

HASTINGS UTILITY BOARD AGENDA

**Council Chambers - City Hall Building
220 North Hastings Avenue
December 8, 2022
9:00 AM**

ROLL CALL:

PLEDGE OF ALLEGIANCE:

MOTION TO ADOPT CURRENT AGENDA FOR December 08, 2022 REGULAR MEETING.

PUBLIC NOTICE - Official Notice of the Regular Meeting was published in the Hastings Tribune on Tuesday, December 6, 2022. Pursuant to Nebraska Revised Statute Section 84-1412, the public is advised that a copy of today's agenda and all reproducible written material which will be discussed at today's meeting is located at the back of the Council Chambers. Also, a current copy of the Nebraska Open Meetings Act is posted on the south wall of the Council Chambers which is accessible to members of the public.

MANAGER'S COMMUNICATIONS:

BOARD CHAIRMAN'S COMMUNICATIONS:

BOARD MEMBERS' COMMUNICATIONS:

CITIZEN COMMUNICATIONS:

CONSENT AGENDA:

1. All Consent Items.
 - (a) Approval of the minutes of the Hastings Utility Board Meeting of November 10, 2022.

REGULAR AGENDA:

2. Unfinished Business of Preceding Meeting.
 - (a) Approval of the minutes of the Hastings Utility Board Meeting of October 13, 2022.
3. General Business.
 - (a) Finance

- (b) Production
- (c) Operations
- (d) Administration
 - i. Approval of the Hastings Utilities and the Youth Rehabilitation Center (YRTC) Integrated Resource Plan (IRP) for Western Area Power Administration's (WAPA).
 - ii. HEDC/Chamber Update
- (e) Other

4. Possible Closed Session (if necessary or requested).

ADJOURN:

The Hastings Utility Board reserves the right to enter into an executive session at any time during the meeting, in accordance with the Nebraska Open Meetings Act, even though the closed session may not be indicated on the agenda. It is the intention of the Hastings Utility Board to take up the items on the agenda in sequential order. However, the Hastings Utilities Board reserves the right to take up matters in a different order to accommodate the schedule of the Utility Board Members, persons having items on the agenda, and the public.

CITY OF HASTINGS, NEBRASKA
MINUTES OF UTILITY BOARD REGULAR MEETING
Thursday, November 10, 2022

Pursuant to due call and notice thereof, a Regular Meeting of the Utility Board of Hastings, Nebraska was conducted in the Council Chambers - City Hall Building, 220 North Hastings Avenue, on November 10, 2022.

ROLL CALL:

The meeting was called to order at 9:00 am by Bill Hitesman with the following members present: Jeanette Dewalt, Mark Hemje, Susan Meeske, Kevin Johnson, Noel Nienhueser, Jeff Campbell, Bob Davis, Butch Eley, Erik Nielsen, Brandan Lubken, Derek Zeisler, LeAnne Doose, Keith Leonhardt, Lori Hartman, Ed Fleharty, Shawn Hartmann, Robin Ginn, Lee Vrooman, Clint Schukei, Jesse Oswald, Roger Nash
Absent: Corey Stutte and Shayne Raitt

PLEDGE OF ALLEGIANCE:

Bill Hitesman led the group in the recital of the Pledge of Allegiance to the United States of America.

MOTION TO ADOPT CURRENT AGENDA FOR November 10, 2022 REGULAR MEETING.

hemje, dewalt, all yes

Moved by Hemje and seconded by Dewalt to adopt the current agenda for the November 10, 2022 Regular Meeting. Roll Call: Ayes: Hitesman, Dewalt, Meeske, Hemje. Nays: None. Absent: Raitt. The motion carried.

PUBLIC NOTICE - Official Notice of the Regular Meeting was published in the Hastings Tribune on Tuesday, November 8, 2022. Pursuant to Nebraska Revised Statute Section 84-1412, the public is advised that a copy of today's agenda and all reproducible written material which will be discussed at today's meeting is located at the back of the Council Chambers. Also, a current copy of the Nebraska Open Meetings Act is posted on the south wall of the Council Chambers which is accessible to members of the public.

MANAGER'S COMMUNICATIONS:

We have some slight changes in the minutes and would like to defer last months minutes.

BOARD CHAIRMAN'S COMMUNICATIONS:

None

BOARD MEMBERS' COMMUNICATIONS:

None

CITIZEN COMMUNICATIONS:

None

CONSENT AGENDA:

1. All Consent Items.

- (a) Approval of the minutes of the Hastings Utility Board Meeting of October 13, 2022.

Dewalt motions to remove the consent agenda and defer it to next month. Meeske seconds. Rolle Call: Ayes: Hitesman, Dewalt, Hemje, Meeske. Nays: None. Absent: Raitt

REGULAR AGENDA:

2. Unfinished Business of Preceding Meeting.

3. General Business.

- (a) Finance

i. PILOT (pay in lieu of taxes) Proposal

Derek Zeisler presents the proposal prepared.

- Payment in lieu of tax: currently the utilities transfer 5.6%
- PILOT Comparisons
 - study performed by John Krajewski with JK Consulting
 - % shown is calculated amount based on actual transfer and retail for 2011
 - (1) 5% gross receipts tax paid to the treasurer and distributed to all tax entities
 - (2) Does not include lease payments which are applicable to large number of municipalities
 - (3) Utilities may provide free or discounted services to municipal accounts or in-kind labor
 - (4) These cities transfer a fixed amount
- PILOT Proposal
 - Due to the fluctuation in total Operating Revenue impacted by wholesales, the proposal is to use the Total Retail revenue amount; but

- use a percentage of the Total Retail revenue that would equal roughly the same payment amount of 5.6% of total Operating Revenue.
- o John Krajewski with JK Consulting calculated 6.1% of total retail revenue as the 2017-2020 average PILOT percentage needed for the City to receive similar PILOT amounts as prior years.

Questions?

Jeanette asks about the percent being retail only? (Yes.) Why would we do that when our consultant says everyone else is 5%? Understands keeping the city whole helping the cities budget, but is that what the utilities is in business to do? We are in business to keep our rates stable for rate payers, not to subsidize the city. Kevin: Because I reported to Joe and reported to Dave. Derek: As we transition over to this, getting it back to strictly retail sales gets it back in line with the rest of Nebraska.

Jeanette: At some point will we as a utility advisory board recommend a percentage to the city council or is that not in our realm? Yes, we will be voting on this.

Bill: When will this go into effect? We would like to have a recommendation for this to go to the council. Would take effect for the fiscal year 2023 that would be paid in fiscal year 2024.

Clint: When the change is made, clarify the date of the changes.

Jeanette and Derek agree not to let this wait until budget season to talk more about. Don't have a need to take it to the council at this point. We will wait until closer to budget season. We will spend the time talking more with the advisory board.

ii. Workforce Housing Contribution

This is a clarification to explain the actual guidelines that came out after the last advisory board meeting.

The board agreed to up to \$500,000. Mike is going for a million and the target is a 50% match.

The goal is still 50%, but if he can go beyond that, he gets more points to get the million.

With new information, we wanted to come back to this. If we stay with the \$500,000, no matter how much he gets.

Randy explains what CRA is doing for housing. Passed a similar motion up to \$100,000.

Discusses the grant application.

Surprise request for today. You have funds that are just sitting there. Why not use them to fund more projects?

Jeanette: Will we see the funds? No, but rural housing gets for them. It is like a loan. Would you have to repay the state?

Mark: Do you have any statistics on what does and does not get paid back? Only two projects have been completed. Mesner received 50% and has all been paid back, the other is prairie lofts, but since it is an apartment, it is a long-term payback.

Clint to articulate the funds. Hastings does not have an LB840 program.

Just because there are additional funds, does not mean we need to pay less.

Happy to help with workforce development, but has no plan to add additional because there is no plan for utilities to replenish the funds.

Are we looking at staying with the original proposal? Mark: I am okay with the \$500,000. Have utilities come up with different uses?

Kevin says no, we have just been waiting for people with requests. But he doesn't

think utilities should be the only ones funding.

Butch: How much is left after the \$500,000? 1 million.

