering residents two options on a solar project. Electric customers can either purchase their own solar panels or purchase solar shares from Fremont's first Community Solar Farm of approximately 1 MW in size. A second phase will be ~1 MW and completed in October 2018. Electric customers will once again be allowed to own the solar panels or purchase shares.

Distributed Generation

Distributed generation is providing wholesale and retail power suppliers numerous new opportunities to interface with customers. Power purchase agreements with smaller wind developers are available to retail power suppliers in the magnitude of 1.5 to 10 MW. This is occurring due to agreements between the wholesale power suppliers and the retail power suppliers. These agreements allow for a portion of the retail power supplier's energy requirements to come from private renewable energy developers that are located behind the wholesale power supplier's meter.

Next, with the decline in the cost of solar installations, the continuation of tax benefits and net metering rates, retail customers are installing small scale solar arrays. As these installations prove more cost effective and with the development of small energy storage more of these installations are being constructed. These installations are being installed in both rural and residential applications. Also, larger solar array installations that are not eligible for net metering rates are being considered and installed. Many of these arrays are community solar projects. Lincoln Electric System contracted with a developer to install a 5 MW DC (4 MW AC) array where individuals can purchase shares. NPPD has retail communities interested in developing community solar array installations in sizes from just less than 100 kW to 5.7 MW AC. OPPD has announced plans for a community solar facility sized at 5 MW which will become operational by June 30, 2019. Therefore, more private involvement with local utilities is providing additional opportunities to increase the utilization of renewable energy.

Exhibit 6 lists all of the Nebraska renewable resources, with two columns identifying whether the resource is "Behind the Meter – Utility" or "Behind the Meter – Non Utility". Behind the Meter – Utility resources are those who have a signed Power Purchase

contract or are owned by the utility. Exhibit 6A shows just Behind the Meter renewable resources, again classified between utility and non-utility.

Resource Life Considerations

The Nuclear Regulatory Commission (NRC) determined in August 2014 that a new rule making was not required and confirmed that existing license renewals, where granted, provided a robust framework for second license renewals beyond the initial 20-year renewal term. In addition, no changes are needed to environmental regulations to allow for future license renewal activities.

Cooper Nuclear Station's (CNS) operating license is set to expire January 18, 2034. Although NPPD has not fully studied a second operating license renewal, for purposes of this report, it is assumed CNS will continue to operate through 2037.

NPPD's listed North Platte and Columbus hydro facilities operate under a Federal Energy Regulatory Commission license. The North Platte facility is presently operating under a 40 year license, with the license requiring renewal in 2038. The Columbus Hydro facility received a new 30 year operating license, with the license requiring renewal in 2047. Given the focus on carbon free generation resources NPPD and Loup are assuming these facilities will continue to be maintained and licensed and will remain an essential part of NPPD's generation mix for an extended period of time.

The wind farms included in this report are shown at the life listed in the various power purchase agreements (PPA), usually 20 or 25 years. Most agreements have an option for life extension. Utilities will decide whether to exercise those options when the PPAs near their end. In order for those utilities to maintain their renewable goals these utilities will have to either exercise those options or develop other renewable resources.

Nebraska's existing generator capability resources are listed by unit in Exhibit 7. Nebraska has 7,535 MW of existing resources. 1130 MW or 15% of that total are greater than 50 years old today. Another 1,395 MW or 18% are 41 to 50 years old today. Most of these units have no planned retirement date. By 2037 approximately 2526 MW will reach 60 years of age in this 20 year study.

Although Nebraska has sufficient generating resources until beyond 2037 as shown in Exhibits 1 & 2, utilities may face increased environmental restrictions that could require the retirement of older fossil units. This could advance the statewide need date several years earlier.

For illustration purposes only, if a 60 year in-service life for fossil units is arbitrarily chosen the state would show a deficit in 2023, while a 70 year life of plant would show a state deficit in 2031. This example is considered overly conservative since fossil units are

capable of operating for more than 60 - 70 years. Each utility will make their own determination on the life of their generating plants taking into account many factors, including economic. At this time, there are no plans to retire these older units unless stated in the report.



								EXHIB	ыт 2											
								ASKA S	TATE											
						Summer	Conditi	Generat ons (Jui	ing Cap ne 1 to (Septem	n Megav ber 30)	vatts								
Year	2018	2019	2020	2021	2022	2023	2024 2	2025 2	026 2	027 2	028 2	029 2	030 2	331 20	32 20	33 20	34 20	335 21)36 2(37
1 Annual System Demand	6,998	7,028	7,123	7,176	7,205	7,217	7,232	7,260 7	7,283 7	,305 7	,322 7	,354 7	,375 7	,404 7,	426 7,	465 7	,495 7,	534 7	,565 7	593 0.4%
2 Firm Power Purchases - Total	1,217	1,206	1,188	1,196	1,193	1,187	1,189	1,191 1	1,193 1	1,195 1	,197 1	,199 1	,201 1	,203 1,	205 1,	207 1	,209 1,	210 1	,212 1	214
3 Firm Power Sales - Total	148	152	110	95	17	17	. 27	77	17	17	1	17	78	78	78	78	78	78	78	78
4 Annual Net Peak Demand (1-2+3)	5,928	5,974	6,045	6,076	6,089	6,107	6,120 (5,146 6	3,167 6	3,187 6	,202 6	,232 6	,251 6	,279 6,	299 6,	336 6	,364 6,	401 6	,430 6	456
5 Net Generating Cap- ability (owned)	7,535	7,538	7,589	7,588	7,614	7,614	7,292	7,292 7	7,291 7	7,290 7	,290 7	,290 7	,286 7	,286 7,	275 7,	266 7	,260 7,	,260 7	,260 7	245
6 Firm Capacity Purchases -Total	884	888	897	925	899	913	950	840	844	844	850	848	843	844	849	850	845	851	852	853
7 Firm Capacity Sales -Total	850	832	874	918	914	907	850	739	739	738	738	738	733	733	732	732	726	726	726	725
8 Adjusted Net Capability (5+6-7)	7,569	7,594	7,612	7,594	7,599	7,619	7,391	7,392 7	7,396 7	7,396 7	,402 7	,400 7	,396 7	,397 7,	392 7,	384 7	,379 7,	,385 7	,386 7	372
9 Net Reserve Capacity Obligation (4 x 0.12)	711	717	725	729	731	733	734	738	740	742	744	748	750	753	756	760	764	768	772	775
10 Total Firm Capacity Obligation (4+9)	6,639	6,691	6,770	6,805	6,820	6,840	6,854 (5,884 6	3,907 6	3,929 6	,946 6	,980 7	,001 7	,032 7,	055 7,	2 960	,128 7,	,169 7	,202 7	231
11 Surplus or Deficit (-) Capacity @ Minimum Obligation (8-10)	930	903	842	789	627	779	537	508	489	467	456	420	395	365	337	288	251	216	184	141
12 Nebraska Reserve Margin ((8- 4)/4)	27.7%	27.1%	25.9%	25.0%	24.8%	24.8%	20.8% 2	0.3% 15	9.9% 19	9.5% 19	9.3% 18	3.7% 18	3.3% 17	.8% 17	.4% 16	.5% 15	.9% 15	.4% 12	1.9% 12	.2%
13 Nebraska Capacity Margin ((8- 4)/8)	21.7%	21.3%	20.6%	20.0%	19.9%	19.8% 1	17.2% 1	6.9% 1(6.6% 10	6.3% 16	3.2% 15	5.8% 1!	5.5% 15	6.1% 14	.8% 14	.2% 13	.8% 13	1.3% 12	.9% 12	.4%
Committed Resources (MW) (8+2- 3)	8,638	8,649	8,690	8,695	8,715	8,729	8,504	3,506 8	3,512 8	3,514 8	,523 8	,523 8	,519 8	,522 8,	519 8,	513 8	509 8,	517 8	,520 8	509
Minimum Obligation (MW) (1+9)	7,709	7,745	7,849	7,905	7,936	7,950	7,967	7,998 8	3,023 8	3,048 8	,066 8	,102 8	,125 8	,158 8,	182 8,	225 8	,258 8,	302 8	,336 8	367