Bill: How do we find ways to replenish those funds?

Shawn: Need to worry about keeping the funds available before we have empty business buildings.

(b) Production

i. Market Participant change; Tenaska to NextEra Energy

Derek to explain what the market participant is and the change. Revisit what is actually being provided for us.

This is just an FYI to keep you updated.

(c) Operations

i. HU Critical Initiatives for fiscal 2022-2023.

You can take the hand out with you and ask questions later if you get them.

Ed Fleharty to discuss the gas department initiatives.

Brandan Lubken to discuss water/wastewater.

Noel Niehueser to discuss the subs

Jeff Campbell to discuss the electrical.

Derek to discuss electric production and energy supply

Bob Davis to discuss the initiatives for Safety.

Keith discusses capitol management.

(d) Administration

(e) Other

4. Possible Closed Session (if necessary or requested).

(a) HU Org Review (Closed Session-protection of the public interest)

Meese moved, Hemje seconded. Went into closed session at 10:15 am. Roll Call:

Ayes: Bill Hitesman, Mark Hemje, Susan Meeske, Jeanette Dewalt. Nays: None.

Absent: Shayne Raitt

Come out of closed session at 10:44 am. Roll Call: Ayes: Bill Hitesman, Mark

HemjeJeanette Dewalt, Susan Meeske. Nays: None. Absent: Shayne Raitt

Motioned carried.

ADJOURN:

Being no further business to adjourn at 10:45 am. Roll Call: Ayes: Bill Hitesman, Jeanette Dewalt, Mark Hemje, Susan Meeske. Nays: None. Absent: Shayne Raitt. Meeting Adjourned.

APPROVED:

Board Secretary

CITY OF HASTINGS, NEBRASKA
MINUTES OF UTILITY BOARD REGULAR MEETING
Thursday, October 13, 2022

Pursuant to due call and notice thereof, a Regular Meeting of the Utility Board of Hastings, Nebraska was conducted in the Council Chambers - City Hall Building, 220 North Hastings Avenue, on October 13, 2022.

ROLL CALL:

The meeting was called to order at 9:00 am by Bill Hitesman with the following members present: Bill Hitesman, Susan Meeske, Shayne Raitt. Kevin Johnson, Erik Nielsen, Lee Vrooman, Butch Eley, Jaci Higgins, Derek Zeisler, Brian Strom, LeAnne Doose, Robin Ginn, Clint Schukei, Jesse Oswald, Lori Hartman, Shawn Hartmann, Roger Nash.
Absent: Jeantte Dewalt, Mark Hemje, Corey Stutte

PLEDGE OF ALLEGIANCE:

Bill Hitesman led the group in the recital of the Pledge of Allegiance to the United States of America.

MOTION TO ADOPT CURRENT AGENDA FOR October 13, 2022 REGULAR MEETING.

Moved by Raitt and seconded by Meeske to adopt the current agenda for the October 13, 2022 Regular Meeting. Roll Call: Ayes: Hitesman, Meeske, Raitt. Nays: None. Absent: Dewalt, Hemje. The motion carried.

PUBLIC NOTICE - Official Notice of the Regular Meeting was published in the Hastings Tribune on Tuesday, October 11, 2022. Pursuant to Nebraska Revised Statute Section 84-1412, the public is advised that a copy of today's agenda and all reproducible written material which will be discussed at today's meeting is located at the back of the Council Chambers. Also, a current copy of the Nebraska Open Meetings Act is posted on the south wall of the Council Chambers, which is accessible to members of the public.

MANAGER'S COMMUNICATIONS:

The weather is starting to turn to fall. Keep warm. Would like the current city attorney to introduce the assistant city attorney. Clint would like to welcome Jesse Oswald. He will take Clint's place when he leaves December 1st.
Jesse introduced himself and told a little about himself.

BOARD CHAIRMAN'S COMMUNICATIONS:

None

BOARD MEMBERS' COMMUNICATIONS:

None

CITIZEN COMMUNICATIONS:

None

CONSENT AGENDA:

1. All Consent Items.

- (a) Approval of the minutes of the Hastings Utility Board Meeting of September 8, 2022.

Moved by Meesek and seconded by Raitt. Ayes: Hitesman, Meeske, Raitt. Nays: None. Absent: Dewalt, Hemje. Approved.

REGULAR AGENDA:

2. Unfinished Business of Preceding Meeting.

3. General Business.

- (a) Finance

- i. 3rd Quarter Financial Update

Jaci to give the 3rd quarter financial updates.

Balance Sheet Highlights

-Rate stabilization fund for the Combined System increased due to money being moved from Cash & Investments during FY23 budget conversations.

Electric Summary

-SPP Market Sales and SPP Market Purchases: previously these were netted and then included in the Wholesale number or the Purchased Power number but are now broken out separately to better track

-this was not initiated at budget time but a new budget amounts have been estimated based off of Q1 numbers.

-the market has been strong and units have been generating at the top with high market values.

Gas Summary

-Purchased gas: Higher than anticipated gas prices

Water Summary

-Majority of water revenue occurs in summer months during Q4

Pollution Control

General & Admin

Engineering

The headcount has not changed.

Unit sales & cost analysis

-NET is each month to date

-Electric is not included as the presentation of that data is currently being evaluated

Electric Production

-Wholesale Sales: Increase from Q3 FY2021

Gas and Water have been pretty consistent.

Cooling Degree Days

-Q3 of the current FY trended warmer than normal majority of the quarter

ii. Utility Rate Changes Overview

Brian Strom discusses the Rate Overview and Customer Fees

Cost of Service Studies

-Conducted by JK Energy Consulting

-Electric and Gas

--Study completed in 2019

-Water and Wastewater

--Study completed 2022

Electric rates

-rates adjusted for an increase in operating revenue of 3%

--1% from 202 COS study

--2% due to economic impact

-Utilized \$2M from rate stabilization fund

Customer impact

-a residential consumer living in the City of Hastings using 1000 kwh of electricity will see their electric bill increase from \$101.10 to \$104. This is an increase of \$2.90 per month.

-a small commercial consumer in the City of Hastings using 3000 kwh of electricity will see their electric bill increase from \$300.85 to \$312.40. This is an increase of \$11.55 per month.

History of Electric Rate Adjustments

Gas Rates

-Rates adjusted for an increase in operating revenue of 8%

--3% from 2020 COS study

--5% due to economic impact

-Utilized \$2M from rate stabilization fund

Customer Impact

-A residential consumer living in the City of Hastings using 120 ccf of gas will see their gas bill increase from \$83.26 to \$132.13. This is an increase of \$48.87 per month.

-a small commercial consumer in the City of Hastings using 500 ccf of gas will see their gas bill increase from \$335.14 to \$539.98. This is an increase of \$204.84 per month.

History of Gas rate adjustments

Water rates

-rates adjusted for an increase in revenue of 5%

--infrastructure replacement fee to be implemented

---infrastructure fee will account for 3/4 of the additional revenue

---an increase in the base water rates will account for the other 1/4

Customer Impact

- A residential consumer living in the City of Hastings using 6 ccf of water will see their water bill increase from \$22.37 to \$23.77. This is an increase of \$1.40 per month.
- A small commercial consumer in the City of Hastings using 50 ccf of water will see their water bill increase from \$102.63 to \$107.12. This is an increase of \$4.49 per month.

History of water rate adjustments

Sewer rates

- No adjustments for residential or most commercial customers
- High strength waste surcharges to increase
- Minimal customers impacted
- S-4 rate schedule
- special waste delivered directly to PCF
- Increase of 10%

History of Sewer rate adjustments

Customer Service Fees

Miscellaneous Fees

Bill: Cost of service study done? Will that help balance over the years?

(b) Production

(c) Operations

i. Critical Initiatives Impacting Utilities, Upcoming & in Progress

Lee and Derek to talk about the critical initiatives. Talks about Heartwell

Lee discusses the heartwell project. Schedule for groundbreaking on the first week of November.

-They will be our 2nd largest electric user and top 5 for water and sewer. Completion in 2025

PPGA, two projects

Derek discusses PPGA outages.