				111		N o	EBRAS	XHIBIT KA ST,	- 4 ATEWII	DE										
			5	ommitte	ed, Plan	Ined &	Studie	<u>d</u> Load & s (June	& Genera 1 to Sep	ting Cap tember 3	ability ii <u>30)</u>	n Megaw	atts							
Year	2018	2019	2020	2021	2022	2023	2024 -	2025	2026	2027	2028	2029	2030	2031 2	032 2	333 20	34 20	35 2	036	2037
1 Annual System Demand	6,998	7,028	7,123	7,176	7,205	7,217	7,232	7,260	7,283	7,305	7,322	7,354	7,375	7,404	7,426 7	,465 7	,495 7	,534	7,565	7,593
2 Firm Power Purchases - Total	1,217	1,206	1,188	1,196	1,193	1,187	1,189	1,191	1,193	1,195	1,197	1,199	1,201	1,203	1,205 1	,207 1	,209 1	,210	1,212	1,214
3 Firm Power Sales - Total	148	152	110	95	17	17	17	17	17	17	77	77	78	78	78	78	78	78	78	78
4 Annual Net Peak Demand (1-2+3)	5,928	5,974	6,045	6,076	6,089	6,107	6,120	6,146	6,167	6,187	6,202	6,232	6,251	6,279 (6,299 6	;,336 6	364 6	,401 (3,430	6,456
5 Net Generating Cap- ability (owned)	7,535	7,538	7,589	7,588	7,627	7,627	7,665	7,665	7,690	7,688	7,688	7,688	7,684	7,684	7,673 7	,664 7	,658 7	,658	7,658	7,643
6 Firm Capacity Purchases -Total	884	888	897	925	899	913	950	840	844	844	850	848	843	844	849	850	845	851	852	853
7 Firm Capacity Sales -Total	850	832	874	918	914	206	850	739	739	738	738	738	733	733	732	732	726	726	726	725
8 Adjusted Net Capability (5+6-7)	7,569	7,594	7,612	7,594	7,612	7,632	7,765	7,766	7,795	7,794	7,801	7,799	7,794	7,795	7,790 7	,782 7	777, 7	,783	7,784	7,771
9 Net Reserve Capacity Obligation (4 x 0.12)	711	717	725	729	731	733	734	738	740	742	744	748	750	753	756	760	764	768	772	775
10 Total Firm Capacity Obligation (4+9)	6,640	6,691	6,771	6,805	6,820	6,840	6,854	6,884	6,907	6,930	6,946	6,979	7,001	7,032	7,055 7	2 360, 7	,128 7	,169	7,202	7,231
11 Surplus or Deficit (-) Capacity @ Minimum Obligation (8-10)	929	903	842	790	792	792	910	882	888	865	854	819	793	763	736	686	649	614	582	540
12 Nebraska Reserve Margin ((8-4)/4) 13 Nebraska Capacity Margin ((8-4)/8)	27.7% 21.7%	27.1% 21.3%	25.9% 20.6%	25.0% 20.0%	25.0% 20.0%	25.0% 20.0%	26.9% 21.2%	26.4% 20.9%	26.4%	26.0%	25.8%	25.2%	24.7%	24.1% 2 9.4% 1	3.7% 2. 9.1% 1	2.8% 228% 23	2.2% 21 3.2% 17	1.6% 2 7.8% 1	1.1% 2 7.4% 1	20.4% 16.9%
Committed, Planned and Studied Resources (MW) (8+2-3)	8,638	8,649	8,690	8,695	8,728	8,742	8,877	8,880	8,911	8,913	8,921	8,921	8,917	8,920 8	3,917 8	,911 8	908	,916	3,919	8,907
Minimum Obligation (MW) (1+9)	7,709	7,745	7,849	7,905	7,936	7,950	7,967	7,998	8,023	8,048	8,066	8,102	8,125	8,158	8,182 ε	,225 8	,258 8	,302	3,336	8,367

	-	2037	25	0	25	50.0	20	c	0	c	0	ო	-	0	4.0	თ	20	0	ଚ୍ଚ	89.3	σ	6.9	0	•	0	9 9	-	20 v		310	0	741	921 #		2037	ი	240	0	0	266	310	S R	л 27 006
		2036	25	•	25	50.0	50	C	0	C	0	e	-	•	4.0	σ	20	•	8	89.3	o	6.9	0	•	0	16		2 <u>0</u> 4	n 0	310	0	741	921		2036	6	240	0	0	266	310	20	3 900.
		2035	25	•	25	50.0	50	C	0	c	0	e	-	•	4.0	റ	20	•	8	89.3	ი	6.9	•	•	0	9		2 <u>0</u> 4		310	•	741	921		2035	თ	240	0	0	266	310	20 4	S <mark>1</mark> 000
		2034	25	•	25	50.0	50	C	0	c	0	e	-	•	4.0	თ	50	•	8	89.3	თ	6.9	0	•	•	9	-	0 <u>0</u> 4		310	•	741	921		2034	6	240	0	0	266	310	20 4	c⊒ 006
		2033	25	•	25	50.0	20	C	0	C	0	ო	-	•	4.0	თ	20	•	8	89.3	თ	6.9	•	•	0	9 9	-	2 <u>0</u> 4	, o	310	•	741	921		2033	ი	240	0	0	266	310	2 4	<u>67</u>
		2032	25	•	25	50.0	50	c	0	c	0	m	-	•	4.0	თ	20	0	8	89.3	თ	6.9	•	•	0	9	3	2 <u>0</u> 4	, o	310	•	741	921		2032	6	240	0	0	266	310	20 4	900.3
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		2027	25	0	25	50.0	50	c	0	c	0	ო	-	0	4.0	σ	20	0	8	89.3	σ	6.9	0	•	0	9	5	<u>0</u> 4	, 0	310	0	741	921		2027	6	240	0	0	266	310	20 4	<u>900.3</u>
		2026	25	0	25	50.0	50	c	0	c	0	e	-	0	4.0	თ	50	0	30	89.3	ი	6.9	0	•	0	16	-	00 v	, .	310	0	741	921		2026	6	240	0	0	266	310	20	si 06
		2025	0	0	0	50.0	50	c	0	c	0	ო	-	0	4.0	თ	20	0	8	89.3	თ	6.9	0	•	0	9	4	2 <u>0</u> 4	, .	310	0	741	896		2025	6	240	0	0	266	310	2 0	<u>975.3</u>
	₹	2024	0	0	0	50.0	50	c	0	c	0	e	-	0	4.0	თ	50	0	30	89.3	ი	6.9	0	•	0	16	-	2 <u>0</u> 4	, .	310	0	741	896		2024	6	240	0	0	266	310	200	<u>v</u> 875
	ces,	2023	0	0	0	50.0	50	c	0	c	0	ო	-	0	4.0	σ	0	0	8	39.3	თ	6.9	0	•	0	9		2 <u>0</u> 4	, 0	0	0	431	536		2023	6	240	0	0	266	0	-	<u>1</u> 515
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	Res	2021	0	0	0	50.0	50	c	0	c	0	m	-	0	4.0	σ	0	0	8	39.3	σ	6.9	0	•	0	19	į	0 <u>0</u> 4	, 0	0	0	165	270		2021	6	240	0	0	0	0	-	<u>2</u> 49
5	died	2020	0	0	0	50.0	50	c	0	c	0	e	-	0	4.0	თ	0	0	8	39.3	ი	6.9	0	•	0	16	1	2 <u>0</u> 4	, .	0	0	165	270		2020	6	240	0	0	0	0	-	<u>۷</u> 249
ВП	I Stu	2019	0	0	0	0.0	0	c	0	c	0	e	-	0	4.0	ი	0	0	8	39.3	0	6.9	0	•	0	0	4	0 <u>0</u> 4	, .	0	0	165	211		2019	6	190	0	0	0	0	-	199 1
EXH	anc	2018	0	0	0	0	0	c	0	c	0	e	-	0	4.0	ი	0	0	8	39.3	0	6.9	0.0	0.0	0:0	2				0	0	0	46		2018	6	90	0	0	0	0	-	୍ର ଚ୍ଚ
	nnec	Capacity, Thermal Units	25.0		25.0		0.0			00	0.0	3.0	1.0		4.0	9.3	50.0	0.0	0.0	59.3				0.0	0.0	0.0		202	0.0	10.0	0.0	15.0	399			sting	itted	ned	able	able	eak	alate	OTAL
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	tted	Fuel Type	Ŋ			>						OBG	ω						×		3	×	×				3	s v	2		3	^			nded	Š	Ū	_	ned F	ture F			
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		Unit Name	Future Base	Future Use	Total	Prairie Hills Wind Farm	Total	Future Use	Total	Future Peak	Total	S. Sioux City Green Start Gasifier	Superior Solar	Future Use	Total	Falls City #9	Future Intermediate	Future Base	Kimball Wind LLC	Total	Southern NE RPPD Wind	Fairmont Area Wind Farm	Future Renewable	Future Peak	Future Intermediate	ruture base Total		OPD Community Solar	Future Base	Future Peak	Future Intermediate	ruule kenewable Total	Nebraska Grand Total		HS-Run of River	NG-Natural Gas	0-0il	Coal-Coal	HR-Reservoir	UR-Uranium	Wind-Wind	C-Lanatili Gas	S-Solar OBG-Other Biomass Gas
		Utility	Fremont		Fremont	Grand Island	Grand Island	Hastings	Hastings	LES	LES	Towns and Districts			Towns and Districts	MEAN				MEAN	NPPD					NPPD						OPPD		linit Tuno	H-Hydro	D-Diesel	N-Nuclear	CT-Combustion Turbine	CC-Combined Cycle	C-Pulverized Coal	R-Renewable		