One big thing coming up on the energy side....

Smart meter discussion...Gets real time data, other advantages that we haven't caught yet.

(d) Administration

i. HEDC Workforce Housing-City/HU Support

Michael Crane, Hastings Economic Development Corporation (HEDC).

Michael discussed the HEDC and round 3 housing development funding opportunities.

Expecting to open up in October or November. Can't get into specifics because they are still in the works.

Once when we know when it opens and closes, we would like to move quickly.

Kevin: What is the balance of that economic development? Robin: \$1.513

The \$500,000 commitment will need a letter for approval.

We are only looking for opinions today.

Susan: Is HEDC helping with this fund? No other commitments at this time, but hasn't been decided. What kind of housing is this? All kinds; apartments, rentals, duplex for sale, rehab, downtown, infill housing.

Bill: Would we purchase land or would funds be used to purchase and build housing? Developers handle these projects. The developer requests and applies for the funds. The general concern is where are we at for housing? Two main issues: recruitment for businesses; is our role to support housing or industries? How do we replenish those funds?

Where are we at for the need for housing?

Shawn: Housing shortage is very real

The last study done was last year and we needed over 800 units.

Butch: How do we determine how much money the business gets? How long do they have to pay that back?

Mike: There is a process when we develop our funds that is approved by the state. 1) a lengthy application for a request for what they are doing and how much they request. 2) application review committee. The committee makes a recommendation to the HEDC board of directors, which makes the final decision. Every project is different. If it's a rental project, it is a longer process. If it's a for sale, it gets paid back quicker as they pay back as they sell units.

Kevin: This is 100% reimbursed? Everything is a loan and do those funds come back in?

Mike: Yes, we do not give money away. All of those funds come back in.

Bill hasn't heard anything negative saying that they will not support this, but need time to discuss this.

Kevin: Is there anything new or anything legal that has changed? Clint: No

Lee: The last study was done in 2021, can be found on the development services page under studies. Current demand for housing is between 1095 and 1321.

Susan: Can we do this in two steps?

Kevin: We can give a recommendation

Susan Motioned to not exceed \$500,000, Raitt 2nd. Yays: Hitesman, Meeske, Raitt.

Nays: None. Absent: Dewalt, Hemje.

(e) Other

4. Possible Closed Session (if necessary or requested).

ADJOURN:

Adjourned at 10:02 A.M.

APPROVED:

Board Secretary

RESOLUTION NO. 2022-44

WHEREAS, the City of Hastings, Nebraska (Hastings) has a long-term firm power resource commitment (Allocation) with the Western Area Power Administration (WAPA) to supply the Allocation to Hastings; and

WHEREAS, as required by the Energy Policy Act of 1992 and WAPA's adoption of the Energy Planning and Management Program, Hastings is required to prepare and submit an Integrated Resource Plan (IRP) to WAPA every five years to maintain the Allocation; and

WHEREAS, in 1996 Hastings received authorization from WAPA to submit a Cooperative IRP that included the Youth Rehabilitation Treatment Center (YRTC) facilities as YRTC (formally known as Hastings Regional Center) also holds a WAPA Allocation that Hastings oversees administratively, including the delivery of the Allocation to the YRTC facility, and

WHEREAS, the City Council of Hastings has reviewed and approves of the IRP prepared for Hastings and YRTC.

NOW, THEREFORE, BE IT RESOLVED in consideration of the foregoing recitals, and the recommendation of the Hastings Utility Board, the Mayor and City Council of the City of Hastings, Nebraska, hereby adopt the following resolution:

BE IT RESOLVED that the Integrated Resource Plan (IRP) for the City of Hastings and the Youth Rehabilitation Treatment Center be and the same is hereby adopted and the City Clerk is directed to submit the same to the attention of the Regional Manager of the Billings, Montana area office of the Western Area Power Administration prior to January 30, 2023.

PASSED AND APPROVED this 12th day of December, 2022.

Corey Stutte
Mayor

ATTEST:

Kimberly Jacobitz
City Clerk

(SEAL)

Approved as to form:

Jesse Oswald
City Attorney

THE CITY OF HASTINGS, NEBRASKA

YRTC at Hastings

**COOPERATIVE
INTEGRATED RESOURCE PLAN**

*Prepared for:
Western Area Power Administration*

*Prepared by:
The City of Hastings, Nebraska*

December 2022

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1.0 Background Information

As long-time customers of the Western Area Power Administration (WAPA), the City of Hastings, Nebraska (Hastings) and the State Building Division, Hastings Regional Center (HRC), have previously completed Conservation and Renewable Energy Plans (C&RE) in accordance with Title II of the Hoover Power Plant Act of 1984.

The Energy Policy Act of 1992 and the WAPA adoption of the Energy Planning and Management Program, requires that all WAPA customer's holding long-term firm power resource commitments complete an Integrated Resource Plan (IRP), in an effort to promote efficient use of electric energy by Western customers. As HRC's distribution system is totally surrounded by and interconnects with Hastings' system, a request was submitted to WAPA in December, 1995 to allow HRC and Hastings to submit a cooperative IRP. Hastings and HRC received authorization from WAPA on January 23, 1996 to file a cooperative IRP including information for both entities. Hastings and HRC submit the following cooperative IRP in accordance with WAPA requirements.

2.0 Profile

2.1 The City of Hastings, Nebraska (Hastings)

Hastings operates a publicly owned, full service municipal utility providing electrical, natural gas, water, sanitary sewer and street lighting service to the city of Hastings, Nebraska and surrounding areas. Hastings has provided at least one utility service since its inception in 1886, when municipal ownership and operation of the water and sewer system began. The electric system began to evolve in the early 1900's, and currently includes a service area of approximately 61 square miles. The natural gas system became publicly owned in 1942.

Today, Hastings provides reliable, economical utility service to nearly 13,958 electric customers, 10,678 natural gas customers and 10,266 water and sewer customers. Power is primarily provided by the locally-owned 76-megawatt (MW) net, coal-fired Gerald T. Whelan Energy Center 1 (WEC 1). Supplementing the WEC 1 are several additional generation facilities. The Whelan Energy Center 2 (WEC 2), a coal-fired 220 net MW generation facility that began commercial operation in 2011, is owned by the Public Power Generation Agency (PPGA) with Hastings having a 35 MW ownership share. The Don Henry Power Center (DHPC) is a dual fuel gas turbine which operates on either natural gas or distillate oil. The North Denver Station (NDS) has two dual fuel

steam turbine generators which can operate on either natural gas or No. 2 distillate oil. Total 2021 output of Hastings' generation facilities was 170 MW. Hastings also receives 11.4 MW, during peak periods, of WAPA generation. The electrical system had retail sales of nearly 427,555 MWh in 2021 with a peak hour usage of 92.7 MW on July 29, 2021. Wholesale power sales to the SPP Integrated Market accounted for an additional 180,368 MWh in 2021.

Utility operations at Hastings are overseen by an advisory Utility Board that makes recommendations for approval on utility matters to the locally elected City Council. The Utility Board was appointed in May 2017 and replaced a previous Board of Public Works. The Utility Board has five members who are recommended to the City Council by the Mayor. Each year, one board position is up for reappointment or replacement. Utility Board terms are for five years.

In the early years of the electric system, coal was the primary fuel used to fuel the boilers. Natural gas took the place of coal in 1941. With the onset of the energy crisis in the mid 70's, Hastings learned from its gas supplier that natural gas would be phased out as a viable boiler fuel by 1979. This prompted the community decision makers to investigate all available energy options. A study examining all available energy options culminated in a decision to build the 77 MW WEC 1 coal-fired plant east of town, which became operational in 1981. In 2001, Hastings contracted with an outside consulting agency to complete a Power Supply Study, to provide Hastings with the economics of power supply alternatives. As the result of that study, Hastings joined four other utilities in building a 220 MW coal fired plant (WEC 2) at the current WEC 1 plant location east of town. WEC 2 went on line commercially May 1, 2011.