								(Ш		T 6				NP/	A Memb	ers : Ente	er Accreo	dited % c	ofName	plate for	r Curren	it Study				
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	Unit Name	B nitaix3	Committed Planned	beibut2	Unit Type Behind Meter-	Utility Behind Meter-Non	Utility Fuel Type	Nameplate, Yearly Values are Nameplate	2018	<u>2019</u>	2020	2021	10	50	202	2026	2027	2028	2029	2030	2031	2 2032	5033	<u>8</u>		500	N
atrice	Cottonwood Wind Farm Bea	ш			۲		Wind	16.1	16.1	16.1	16.1	16.1	6.1 16	.1	16.	1 16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	5.1 16.	.1	-16	-
mont	Cottonwood Wind Farm	ш	H	Ц	Ľ		Wind	40.9	40.9	40.9	40.9	40.9 4	0.9 40	.9 40.	9 40.	9 40.9	40.9	40.9	40.9	40.9	40.9	40.9 4	40.9 4	0.9 40	.9 40	9 40	6
mont	Fremont Solar	ш	+		۲ ا	>	s	1.4	1.36	1.36	1.36	1.36 1	.36 1.5	36 1.3	1.3	6 1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36 1	36 1.3	36 1.3	1.3	
and is	Prairie Breeze 3 Wind Prairie Hille Wind Farm	Ш	C	T	r			35.8	35.8	35.8	35.8	30.8	8 G			8.02 8.02 8.03	30.8	35.8	80.02 20.03		8.02	80.02 80.02	8.02	8 9	8 G	n c	
e pue	Grand Island Solar	Ì	ט נ		r o	,		20.0	-		0.00	0.00	n				0.00	0.00	0.00	0.00	, o	0.0	0.00		, ,		
stings	CCC Hastings Wind	ш	,		<u>د</u> ۲	- >	Wind	7.1	2.1	2.1	2.1	o.1 ∠.1	~ ~	~ ~	~ ~		2.7	2.1	2.1	×.1	2.1	2.1	×.1	 -			
	LES Wind Turbines	ш			<u>د</u>		Wind	1.3	1.32	1.3	1.3	1.3	1.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0		
0	Landfill Gas	ш			۲		-	4.8	4.8	4.8	4.8	4.8	4.8	8	8.4.	3 4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	8.	8	8	-
0	Arbuckle Mtn. Wind	ш			۲		Wind	100.0	100	100	100	100	00 10	0 10	0 100	0 100	100	100	100	100	100	100	100	00 10	•	•	
ø	Buckeye Wind	Ш	H		۲		Wind	100.2	100.2	100	100	100	00 10	0 10	0 100	100	100	100	100	100	100	100	100	00 10	0 10	0 10	~
s	Prairie Breeze 2 Wind	ш	Н		۲		Wind	73.4	73	73	73	23	73 7	3	3 73	73	ę	73	73	73	73	73	13	73 72	3	3	
s	LES Community Solar	ш	┥	Ţ	۲	7	S	3.6	3.6	3.6	3.6	3.6	3.6 3.	Э	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.	ю 9	9	-
AN	*Kimball Wind		υ	╡	۲	+	Wind	30.0	30.0	30	30	8	30	ю Ю	30	30	8	30	30	90	30	30	8	30	ĕ	õ.	
DPD	Cottonwood Wind NNPPD	ш	+	ļ	۲		Wind	17.5	17.5	17.5	17.5	17.5 1	7.5 17	.5 17.	5 17.	5 17.5	17.5	17.5	17.5	17.5	17.5 1	17.5 1	17.5 1	7.5 17.	.5 17	5 17.	ŝ
04	Ainsworth Wind	ш	┥	┫	۲		Wind	59.4	59.4	59	59	29	59 5	9	9 23	•	•	•	•	•	•	•	0	•	•	•	
50	Elkhorn Ridge Wind	ш	+	Į	۲		Wind	80.0	80	80	80	80	80	80	80	80	8	80	•	•	•	•	•	•	•	•	
04	Laredo Ridge Wind	ш	+	4	۲	-	Wind	80.0	80	80	80	80	80 8	0	80	80	8	80	80	80	•	•	0	•	•	•	
DD	Springview Wind	ш	┥	4	۲	-	Wind	3.0	e	e	e	e	е,	e e	e	e	e	٣	e	e	e	•	•	•	•	•	
2	Broken Bow Wind	ш	╉	┦	۲	+	Wind	80.0	80	80	80	8	80	0	80	8	8	80	80	8	80	•	•	•	°.	°.	
	Broken Bow II Wind	ш	+	4	Ľ	+	Vind	73.1	73	73	73	۲ ۲	73 7	r e	23	73	٤	73	73	٤	73	73	۲ ۲	13	r r	ř,	
04	Crofton Bluffs Wind	ш	+	Ţ	۲ ו	+	Vind	42.0	42	42	42	4	42	41	4	4	4	4	42	4	42	•	•	•	•	•	
	Steele Flats Wind	ш	+	(<u>د</u> ا	+	Vind	75.0	22	22	12	2	12	κ, ι ω	52	22	2	22	22	2	75	75	2	22 J	r: n	к '	
	Future Renewable	L	+	n	r	,		0.0	- 3	- 3	- 3	•	- ; - ;		•	•	- 3	• 3	- 3	- 3	- 3	- 3			- ,		
	Coup cresson kidge (#1)	J U	ł		د ۵	- >	Nind	0.0	0.0	0 0	0		0 4				0 0	0	0.0	0 0	0.0	0.0		0 0	6 4 0 0	0 0	
6	Southern PPD Wind	1	υ		۲ ۲	. ,	Wind	9.2	; 0	3 0	9.2	9.2	9.2	, 0 0	0.0	9.2	9.5	9.2	9.2	9.2	9.2	9.2	0.0	0 0	, 0 0	, 9 9	
6	Scottsbluff Community Solar	ш			۲	<u>ک</u>	S	0.1	0.128	0.128	0.128	0.128 0.	128 0.1	28 0.1	28 0.12	28 0.12	8 0.128	0.128	0.128	0.128	0.128 0	0.128 0	.128 0.	128 0.1	28 0.1	28 0.1	8
04	Venango Community Solar	ш			۲	7	ω	0.1	0.096	0.096	0.096	0.096 0.	0.0 960	96 0.0	96 0.05	96 0.09	6 0.096	0.096	0.096	0.096	0.096 0	0.096 0	.096 0.	0.0 0.0	96 0.0	96 0.0	9
ę	Kearney Community Solar	ш	H	Ц	۲	7	ω	5.7	5.7	5.7	5.7	5.7 5	5.7 5.	7 5	7 5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7 £	.7 5.	7 5.	7 5.	
0	City of Central City Solar Park	ш	\neg		۲	7	S	0.2	0.2	0.2	0.2	0.2	0.2	0. 2	2 0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	.2	0 0	°.	~
e 1	City of Central City Solar Park (2)	ш			۲	7	S	0.4	0.4	0.4	0.4	0.4	0.4	4	4	4 0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.0	4	4	-
	City of Gothenburg Solar	ш	+	T	· ۲	× :	w o	0.5	0.5	0.5	0.5	0.5	0.5		2 0 F	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		. o	. o	<u>.</u>
	City of Holdrege Housing Proj Solar	ш	+	T	r (× 3	ν a	0.1		5 6				- 0		- ·		5.0							- 0	- 0	_ ,
	City of Lexington Solar	ш	+	T	r	> >	Wind	9.4	9 F	9 N 70 T	9 N 70 T	9 N 70 T	7) 7 9 1 7	7) 7 7	5 F	9 M	10 N 17	9 N 70 T	9 N 70 T	10 N 17 T	9 N 79 T	9 M	9 N 19 T	7) -	7) 7 10 1		~ ~
	Custer PPD - Sterner Solar	ıш	+		<u>د</u> ۵	- >	2 0	50	50	20	50	50						50	2.0	5.0	220	22	0.5				
0	Custer PPD - Sunny Delight Solar	ш	$\left \right $: œ	. ,	o o	0.3	0.3	0.3	0.3	0.3	0.3	0 0 0	0 0 0	0.3	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0	5 0 0 0		
0	Custer PPD - Blowers Solar	ш			۲	· >	S	0.3	0.3	0.3	0.3	0.3	0.3	0 0	3.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	 0	6 6	6 6	
e	Custer PPD - JDRM LLC Solar	ш	H	Ц	œ	7	ω	0.3	0.3	0.3	0.3	0.3	0.3 0.	3.0	3 0.3	3 0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	.3 0.	о 0	3	~
٥	Custer PPD - B&R LLC Solar	ш	┥		۲	7	ω	0.3	0.3	0.3	0.3	0.3	0.3	о. С	3 0.3	3 0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	.3 0.	о о	3.0	~
e 9	Custer PPD - Pandorf Solar	ш	+		۲	>	S	0.6	9.6	0.6	9.6	0.6	0.6	9	9.0	9.0	9.6	9.6	9.0	0.6	0.6	9.6	0.6	.0	0 9	9	10
e :	Dawson PPD - Willow Island Solar	ш	+	Ţ	ď	>	ω	0.3	0.3	0.3	0.3	0.3	0.3	0. 0	3 0	9.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	.0	о е	9 0	~
	Aurora Water Treatment Solar	ши	╉	Ţ	در ا	> >	ŝ	0.5	0.5	0.5	0.5	0.5	0.5	0 0 0 0	5 0 5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	· 0	0 0 0 0	2 C	
EH C	Fairmont Area Wind Farm Velich	ш			2 0	-		9.0 2	, u 0 u	ה ע ס ע	ה שים	ה ע ע ע	טיט הער	ט ש הע	ט ט ע	, u u u	שית ייים	ה ע ס	ה ע ט	ה ע ט ע	יי שים	יי שים	ה ע היים	טיים קיני	טיט הע	טיט הע	
0	Elk City Landfill	ш			: œ		- 1	6.9	6.3	0 0	6.3			5 9 5 6	, .	6.3	6.9	6.9	6.3	0 0	6.3	6.3			5 6 5 6	, .	
0	Flat Water Wind	ш			Ľ		Wind	60.0	60	60	60	09	9 09	0	09	09	8	09	09	09	•	•	•	•	•	•	
0	Petersburg Wind	ш	$\left \right $		۲		Wind	40.5	40.5	4	41	4	41 4	4	1 41	4	4	4	41	4	41	•	0	•	•	•	
8	Prairie Breeze Wind	ш	H	Ц	۲		Wind	200.6	201	201	201	201 2	01 20	11 20	1 20	1 201	201	201	201	201	201	201	201 2	01 20	1 20	1 20	-
0	Grande Prairie Wind	ш	┥		۲		Wind	400	400	400	400	400 4	00 40	0 40	0 400	400	400	400	400	400	400	400	400	00 40	0 40	•	
0	Sholes Wind		0		۲	+	Wind	160	•	160	160	160	60 16	0 16	0 16(160	160	160	160	160	160	160	160	60 16	16	0 16	<u> </u>
	Caper Creek Wind		ט ני	T	` ۲		Nind Vind	210	•	210	210	210	10 21	0 .	0 210	210	210	²¹⁰	210	210	210	210	210	10 21	0 .	0 21	<u> </u>
	CFPD Community Solar		5	0	r (>	0	201	•		n o				0 00 0	n 20	2000	'n	n 20	200	200		200		n 9		
2 0	Future Renewable	u	╀	•	r o	┼	WING	7.04	2 4 7	о (0	0 4	1000	99 4	9 , ⁷ 0	16 200	200	200	200	700	200	266	266	66 5 5 5 5 5 5	9 v	9 7 9 7	· .
	Green Star Gasifier	u	c		2 0	1		<u>e</u> «		<u> </u>	<u>e</u> ~	<u> </u>	<u> </u>	• •	- «	° ~	<u> </u>	<u> </u>	<u>e</u> ~	<u>e</u> "	<u> </u>	<u> </u>	<u> </u>	- ~ - ~	= " •	= ~	
	South Sioux City Solar	ш	,		: @	>	2) vi	0				0	, «		0	0	0	• •		0	0	0) ()) ()			
perior	Superior Solar		с U		Ľ	7	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	•	
	Nebraska Grand Total							2389.9	1688	2066	2126	2126 2	392 23	92 23	92 239	0 2331	1 2331	2331	2251	2251	2111 1	1945 1	1945	945 194	45 18	45 14-	N
t Type	Fuel type Mind-Wind					+			2018	2019	0202	2021 20	200	202	202	5 2026	2027	2028	9020	030	2031	032	033 20	34 203	30	203	N
	L-Landfill Gas	Е, С, Е	⊃&Stc	otals do	not incl	ude BT	5	Existing	1610	1610	1610	1610 16	310 16	16	0 161	0 1551	1551	1551	1471	1471	1331 1	1165 1	165 1	65	35	99 90	1
	BD-Biodiesel							Committed	30	400	450	450 4	50 45	0 450	0 450	450	450	450	450	450	450 4	450 4	450 4	50 45	0 45	0 45	~
	S-Solar	+	+		+	+	-	Planned	0	•	0 0	0 0	0 0	0 0	0 0	0	0	0	0	0	0	0	0	0 0	0 0	0 %	
se report for	additional information	t	+			+		TOTAL	1640	2010	2060	2060 2: h	100 326 23	26 232	26 232	6 2267	2267	2267	2187	2187	2047 1	1881 1	1881	381 188	3 문 3 문	의 문 김 준	아꼬
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										Ш	HBIT	6A																
									Behil	M D	ster F	sol	Irces															
Utility	Unit Nam <i>e</i>	βnitsix∃	Committed	Panned Studied	banunc Unit Type	Behind Meter - Utility	Behind Meter - Non Utility	Fuel Type	Nameplate, Yearly Values are Nameplate	2018	2019	5020	021	5	50	202	2 2021	2027	2028	2029	2030	2031	2032	5033	034	<u>5</u>	50 10	7
Fremont	Fremont Solar	ш	\vdash	┢	₩	>		s	1.4	1.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	
Grand Island	Grand Island Solar	Ĺ	ပ	╞	≌	≻		s	1.0	1.0	-	-	⊾ -	- -	~	2	-	-	5	-	-	-	-	⊾ -	- -	`		
Hastings	Hastings CCC Wind	ш	⊢	\vdash	≌	≻		Wind	1.7	1.7	7	7	7	2	~	7	7	2	2	7	7	7	7	7	2		~	
LES	LES Wind Turbines	ш	┥	+	~	7		Wind	1.3	1.3	1.3	1.3	1.3	 1	33	о о	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	• •	6 0	~
B	LES Community Solar	ш	┥	+	~	>		s	3.6	3.6	3.6	3.6	3.6	.6	ю 9	9. 9	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3	3. 9	~
E E	LES Service Center Solar	ш	╉	┥	₩ 1		>	s	0.05	0.1		6.		-	-	•	- -	0.1	-0	0.1	0.1	0.1	6.	0.1	1.0	• -	-	
ES	University Nebraska Lincoln	ш	\dagger	╉	~		>	s	0.036	0.04	0.04	0.04	0.04	6	4 0.0	4	4 0.0	4 0.04	0.04	0.04	0.04	0.04	0.04	0.04	.04	6	9.0	4
E	Novartis Sandhills Publishing	шц	\dagger	+	~ 0		> >	ω υ	0.002	0.002	0.0	0.0	0.0	0 0		0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0 0	
E E	Lincoln Police Station	υш	╈	╉	r 🗠		- >	ით	0.010	0.010		0.0							0.0		0.0	0.0	0.0	0.0			5 3 5 0	
E	EZ Go, 1	ш	┢	╉	: ≃		· >	Wind	0.0004	0.000	0.0	0.0	0.0	0	, o	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	
LES	EZ Go, 2	ш	┢	┢	≌		>	Wind	0.0004	0.000	0.0	0.0	0.0	0	0 0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	-
LES	1900 Saltillo Road	ш	⊢	⊢	2		≻	s	0.100	0.100	0.1	0.1	0.1	6	- 0	0	1 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	-	_
LES	Data Security Inc.	ш		\vdash	≌		>	s	0.099	0.099	0.1	0.1	0.1	.1	- 0	-	1 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	-	
LES	Empyrean Brewing Co	ш	\square	\vdash	2		۲	s	0.099	0.099	0.1	0.1	0.1	.1	1 0.	0	1 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1 0	5	-	
LES	Lazio Inc.	ш			۲		~	s	0.094	0.094	0.1	0.1	0.1	.1	1.	0	1 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	-	_
LES	The resa Street Digester	ш			2		~	OBG	0.900	0.900	0.9	0.9	0.9	0.9	9 0	9 0	9 0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0	6 0	•
LES	Capitol Beach Comm Solar	ш			۲		~	s	0.050	0.0	0.1	0.1	0.1	.1	1.	0	1 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	-	_
NPPD	Creston Ridge Wind	ш	┥	┥	~	7		Wind	6.8	6.8	6.8	6.8	6.8	8.8	9 8	 8	8 6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	8	8	~
NPPD	Loup Creston Ridge (#2)	ш	┥	┥	~	>		Wind	6.9	6.9	6.9	6.9	6.9	9	9 6	9 9	9 6.5	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	9	9	
NPPD	Southern PPD Wind		ပ	+	~	≻		Wind	9.2	•	•	9.2	9.2	.2	2	30.	2 9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	6	2	~
DPDD	Scottsbluff Community Solar	ш	┥	+	≌	>		s	0.1	0.128	0.128	0.128 0	.128 0.	128 0.1	28 0.1	28 0.1	28 0.12	8 0.12	3 0.128	3 0.128	0.128	0.128	0.128	0.128 0	128 0.	128 0.1	28 0.1	8
DPPD	Venango Community Solar	ш	╉	+	~	>		S	0.1	0.096	0.096	0.096 0	.096	0.0	96 0.0	90 O.O	90.0	96 0.09	0.09	0.096	0.096	0.096	0.096	0.096	0.0	0.0	96 0.0	9
OPPD	Kearney Community Solar	ш	┥	┥	~	~		s	5.7	5.7	5.7	5.7	2.7	20	- 5	22	7 5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	2	22 ~	
	City of Central City Solar Park	шι	+	╉	<u>د</u> ا	> :		s l	0.2	0.2	0.2	0.2	0.2	0 7	0 0	о о	5 0;7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0 ' 0 '		
	City of Central City Solar Park (2)	ш	\dagger	╉	<u>د</u> ا	-		s	0.4	0.4	0.4	0.4	4	4	4	4	4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.	4	4	-
	City of Gothenburg Solar	шι	╉	+	<u>د</u> ا	> :		s l	0.5	0.5	0.5	0.5	0.5	. 0	0000 0000		2 0 2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2 2	22	
	City of Holdrege Housing Proj Solar	шц	╈	+	∝ ₀	> >		ω υ	0.1 3.6	0.1 2 6	0.1 9.6	0.1 2.6	- 0.4 		- "	~ ~	1	0.1 2 e	0.1 2 fe	0.1 a c	0.1 2 f	0.1 2 E	0.1 8 6	0.1 2.6	0.1 2 e 0			
DPDD		1 u	╈	╉	2 12	- >		Wind	3.0	2.0 1 7	- 1 1	2.0 1 7	0.0 1 1	0 F	, - • •	5 -		0 F	1 7	0 7 7	0.0 1 7	0 7	2.0 1 7	2.0 7 1	0 C C	, r	5 -	
DPD	Custer PPD - Sterner Solar	ш		+	: ≃	· >		s	0.5	0.5	0.5	0.5	0.5	0	2	0	5 0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0 2	
NPPD	Custer PPD - Sunny Delight Solar	ш	┢	┢	≌	≻		s	0.3	0.3	0.3	0.3	0.3	0.3	0 8	30	3 0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3 0	0 13	3	~
NPPD	Custer PPD - Blowers Solar	ш	H	Η	~	۲		S	0.3	0.3	0.3	0.3	0.3	0.3	ю Ю	30.0	3 0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0	3 0.	~
DPDD	Custer PPD - JDRM LLC Solar	ш	┥	+	~	>		s	0.3	0.3	0.3	0.3	0.3	0	ю ю	о 8	3.0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0 ლ	ю Ю	~
OPPD	Custer PPD - B&R LLC Solar	ш	╉	+	~	>		s	0.3	0.3	0.3	0.3	0.3	0	ю е	0 0	33	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0 	ю е	~
	Custer PPD - Pandort Solar Devicen BDD - Willow Island Solar	uu	+	╉	× 0	~ >		n u	0.0	9 °		۰ ۲			ם כ מ		- - -		6.0	e -	9 C		9 C	e. c	0 0		5 c	
UddN	Aurora Water Treatment Solar	Ţ	c	╉	2 0	- >		0	2						5 c											, u	5 c	
DPD	Fairmont Area Wind Farm	ш	,	+	<u>د</u>	- >		Wind	6.9	6.9	6.9	6.9			ი თ ი თ		, 69 5	6.9	6.9	6.9	6.9	6.9	6.9	6.9	. 69	, 9 , 9	5 6	
OPPD	OPPD Community Solar		υ	╉	: ≃	· >		s	5.0	0	со 1	2	2 2 3		, n	о ,	2 2	с С	3 5	с, го	2	со 1	2	3 5		, -,		
ssc	Green Star Gasifier		υ	⊢	~		≻	OBG	3.0	•	e	e	e	e, e,	e e	e	3	e	e	e	e	e	e	e	 		e	
ssc	South Sioux City Solar	ш			2	≻		s	2.0	7	2	2	2	2	~	7	7	7	7	2	2	2	7	2	2		8	
Superior	Superior Solar	╡	ပ	┥	~	7		s	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	· F	-	
	BTM Nebraska Grand Total		$\left \right $	$\left \right $	$\left - \right $				66.7	49	58	67	67	57 6	7 6	7 65	5 65	65	65	65	65	65	65	65	65	5	5	
Unit Type R-Renewable	Fuel type Wind-Wind		+	+	+					2018	2019	2020	021 20	20	23 203	4 202	5 202	3 2027	2028	2029	2030	2031	2032	2033 2	034 20	35 20	36 205	~
	L-Landfill Gas		+	╞	-				Existing	47	47	47	47	4	4	4	46	46	46	46	46	46	46	46	46	9	4	4
	BD-Biodiesel				$\left \right $			0	committed	e	÷	20	20	0	50	50	20	20	50	20	20	50	20	20	20	0	20	
	S-Solar								Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	OBG - Other Biomass Gas, including diges	ster	+	+	_				Studied	0	0	0	o	a	a	o	o	a	0	a	0	o	0	a	0	0	a	
		_	-						TOTAL	49	58	67	67	37 6	2 0.	20	5 65	65	65	65	65	65	65	65	65	35 6	5	



Utility	<u>Unit Name</u>	Duty Cycle	<u>Unit Type</u>	<u>Fuel Type</u>	Commercial <u>Operation</u> <u>Date</u>	Summer Accredited <u>Capacity</u>	Summer Utility <u>Capacity</u>
Towns and	Cottonwood Wind NNPPD	I.	WT	WND	2018	4.00	
-	Cottonwood Wind SSC	I.	WT	WND	2018	<u>0.78</u>	
lowns and							4.8
Falls City	Falls City #7	Р	IC	NG/DFO	1972	5.00	
	Falls City #8	Р	IC	NG/DFO	1981	5.00	
	Falls City	Р	IC	NG/DFO	2018	<u>9.30</u>	
Falls City	Total						19.3
Fremont	Fremont #6	В	ST	SUB/NG	1958	15.50	
	Fremont #7	В	ST	SUB/NG	1963	21.00	
	Fremont #8	В	ST	SUB/NG	1976	82.00	
	CI Cottonwood Wind Form	P	GI	NG/DFO	2003	36.00	
Fremont	Total			WND	2010	2.03	156.5
Grand Island	Burdick #3	P	SТ	NG	1072	0.00	
Orana Island	Burdick GT1	P	GT	NG/DEO	1968	13.00	
	Burdick GT2	P	GT	NG/DFO	2003	34.00	
	Burdick GT3	Р	GT	NG/DFO	2003	34.00	
	Platte Generating Station	В	ST	SUB	1982	100.00	
	Prairie Breeze 3 Wind	1	wт	WND	2016	<u>0.00</u>	
Grand Island	Total						181.0
Hastings	CCC Hastings Wind	1.00	WT	WND	2016	0.00	
	DHPC-#1	Р	GT	NG/DFO	1972	18.00	
	Hastings-NDS#4	Р	SI	NG/DFO	1957	16.00	
	Hastings-NDS#5	P	51		1967	24.00	
	Whelan Energy Center #1	B	ST	SUB	2011	220.00	
Hastings	Total	-		002	2011	220100	354.0
LES	Arbuckle Mtn. Wind	1	wт	WND	2016	5.00	
	Buckeye Wind	1 - E	wт	WND	2016	5.01	
	J St	Р	GT	NG/DFO	1972	29.00	
	Landfill Gas	В	IC	LFG	2014	4.80	
	Laramie River #1	В	ST	SUB	1982	199.53	
	LES Community Solar	в	PV	SUN	2016	0.00	
	Prairie Breeze 2 Wind Bokoby 1	I D	GT		2016	3.70	
	Rokeby 2	P	GT	NG/DFO	1975	89.00	
	Rokeby 2 Rokeby 3	P	GT	NG/DFO	2001	94.00	
	Salt Valley Wind	i i	WT	WND	1999	0.00	
	Terry Bundy	Р	CS	NG/DFO	2003	120.50	
	Terry Bundy	Р	GT	NG/DFO	2003	47.10	
	Walter Scott #4	В	ST	SUB	2007	<u>103.20</u>	
LES	Total						772.8
MEAN	Alliance #1	Р	IC	DFO	2002	1.8480	
	Alliance #2	Р	IC	DFO	2002	1.8490	
	Alliance #3	P	IC	DFO	2002	1.8490	
	Ansley #2	P	IC	NG/DFO	1972	0.8500	
	Ansley #3 Bonkolmon #1	Р Ч			1968	0.5000	
	Derikerinan #1 Broken Bow #2	۲ D			1968	0.7000	
	Broken Bow #4	г Р		NG/DFO	1949	0.8010	
	Broken Bow #5	P		NG/DFO	1959	1.0010	
	Broken Bow #6	P	IC	NG/DFO	1961	2.1210	
	Burwell#2	P	IC	NG/DFO	1962	0.8030	
	Burwell#3	Р	IC	NG/DFO	1967	1.0040	
	Burwell#4	Р	IC	NG/DFO	1972	1.2110	