The easing of the natural gas shortage and the resulting ability to again utilize natural gas as a boiler fuel provides a significant amount of unused generation capacity in Hastings. Although the cost of energy generated on natural gas (and backup oil supplies) has historically been at a higher dollar cost than coal, the availability of excess generating capacity has provided operational and financial benefits to Hastings. The availability of excess capacity has allowed for load planning flexibility. As Hastings' peak energy needs have increased, available capacity has existed to meet those needs. The rate payers of Hastings have also benefited from the revenues derived from marketing excess capacity and associated energy to third parties. Hastings is currently experiencing an excess generation position, and with the building of WEC 2, Hastings will have excess capacity at least until the year 2030 using current growth estimates.

2.2 Youth Rehabilitation Treatment Center at Hastings (YRTC) formerly the Hastings Regional Center (HRC)

The former HRC campus is now the Youth Rehabilitation Treatment Center at Hastings. It provides residential treatment for adolescent females from the ages of 14 to 18, average length of stay is 7 months. Evidenced base programming focuses on Trauma and Moral Reasoning. Gender specific programming focuses on empowering young women. Youth are also offered Individual Therapy (Cognitive Behavioral Therapy), Family Therapy, and Substance Use Treatment. The YRTC is accredited by PREA (Prison Rape Elimination Act), ACA (American Correctional Association, and PBS (Performance base Standards).

The YRTC campus has undergone major revisions in the past few years, including the construction of two new dorm type housing units and a program building. The program building houses classroom space as well as open space utilized for treatment and dining services. The three new buildings are slab on grade, wood framed structures with residential type construction methods that perform more efficiently than the previous buildings. These buildings have the new variable refrigerant flow (VRF) systems tied to a new geothermal well field, which is located just north of the Administration building. The Administration building and Chapel were the last two original buildings tied to the old boiler plant, which now have been updated with new VRF systems as well. These new VRF systems have a unit in every room for better control as required by the space/room. The entire system is controlled and monitored by a new Trane BAS system for higher efficiencies. Following the construction of these new buildings and the renovation of the Chapel and Administration buildings, all the existing program related buildings have been decommissioned and demolished as of 2022. These include buildings, #3, #4, #7, #8, #9, #10, #11 #12 #15 and #25. The boiler plant #16 is the last remaining building which is in demolition phase starting Dec 2022.

The old electrical system was a 2400-volt primary metered system located in the boiler plant and was distributed to all the buildings from that point. The campus now has a new dual feed electrical system completed in 2020 with new primary feeders and pad mount transformers serving each building. They have also installed connection points around the campus so as to have the capability to isolate issues in the system if they were to arise.

The YRTC was connected to the Hastings water system in April of 2019. Connection has reduced the energy needed to supply water to the campus by eliminating

the use of two large well pumps and water tower. The two wells have been decommissioned and no longer in service.

3.0 Existing Supply System

3.1.0 Hastings

Hastings' owns and operates three power stations with a combined rated capability of 135 MW's, and is the operator of the WEC 2, 220 MW coal station of which Hastings owns a 35 MW share (total rated generation capability of 170 MW). The capability and fuel mix of the generating capacity at each site is summarized in Table 3-1. The power stations are individually summarized in the following subsections.

Table 3-1 Summary of Hastings Utilities Existing Power Stations			
Station & Unit No.	In-Service Year	Primary Fuel	Rated Capability MW
Whelan Energy Center 1	1981	SubBit. Coal	76.0
Whelan Energy Center 2	2011	SubBit. Coal	35.0
Don Henry Power Center	1972	Natl Gas	18.0
North Denver Station #4	1957	Natl Gas	15.0
North Denver Station #5	1967	Natl Gas	25.0
TOTAL			170.0
Note: SubBit. refers to sub-bituminous, a medium heat content coal.			

3.1.1 Whelan Energy Center 1 (WEC 1)

The WEC 1 is a single-unit coal-fired power station located just east of the City limits, within Adams County. In 1988, Hastings sold a 6.95% participation share of WEC 1 to the Municipal Energy Agency of Nebraska (MEAN) which is approximately 5.3 MW's for the life of the plant. The WEC 1 station includes a General Electric (GE) turbine-generator with a rated gross output of 83.6 MW, and a tangentially-fired, dry-bottom Combustion Engineering steam generator. The station includes an electrostatic precipitator for capture of fly ash. Cooling water for the station is provided by on-site wells, with a double flow,

induced-draft cooling tower.

The WEC 1 station burns low sulfur western coal from the Powder River Basin of Wyoming. Coal is shipped to WEC 1 in unit trains containing approximately 135 railcars.

A continuous emission monitoring system was installed at WEC 1 in 1995. Hastings currently has surplus SO₂ allowances that will allow the unit to operate as a base load unit. The impacts of Title IV of the 1990 Clean Air Act Amendments (CAAA) on the WEC 1 station are further discussed in Section 4.

Hastings has an agreement that started in 2008 with a soy bean processing plant that is approximately ½ mile from the WEC 1 station to sell them approximately 135,000 tons of coal annually. This ethanol plant is currently a retail electric customer of Hastings.

3.1.2 Whelan Energy Center 2 (WEC 2)

On October 25, 2006, the Public Power Generation Agency (PPGA) was formed under the Interlocal Cooperation Agreement Act of the State of Nebraska to construct and operate WEC 2; a 220 MW net coal fired electric generating plant located on property adjacent to the existing WEC 1 facility. The five participant members of PPGA are Heartland Consumers Power District – 80 MW share (HCPD); Municipal Energy Agency of Nebraska – 80 MW share (MEAN); City of Grand Island Utilities – 15 MW share (GI); Nebraska City Utilities – 10 MW share (NCU); and Hastings – 35 MW share. The WEC 2 station includes a GE turbine-generator with a rated gross output of 246 MW, and a Babcock & Wilcox (B&W) wall fired steam boiler. The station includes an electrostatic precipitator to remove fly ash, a scrubber to remove sulfur dioxide, selective catalytic reduction to reduce nitrous oxides, and a baghouse for additional particulate removal, as well as mercury removal controls. WEC 2 is well-positioned to meet many existing and potential future EPA environmental rules. Cooling water for the station is provided by on-site wells, with a double flow, induced-draft cooling tower.

The WEC 2 station burns low sulfur western coal from the Powder River Basin of Wyoming. Coal is shipped to WEC 2 in unit trains containing approximately 135 railcars.

WEC 2 currently participates in the Southwest Power Pool (SPP) Integrated Market (IM). Tenaska Power Services and TEA are the two Market Participants (MP's) that

represent the five owners of WEC 2 in the SPP IM market.

3.1.3 North Denver Station (NDS)

NDS is Hastings's original power station, co-located with utility offices and operational facilities in the north central portion of Hastings. Units 4 and 5 at NDS were installed in 1957 and 1967, respectively, and continue to be operated by Hastings. Boilers for the original generating units 1 through 3 have been removed from the site. The associated turbine-generator #3 has been sold. Turbine #1 and #2 remain retired in place.

The primary fuel at NDS is natural gas, with No. 2 distillate oil currently applied as backup fuel. One distillate fuel oil storage tank is currently on site, with a total capacity of 580,000 gallons.

NDS Unit 4 includes an Allis-Chalmers turbine-generator and a Springfield steam boiler. The capacity of NDS Unit 4 is 15 MW. Turbine inlet temperature and pressure are 900°F and 850 psi, respectively. The Unit 4 condenser is cooled by a once-through water system, drawing water directly from dedicated wells.

NDS Unit 5 includes a GE turbine-generator and a B&W steam boiler. The capacity of NDS Unit 5 is 25 MW. Turbine inlet temperature and pressure are identical to Unit 4. The Unit 5 condenser is cooled by a mechanical draft cooling tower, with water supplied by wells.

3.1.4 Don Henry Power Center (DHPC)

The DHPC includes a GE Frame 5 combustion turbine generator and an electrical substation located in the southwest portion of Hastings. The capacity of DHPC is 18 MW. Primary fuel for the station is natural gas, with distillate oil as backup fuel. The DHPC site includes two oil storage tanks with a combined capacity of 296,000 gallons.

There is sufficient physical space at the DHPC site for a second Frame 5 or Frame 6 combustion turbine generating unit. Fuel is provided to DHPC from a Tallgrass Interstate Gas Transmission (TIGT) natural gas town border station (formerly Kinder Morgan), a few hundred yards from the DHPC site. The pipeline from the TIGT town border station to DHPC is sufficient to support concurrent operation of two generating units at the site. However, the TIGT supply line is insufficient to support operation of the existing generating

capacity at DHPC during peak natural gas usage months in the winter season.

3.1.5 Station Operating Modes and Capacity Factors

The WEC 1 station is on-line most hours of the year, and provides the bulk of electric energy for Hastings' retail customer load. NDS and the DHPC units are generally available for the SPP IM if called upon, however, the NDS units typically operate only several weeks per year and then, primarily for testing. The DHPC station is available to be called on by the SPP IM when needed. HU also completes a monthly operational test on DHPC. Prior to February 2020, the lower natural gas prices and the addition of renewable energy resources in the SPP footprint, it has put downward pressure on the price of energy. Thus, the WEC units have often been dispatched by the SPP IM to minimum operational levels during shoulder months and off-peak hours. The NDS and DHPC units have seldom been called upon by SPP due to low alternative energy prices. February 2020, the Polar Vortex hit a large portion of the SPP market, including Hastings. This initiated a turning point in the market with higher than average gas prices and higher than average market prices. Table 3-2 summarizes the annual capacity factor of each station for the past five years.

Table 3-2 Annual Capacity Factor of Hastings' Power Stations					
Station	Year				
	2017	2018	2019	2020	2021
Whelan Energy Center Unit 1	50.81	47.43	45.25	49.69	61.35
Whelan Energy Center Unit 2	41.69	53.65	56.44	35.5	44.94
North Denver Station (2 units)	0.44	0.09	0.11	0.04	0.00
Don Henry Power Station	0.05	0.09	0.20	0.07	0.99
Note 1: Capacity factors based on rated capacity of Table 3-1, and net energy output (NDS and DHPC calculations generally exclude on-site use in months with no gross generation). Capacity factor equals energy generated divided by total hours in the year.					

3.1.6 Purchase Power Agreement with WAPA

Hastings has a long-term agreement with WAPA that provides capacity and energy to Hastings. The firm capacity provided by WAPA in the summer and winter seasons is summarized in Table 3-3.

Table 3-3 Firm Capacity Provided to the City of Hastings by WAPA (MW)	
Summer Seasons	11.360
Winter Seasons	6.189
Note: Summer months are defined as May through October.	

Seasonal energy guaranteed to be provided by WAPA under the contract is based on a defined portion of Hastings' system energy requirements. WAPA currently provides approximately 27,509 MWh in the summer season and 19,641 MWh in the winter season (total 47,150 MWh annually).

3.1.7 Historic and Projected Fuel Prices

Fuel prices for each of the existing stations for the past four years are summarized in Table 3-5. Coal fuel prices have steadily increased during this time period, primarily due to the economy and coal shortages in China and India. Beginning in 2017, natural gas prices have fluctuated up and down through 2021. In 2022, natural gas prices increased sharply. In certain months, the price was three times higher than what it was in 2021. However, prices have decreased substantially in the latter part of 2022. According to the Energy Information Administration (EIA) the forecasted natural gas prices will continue to decrease thru 2026.

Coal and natural gas delivered fuel price forecasts applied are illustrated on Figure 3-1, and detailed in Table 3-4. Hastings' rail contract is currently a five-year agreement that will expire on 12/31/2027. Hastings' current coal contract is for three-years and expires on 12/31/25. The 2022 coal cost is higher than 2021 primarily because of the state of the current economy and coal shortages globally. Base coal price forecast according to the "EIA 2022 Annual Energy Outlook" report is projecting that Western coal prices will decrease an average of 3 % through 2027.

The forecasted values for natural gas prices, shown in Figure 3-1 and Table 3-4, are annual values calculated as the average of projected monthly values. The average annual natural gas delivered price in 2023 is estimated to be about \$6.49 per MMBtu.

Table 3-4 Forecasts of Coal and Natural Gas
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As-Consumed Fuel Prices				
Year	Coal*		Natural Gas**	
	\$/MMBtu	Percent Increase	\$/MMBtu	Percent Increase
2022	1.158		6.96	
2023	1.284	10.9%	6.49	-6.8%
2024	1.317	2.6%	6.26	-3.5%
2025	1.357	3.0%	6.23	-0.5%
2026	1.355	-0.2%	6.35	1.9%
2027	1.353	-0.1%	6.57	3.5%

*2022 is based on actual prices through Oct;

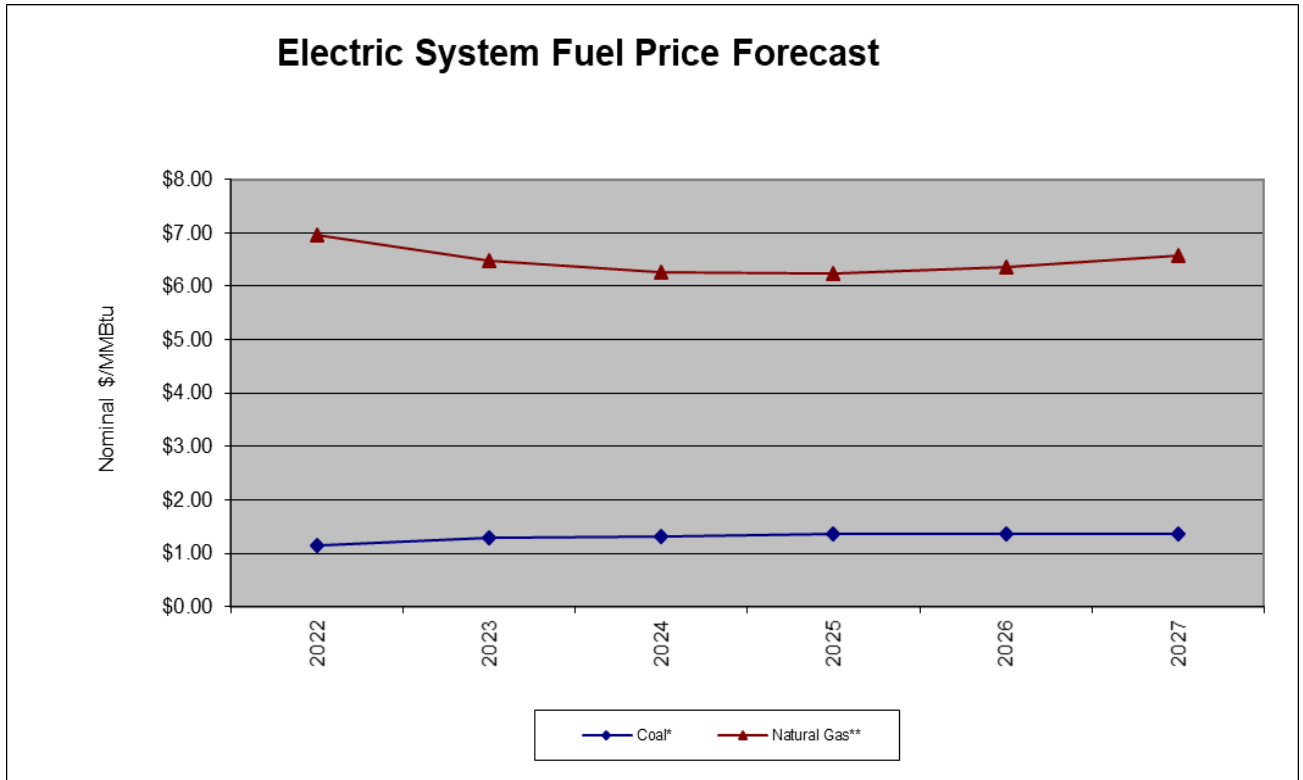
2022-2025 is

based on coal & rail contracts; 2026 - 2027 is using the existing 2025 price and decreasing the coal cost by the EIA average of 3% and contracted rail price

**EIA 2022-2027 forecasted weighted average prices

Table 3-5 Annual Fuel Cost of Hastings' Power Stations (\$/MMBtu= \$/10 ⁶ Btu)				
Station	Year			
	2018	2019	2020	2021
Whelan Energy Center (2 units)	1.15	1.13	1.14	1.15
North Denver Station (2 units)	3.25	3.0	2.91	0
Don Henry Power Center	3.47	3.03	3.02	4.03
Note: Fuel prices are based on higher heating value (HHV). Whelan Energy Center includes both WEC-1 and WEC-2.				