					Commercial	Summer	Summer
					Operation	Accredited	Utility
Utility	<u>Unit Name</u>	Duty Cycle	Unit Type	Fuel Type	Date	Capacity	Capacity
MEAN (contd)	Callaway #3	Р	IC	DFO	1958	0.4910	
	Callaway #4	Р	IC	DFO	2004	0.3840	
	Chappell #5	Р	IC	DFO	1982	1.1000	
	Crete #7	Р	IC	NG/DFO	1972	6.0850	
	Curtis #1	Р	IC	NG/DFO	1975	1.2030	
	Curtis #2	Р	IC	NG/DFO	1969	1.0030	
	Curtis #4	Р	IC	NG/DFO	1955	0.8020	
	Kimball #1	Р	IC	NG/DFO	1955	1.00	
	Kimball #2	Р	IC	NG/DFO	1956	1.00	
	Kimball #3	Р	IC	NG/DFO	1959	0.90	
	Kimball #4	Р	IC	NG/DFO	1960	0.90	
	Kimball #5	Р	IC	NG/DFO	1951	0.70	
	Kimball #6	Р	IC	NG/DFO	1975	3.50	
	Oxford #2	Р	IC	NG/DFO	1952	0.65	
	Oxford #3	Р	IC	NG/DFO	1956	0.90	
	Oxford #4	Р	IC	NG/DFO	1956	0.68	
	Oxford #5	P	IC	DFO	1972	1.21	
	Pender #1	P	IC	DEO	1967	1.263	
	Pender #2	P	IC	NG/DEO	1973	1.925	
	Pender #3	P	IC	DEO	1953	0.491	
	Pender #4	P	IC	DEO	1961	0.821	
	Red Cloud #2	P	IC	NG/DEO	1953	0.696	
	Red Cloud #3	P	IC	NG/DEO	1960	1 001	
	Red Cloud #4	P	IC	NG/DEO	1968	1.001	
	Red Cloud #5	P	IC	NG/DEO	1974	1.502	
	Stuart #1	P		NG/DEO	1965	0 721	
	Stuart #/	P		NG/DEO	1996	0.822	
	West Point #2	P			1930	2 1/8	
	West Point #2	P			1050	1 171	
	West Point #4	P			1965	0.761	
ΜΕΔΝ		1		NG/DI O	1905	0.701	55.0
	lotai						00.0
NPPD	ADM	В	ST	SUB	2009	52.62	
	Ainsworth Wind	- I	WТ	WND	2005	8.74	
	Auburn #1	Р	IC	NG/DFO	1982	2.10	
	Auburn #2	Р	IC	NG/DFO	1949	0.00	
	Auburn #4	Р	IC	NG/DFO	1993	3.60	
	Auburn #5	Р	IC	NG/DFO	1973	3.30	
	Auburn #6	Р	IC	NG/DFO	1967	2.50	
	Auburn #7	Р	IC	NG/DFO	1987	4.80	
	Beatrice Power Station	I	CS	NG	2005	220.00	
	Belleville 4	Р	IC	NG/DFO	1955	0.00	
	Belleville 5	Р	IC	NG/DFO	1961	1.40	
	Belleville 6	Р	IC	NG/DFO	1966	2.50	
	Belleville 7	Р	IC	NG/DFO	1971	3.30	
	Belleville 8	Р	IC	NG/DFO	2006	2.80	
	Broken Bow Wind	1.1	wт	WND	2013	12.22	
	Broken Bow II Wind	1.1	wт	WND	2014	8.87	
	Cambridge	P	IC	DFO	1972	3.00	
	Canaday	P	ST	NG	1958	99.30	
	Columbus 1	В	HY	WAT	1936	15.00	
	Columbus 2	B	HY	WAT	1936	15.00	
	Columbus 3	B	HY	WAT	1936	15.00	
	Cooper	B	ST	NUC	1974	770.00	