Figure 3-1



3.1.8 Physical Assessment of the NDS Generating Units

Units 4 and 5 at NDS were installed in 1957 and 1967, respectively. Both generating units were operated in base-load mode until 1981, when the WEC 1 station became operational. Since that time, the units have been operated intermittently for peaking and replacement power. During this time, the generating units have typically operated several weeks each year primarily for reliability and operational testing.

The general condition of the balance of station equipment for Unit 5 is better than that of Unit 4. This would be expected, as Unit 5 is newer and has fewer operating hours.

3.1.8. a Steam Turbine and Generator

Unit 4 steam turbine was overhauled in 2022, with the exception of the generator. Unit 5 steam turbine was also overhauled in 2022 with the exception of the generator. In the winter of 2022, all of the high energy piping was inspected and repairs were made where required. Both units were found to be in good shape.

3.1.9 Regional Reliability Organizations

In 1996, Hastings became a member of the Mid-Continent Area Power Pool (MAPP). MAPP comprised a multi-state region in the north-central U.S., including the entire state of Nebraska. Membership in MAPP provided Hastings an interface with the larger power suppliers in the region.

The MAPP members operated a wholesale market for the voluntary purchase and sale of electricity at market-based rates, exchanged real-time system cost information, provided maintenance and emergency backup power to each other's power systems, and otherwise coordinated transactions and operation of the regional electric system.

In 2002, MAPP merged its operations with the Midwest Independent Transmission System Operator (MISO). MISO's primary role was to ensure equal access to the transmission systems for all participants and selling transmission service on those lines under FERC tariffs.

With the increasing emphasis on system reliability, MAPP created the Midwest Reliability Organization (MRO) to address those concerns. The MRO is a non-profit organization dedicated to ensuring the reliability of the bulk power system in the North Central part of North America. The primary focus of the MRO is ensuring compliance with regional reliability standards and criteria utilizing open, fair process in the public interest. On January 1, 2005 this organization became operational and replaced the MAPP Regional Reliability Council of the North American Electric Reliability Council (NERC). The MRO membership is comprised of municipal utilities, cooperatives, investor-owned utilities, and a federal power marketing agency, Canadian Corporations, and independent power producers.

Hastings sent written notice to withdraw from MAPP effective April 1, 2009 and Hastings became a transmission customer of the Southwest Power Pool (SPP). SPP is a Regional Transmission Organization (RTO), mandated by the Federal Energy Regulatory Commission (FERC) to ensure reliable supplies of power, adequate transmission infrastructure, and competitive wholesale prices of electricity. As a NERC Regional Entity, SPP oversees compliance enforcement and reliability standards development. The SPP Integrated Marketplace (IM), which went live in 2014, includes a Day-Ahead Market with Transmission Congestion Rights, a Reliability Unit Commitment process, a Real-Time Balancing Market that replaced the Energy Imbalance Service Market, and the incorporation of price-based Operating Reserve procurement. SPP is currently the Consolidated Balancing

Authority (CBA) and will balance supply and demand for the region, maintain frequency, and maintain electricity flows between adjacent BA's. SPP membership is comprised of cooperatives; independent power producers; independent transmission companies; investor-owned utilities; marketers; municipals; and state agencies. Hastings has contracted with a third party, Tenaska Power Services, to represent Hastings as its Market Participant (MP) in the IM through March 31st 2023. Hastings will begin a new contract with NextEra Energy Marketing starting April 1st 2023.

3.2.0 YRTC at Hastings / HRC

3.2.1 WAPA Purchases

The vast majority of energy used at YRTC is supplied through its WAPA purchase contract. The WAPA energy is delivered to the Hastings' interconnect with the Nebraska Public Power District (NPPD) and is "wheeled" over Hastings' system to YRTC. The Contract Rate of Delivery (CROD) for firm power until October 31, 2015, under the WAPA contract was 790 kW during the Winter Season and 1,433 kW during the summer season. On November 1, 2015, HRC transferred a portion of its allocation to the Nebraska State Penitentiary in Lincoln, Nebraska. The HRC Winter CROD was reduced to 316 kW for the Winter Season and 737 kW for the Summer Season. This reduction in CROD's was adequate to supply peak period to date. The peak electrical demand at HRC during the past four years was in September, 2019, when a daily peak of 519 kW's occurred. The daily CROD totally satisfied this peak day requirement. Peak annual energy use during the past four years occurred during the period of January 2019 through December 2019 when over 1,978 MWH's of power was consumed. Of this amount, all was provided by WAPA.

3.2.2 Generation Facilities

A 750-kW steam powered turbine-driven generator is currently located at YRTC. This generator had not been operated for over 25 years. The steam powered turbine driven generator is scheduled to be removed in December of 2022. YRTC is fully reliant on Hastings Utilities for their power needs.

3.2.3 Supplemental Power Purchases

YRTC currently has a Supplemental Purchase Power Agreement with Hastings in the event WAPA power delivered is inadequate to supply YRTC's entire needs. Due to the direct interconnect with Hastings' system and the excess capacity/energy position of Hastings, supplemental power is readily available at an agreed upon rate if needed by YRTC.

4.0 Environmental Considerations

4.1.0 Hastings

This section summarizes the impact of Title IV of the Clean Air Act on existing and future generating capacity owned by Hastings. Also summarized are related proposed regulations that are under consideration.

4.1.1 Title IV NO_x Requirements

Under Title IV of the Clean Air Act Amendments (CAAA) of 1990, all coal-fueled boilers are required to meet specific NO_x emission levels. Under the CAAA regulations, the boiler at WEC 1 qualifies as a "Phase II" boiler, required to meet a NO_x emissions limit of 0.38 lbs/MMBtu as of January 1, 2000. Hastings elected early participation in the Title IV NO_x program, resulting in an emission limit of 0.45 lbs/MMBtu applying until January 1, 2008. The required NO_x emission limit for WEC 1 reduced to 0.38 lbs/MMBtu on that date. WEC 1's NO_x emission rate is well below these requirements. The WEC 1 emission rate in 2021 was 0.167 lbs/MMBtu.

On March 1, 2017 EPA began compliance of the Cross-State Air Pollution Rule (CSAPR). The CSAPR has been implemented to reduce nitrous oxide (NO_x) emissions from power plants like WEC 1. Under CSAPR the WEC 1 allocation for NO_x is 657.0 tons per year. In 2021 416.9 tons of NO_x was emitted. Currently WEC1 is accumulating excess NO_x CSAPR allocations.

4.1.2 Title IV SO₂ Requirements

Title IV of the CAAA includes an SO₂ cap-and-trading program with a goal of eventually reducing annual SO₂ emissions in the U.S. by 10 million tons per year. This is known as the Acid Rain Program. The WEC 1 station falls under Phase II of this program,

which affects all generating units producing greater than 25 MW, except some pre-existing combustion turbine units. Beginning in the year 2000, affected units were required to achieve an SO₂ emissions cap based on historical fuel consumption. For each utility system, annual SO₂ emission tonnage allowances have been awarded. These allowances can be applied against the utility's SO₂ emissions; excess allowances can be sold at agreed prices; or banked for use in future years. The allowances awarded and purchased must cover the SO₂ emissions of all affected generating units on the utility's system in future years, including new units added in the future.

Hastings' annual SO₂ allowance for years 2010 and forward is 2,338 tons per year. As background information, Table 4-1 summarizes the tons of SO₂ and rate of emissions at WEC 1 in 2010 thru 2021.

On March 1, 2017, EPA finalized the Cross-State Air Pollution Rule (CSAPR). CSAPR was implemented to reduce sulfur dioxide (SO₂) emissions from power plants like WEC 1. WEC 1 allocation for SO₂ is 1722.0 Tons per year. In 2021, 1898.1 tons of SO₂ was emitted. Currently WEC1 has accumulated excess SO₂ CSAPR allocations in the amount of 1,383.1 tons at end of year 2021.

The No. 2 Diesel Fuel burned at the North Denver Station and Don Henry Power Center does not produce levels of SO₂ emissions that are significant in comparison to the Hastings system capacity. All No. 2 Diesel Fuel currently purchased by Hastings is Ultra Low Sulfur Diesel (Sulfur content of 0.005% or less).

Table 4-1 SO ₂ Tons Emitted and Rate of Emission at WEC 1		
Year	Annual Tons SO ₂	Average lbs Per MMBtu
2010	2300.7	0.809
2011	2419.5	0.856

2012	1586.8	0.697
2013	1439.1	0.550
2014	2301.5	0.800
2015	1494.5	0.716
2016	1579.3	0.706
2017	1828.1	0.799
2018	1775.8	0.848
2019	1621.3	0.808
2020	1641.5	0.785
2021	1898.1	0.759

4.1.3 Title V Requirements

The major provisions of Title V of the CAAA required that each state develop an EPA approved program to administer the provisions of the CAAA. Each utility subject to the CAAA is required to develop a compliance plan to address allowance allocations, permit conditions, continuous emission monitoring systems design and installation, and other requirements of the CAAA. Each utility is also required to operate in compliance with an EPA or state-issued permit. Provisions of this permit system require that each state program be self-supporting. Therefore, each utility is subject to an annual emission assessment.

Hastings is required to operate under a permit program regulated by the Nebraska Department of Environmental and Energy (NDEE). A WEC 1 Title V Operating Permit has been issued by NDEE on August 16, 2018. This permit expired on August 16, 2023. A permit renewal application was prepared and sent to NDEE May 19, 2022. The new permit is pending NDEE approval. As of September 30, 2022 NDEE, is still processing the permit application.

Annual and Semi-Annual Deviation reports are submitted to NDEE to document compliance with all conditions of the Air Operating Permits.

4.1.4 Mercury and Air Toxics Standard Rule (MATS Rule)

The EPA has enacted the Mercury and Air Toxic Standard Rule (MATS Rule). This rule requires the control of Mercury and other metals deemed as Hazardous Air Pollutants

(HAPS). The rule also requires the control of Dioxin and Furan compounds. Control of acid gases such as Hydrochloric and Hydrofluoric Acid (HCl and HF) is also required. Compliance was required by April, 2015. A one-year extension was requested and approved by NDEE (formally NDEQ). Compliance with the MATS Rule has been ongoing since April, 2016.

The compliance of the HAPS is accomplished by limiting the emissions of particulate matter (PM). Currently, the operation of WEC 1 utilizing the Electro-Static-Precipitator (ESP) meets the required limits for PM and thus HAPS. A PM Continuous Emission Monitor (PM CEM) was installed to document regulatory compliance. The PM CEM equipment has worked well.

The compliance for Mercury requires the injection of activated carbon. The activated carbon captures the mercury from within the gas stream. The activated carbon along with the mercury is removed from the gas stream by the ESP.

A Mercury Continuous Emission Monitor (Hg CEM) has been installed to document regulatory compliance. This Hg CEM equipment has worked well.

The ability to reuse the fly ash as a concrete additive or as soil stabilizer with the addition of the activated carbon and mercury has not had any detrimental effects. The fly ash produced by WEC1 continues to meet the required material specifications for beneficial reuse.

The compliance with Dioxin and Furan compounds is accomplished by insuring proper burning of the coal. The compliance requires periodic maintenance and tuning of the burners. Maintenance and inspections activities are documented to provide evidence of regulatory compliance.

With regards to the control of acid gases, the emission limits for HCl and HF are currently being met by WEC 1. This is due to the high calcium content of the Powder River Basin Coal. Monitoring of the HCl is required to ensure that compliance is continuous. An HCl Continuous Emission Monitor (HCl CEM) has been installed and continues to function well.

4.1.5 WEC 2 Environmental Controls

The Environmental Controls on WEC 2 are State-of-the-Art. WEC 2 used the Best

Available Control Technology (BACT). It used a dry scrubber for Sulfur Dioxide (SO₂) control, a Selective Catalytic Reduction for Nitrogen Oxide (NO_x) control, Activated Carbon Injection (ACI) for mercury removal, a baghouse for particulate removal, and an ESP was installed for ash removal. WEC 2 continues to meet or exceed its air permit requirements. WEC2 has continuous emission monitors for SO₂, NO_x, CO, CO₂, PM, Hg, and Opacity to document regulatory compliance.

4.2.0 YRTC at Hastings

YRTC is not currently impacted by requirements of the Clean Air Act.

5.0 Conversion/Demand Side Management Programs

With the low cost of energy historically available in this geographical region and the excess generation currently available, conservation and/or Demand Side Management (DSM) programs have been limited because they are not currently cost effective. Even so, Hastings has actively promoted several low-cost conservation and DSM options to reduce peak requirements, improve load factors and reduce costs to customers. It is anticipated that if load growth continues and excess capacity diminishes, additional methods of DSM will be employed. Following are the highlights of conservation and DSM options currently being utilized.

5.1.0 Hastings

5.1.1 LED Street Light Conversion

The LED street light conversion was entirely completed in 2022, with the city of Hastings completed in 2021 and the village of Juniata completed in 2022.

5.1.2 Excess Power Sales

Excess capacity on a local level has been actively marketed since shortly after WEC 1 began commercial operation in 1981, as the capacity of the plant exceeded Hastings' energy needs at the time of construction. Natural gas generation capacity that had been idled by the unavailability of natural gas as a boiler fuel as a result of the energy crisis again became available for use, resulting in additional capacity to be marketed. The improvements of the load factor and generating efficiencies in Hastings' overall system that have resulted have provided significant cost savings to the customers of

Hastings. Wholesale energy sales were 89,440 MWH's in 2016 as a result of the low energy prices in the SPP IM, but wholesales did begin to climb in 2017 to 100,710 MWH's and significantly increased in 2021 at 180,368 MWH's due to strong market prices.

5.1.3 Public Information Programs

Hastings has an ongoing program of educating the general public in regard to energy conservation measures. A monthly newsletter is issued to all customers. The newsletter contains miscellaneous items of interest, including various methods of energy conservation and associated cost savings which may result. In addition, Hastings has full-time employees to answer customer inquiries and provide information in regard to conservation and other energy related issues.

Additionally, all fifth-grade students within the Hastings' service area are provided a one month long in-class, LivingWise program. This program teaches both energy and water conservation with a tie-in to in home measures that the student shares with her/his parents. The LivingWise program provides each student with a kit which includes LED light bulbs and other conservation items to discuss with parents and install within the residence.

Commercial and industrial customers are contacted by utility staff to assist in analyzing consumption patterns and histories to determine potential areas of energy/cost savings. Hastings has load analysis equipment available for loan to these customers to help determine various operational changes that may be possible to improve load factors and reduce peak needs.

Hastings has available to customers a computer program capable of assisting customers in making decisions about energy efficient heating and cooling appliances. The program analyses the appliances efficiency ratings and performance capabilities to predict energy costs for a "typical" heating/cooling season.

Hastings also has available to all customers an infrared thermographic scanning camera. Residential customers can have their home evaluated for heat losses. Commercial and Industrial customers can have their business inspected to evaluate the mechanical integrity of their business. With this service the customer will receive a report showing heat losses and where there could be potential problems with equipment.

5.1.4 Customer Energy Incentive Plan

In 1994, Hastings implemented a Customer Energy Incentive Plan, which provides monetary payment to customers who install high efficiency heat pumps or other energy saving equipment in their homes. Payment levels to homeowners vary depending upon type of unit installed and various efficiency ratings. During the 28 years of the plan, Hastings has seen significant interest in the incentive plan and has improved its overall load factor as a result, by increasing its winter peak.