					Commercial	Summer	Summer
					Operation	Accredited	Utility
Utility	<u>Unit Name</u>	Duty Cycle	<u>Unit Type</u>	Fuel Type	Date_	Capacity	<u>Capacity</u>
NPPD (contd)	Crofton Bluffs Wind	1.1	wт	WND	2013	7.42	
	David City 1	Р	IC	NG/DFO	1960	1.30	
	David City 2	Р	IC	DFO	1949	0.80	
	David City 3	Р	IC	NG/DFO	1955	0.90	
	David City 4	Р	IC	NG/DFO	1966	1.80	
	David City 5	Р	IC	DFO	1996	1.33	
	David City 6	Р	IC	DFO	1996	1.33	
	David City 7	Р	IC	DFO	1996	1.34	
	Elkhorn Ridge Wind	1	wт	WND	2009	9.53	
	Emerson #2	Р	IC	NG/DFO	1968	1.24	
	Emerson #3	Р	IC	NG/DFO	1948	0.00	
	Emerson #4	Р	IC	NG/DFO	1958	0.20	
	Franklin 1	Р	IC	NG/DFO	1963	0.65	
	Franklin 2	Р	IC	NG/DFO	1974	1.35	
	Franklin 3	Р	IC	NG/DFO	1968	1.05	
	Franklin 4	Р	IC	NG/DFO	1955	0.70	
	Gentleman 1	В	ST	SUB	1979	665.00	
	Gentleman 2	В	ST	SUB	1982	700.00	
	Hallam (Black Start)	P	GT	DFO	1973	42.50	
	Hebron	P	GT	NG	1973	41.50	
	Jeffrey 1 (CNPPID)	В	HY	WAT	1940	0.00	
	Jeffrey 2 (CNPPID)	В	нү	WAT	1940	0.00	
	Johnson I 1 (CNPPID)	В	нү	WAT	1940	0.00	
	Johnson I 2 (CNPPID)	B	ну	WAT	1940	0.00	
	Johnson II (CNPPID)	B	ну	WAT	1940	0.00	
	Kearney	B	ну	WAT	1921	0.00	
	Kingslev(Blk St) (CNPPID)	B	ну	WAT	1985	37.50	
	Laredo Ridge Wind	ī	wT	WND	2011	19.42	
	Madison 1	P	IC	NG/DEO	1969	1 70	
	Madison 2	P	IC	NG/DEO	1959	0.95	
	Madison 3	P	IC	NG/DEO	1953	0.85	
	Madison 4	P	IC	DEO	1946	0.50	
	McCook(Black Start)	P	GT	DEO	1973	42 70	
	Monroe	B	ну	WAT	1936	3.00	
	North Platte 1(Black Start)	B	ну	WAT	1935	12.00	
	North Platte 2(Black Start)	B	ну	WAT	1935	12.00	
	Ord 1	P	IC	NG/DEO	1973	5.00	
	Ord 2	P	IC	NG/DEO	1966	1.00	
	Ord 3	P	IC	NG/DEO	1963	2 00	
	Ord 4	P	IC	DEO	1997	1 40	
	Ord 5	P	IC	DEO	1997	1.40	
	Sheldon 1	в	ST	SUB	1961	104 00	
	Sheldon 2	B	ST	SUB	1965	115.00	
	Spencer 1	B	ну	WAT	1927	0.64	
	Spencer 2	B	ну	WAT	1952	0.64	
	Springview Wind	ĩ	wT	WND	2012	0.41	
	Steele Flats Wind		WT	WND	2012	22 20	
	Wahoo #1	P	IC		1960	1 70	
	Wahoo #3	P		NG/DFO	1973	3.60	
	Wahoo #5	Þ			1952	1 80	
	Wahoo #6	Þ			1969	2 00	
	Wakefield 2	Þ			1955	0.54	
	Wakefield A	L D			1061	0.04	
	Wakefield 5	Þ			1966	1 08	
	Wakefield 6	г D			1071	1 12	
		F		NG/DEU	13/1	1.13	

14:1:4.		Duty Cycle	linit Tumo	Fuel Time	Commercial Operation	Summer Accredited	Summer Utility
NPPD (contd)	<u>Unit Name</u> Wayne 1			DEO	<u>Date</u> 1951	0.75	<u>Capacity</u>
NPPD (conta)	Wayne 3	P		DEO	1951	1 75	
	Wayne 4	P		DEO	1960	1.75	
	Wayne 5	P	IC	DEO	1966	3.25	
	Wayne 6	P	IC	DFO	1968	4.90	
	Wayne 7	P	IC	DFO	1998	3.25	
	Wavne 8	P	IC	DFO	1998	3.25	
	Western Sugar	В	ST	SUB	2014	4.55	
	Wilber 4	Р	IC	DFO	1949	0.78	
	Wilber 5	Р	IC	DFO	1958	0.59	
	Wilber 6	Р	IC	DFO	1997	1.57	
NPPD	Total						3,150.2
Nebraska City	Nebraska City #5 Black start	Р	IC	NG/DFO	1964	1.60	
	Nebraska City #6	Р	IC	NG/DFO	1967	1.50	
	Nebraska City #7	Р	IC	NG/DFO	1969	1.50	
	Nebraska City #8	Р	IC	NG/DFO	1970	3.50	
	Nebraska City #9	Р	IC	NG/DFO	1974	5.60	
	Nebraska City #10	Р	IC	NG/DFO	1979	5.80	
	Nebraska City #11	Р	IC	NG/DFO	1998	4.00	
	Nebraska City #12	Р	IC	NG/DFO	1998	4.00	
Nebraska City	Total						27.5
NELIGH	Neligh	Р	IC	OBL	2012	1.80	
	Neligh	Р	IC	OBL	2012	1.78	
	Neligh	P	IC	OBL	2012	1.77	
	Neligh	P	IC	OBL	2012	<u>0.38</u>	
Neligh	Total						5.7
OPPD	Cass County #1	Р	GT	NG	2003	161.70	
	Cass County #2	Р	GT	NG	2003	161.10	
	Elk City Station #1-4	В	IC	LFG	2002	3.17	
	Elk City Station #5-8	В	IC	LFG	2006	3.11	
	Flat Water Wind	- I	WT	WND	2011	11.10	
	Grande Prairie Wind		WT	WND	2016	60.80	
	Jones St. #1	P	GT	DFO	1973	61.30	
	Jones St. #2	Р	GT	DFO	1973	61.30	
	Nebraska City #1	В	ST	SUB	1979	654.30	
	Nebraska City #2	В	ST	SUB	2009	691.00	
	North Omaha #1	В	SI	NG	1954	64.80	
	North Omana #2	В	SI	NG	1957	90.80	
	North Omana #3	В	SI		1959	86.00	
	North Omaha #4		51 6T	SUB/NG	1903	120.10	
	North Omana #5	-	51	SUB/NG	1908	210.20	
	Preiris Brooze Wind		WT	WND	2012	0.20	
	Sarpy County #1	P	GT		1072	55 30	
	Sarpy County #1	P	GT	NG/DFO	1972	56.40	
	Sarpy County #2	P	GT	NG/DFO	1996	107 70	
	Sarpy County #4	P	GT	NG/DFO	2000	49.00	
	Sarpy County #5	P	GT	NG/DFO	2000	48.10	
	Tecumseh #1	P	IC.	DFO	1949	0.60	
	Tecumseh #2	P	IC	DFO	1968	1.40	
	Tecumseh #3	P	IC	DFO	1952	1.00	
	Tecumseh #4	P	iC	DFO	1960	1.20	
	Tecumseh #5	P	IC	DFO	1993	2.30	
OPPD	Total						2,807.7

2,807.7

					Commercial Operation	Summer Accredited	Summer Utility		
Utility	<u>Unit Name</u>	Duty Cycle	<u>Unit Type</u>	Fuel Type	Date	<u>Capacity</u>	Capacity		
Nebraska Grand Total						TOTAL	7,534.5		
	Duty Cycle			Fuel Type*					
	B-Base			NUC-Uranium		OBL-Biodiesel			
	I-Intermediate		NG-Natural Gas DFO-Distillate Fuel Oil		ias	WAT-Hydro			
	P-Peaking				e Fuel Oil	LFG-Landfill Gas			
		Unit Type*		SUB-Subbituminous Coal		WND-Wind			
		IC-Internal Combustion, Reciprocating			I				
		ST-Steam Turbine, does not include combined cycle							
		GT-Combustion Turbine, including aeroderivatives							
		CS-Combined Cycle, single shaft (combustion turbine and steam turbine share s							
	CA-Combined Cycle, Steam part								
		CT-Combined Cycle, Combustion Turbine part							
		HY-Hydro							
		PV-Photovol	taic						
		WT-Wind Tu	rbine						
		ru-ruel Uell Will Waste Hast wood for combined curls OT with a for which we take							
		WH-Waste He	eat, used to	r combined cy	cie SI withou	t supplemental fil	ring		