5.1.5 Alternate Powering for Water Wells

Hastings currently has 19 wells available for use in the domestic system and five wells that can be used for emergency purposes or as ASR feed. Traditionally, electric motors were utilized as the primary power source for all wells. As the highest demand for water coincides with the hottest weather of the year and peak electrical needs, electric water well motors contribute to peak loads. Diesel back up has been installed on three of the wells. Hastings is currently reviewing the possibility of utilizing natural gas fuel as another alternative. Also, when new wells are constructed on the Hastings' system the viability of natural gas will be fully analyzed on a case by case basis as the primary fuel source.

5.1.6 Miscellaneous System Efficiency Enhancements

Hastings has a 115 kV "loop" which totally surrounds the city. This has significantly enhanced reliability for a number of the larger industrial customers in the community. In addition, Hastings continues to move towards a direct step down from 115 kV to 13.8 kV. This direct step down avoids double transformation and saves energy. Hastings has finished its project to install capacitor banks for power factor correction on distribution feeders.

5.2 YRTC at Hastings/ HRC

5.2.1 Energy Efficient Heat and Air Conditioning

The new dorms and program buildings have the new variable refrigerant flow (VRF) systems tied to a new geo well field just north of the Administration building. The

Administration and Chapel were the last two buildings tied to the old boiler plant and now have new VRF systems as well. These new VRF systems have a unit in every space giving better control as required by the space. The entire system is controlled and monitored by a new Trane BAS system for higher efficiencies. All completed in 2021.

5.2.2 Water supply

The YRTC was connected to the Hastings water system in April of 2019. Connection has reduced the energy needed to supply water to the campus by eliminating the use of two large well pumps and water tower. The two wells have been decommissioned and no longer in service.

6.0 Recent and Projected Load Growth

This section discusses historical and projected retail customer energy sales and peak demand growth on the Hastings and HRC electric system. A mid-range peak demand forecast was provided by Hastings. A range of system peak demand growth was then applied along with an associated range of system retail sales growth.

6.1.0 Historical Retail Sales and Peak Demand - Hastings

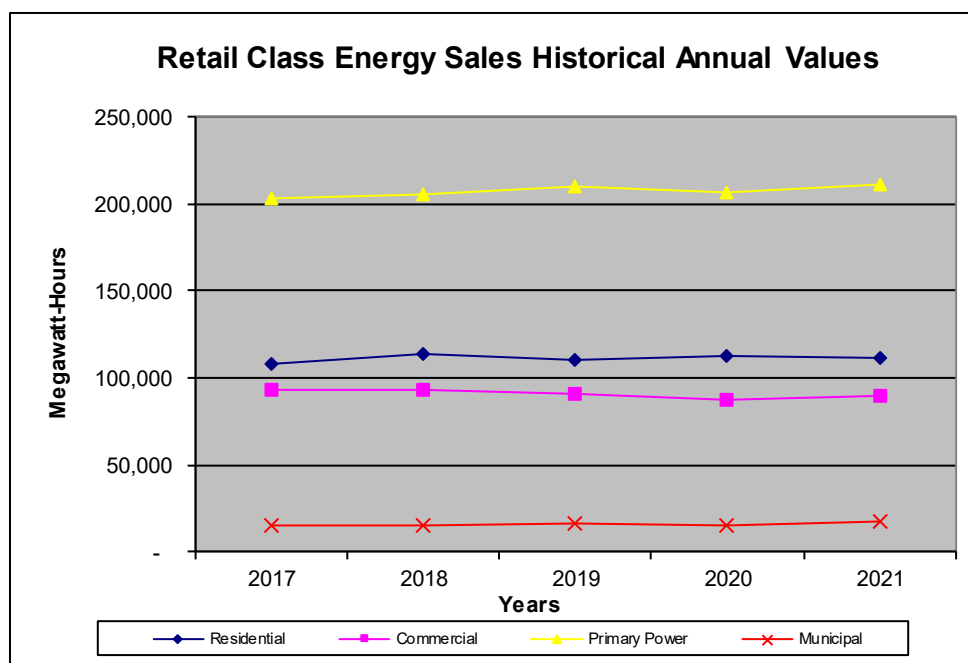
Annual retail sales of each primary customer class are illustrated for the past seven years in Figure 6-1. Based on the average of the last two years, the breakout of total sales by customer classes is as follows:

- Residential: 26 percent
- Commercial: 21 percent
- Primary Power: 49 percent*
- Municipal: 4 percent **

*Includes Primary Power and Irrigation customer classes

**Includes Street Lighting, Traffic, Public Authorities, and Interdepartmental

Figure 6-1



Since 2018 the growth rates for all customer classes have actually increased in most classes until 2020 which shows a small decrease in the total system, but rebounded back in 2021. Growth rates for each customer class and for the overall electric system are summarized in Table 6-1. Also shown for comparison are winter season peak demands for the past five calendar years. The demand growth rates are summarized in Table 6-2.

Table 6-1 Summary of Recent Class and System Energy Sales Growth					
Years	Annual Growth Rate (Percent)				
	Residential	Commercial	Primary Power	Municipal	System
2018	4.8	.3	1.3	-0.3	1.9
2019	-2.4	-2.8	2.3	10.7	0.2
2020	1.6	-3.4	-1.5	-4.0	-1.2
2021	-6	2.1	2.1	8.6	1.6

Figure 6-2

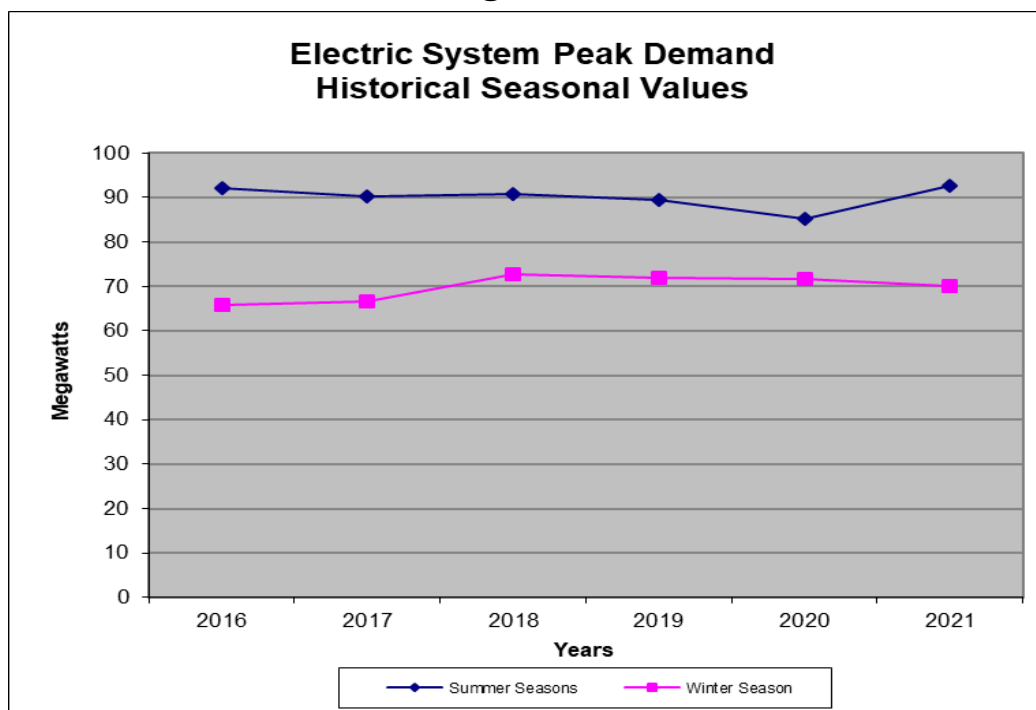


Table 6-2 Summary of Recent System Peak Demand Growth		
Years	Annual Growth Rate (Percent)	
	Summer (Annual)	Winter
2017-2019	-0.9 avg.	3.1 avg.
2020	-4.6	-0.3
2021	8.7	-2.2
Note: Winter growth rates based on calendar year data.		

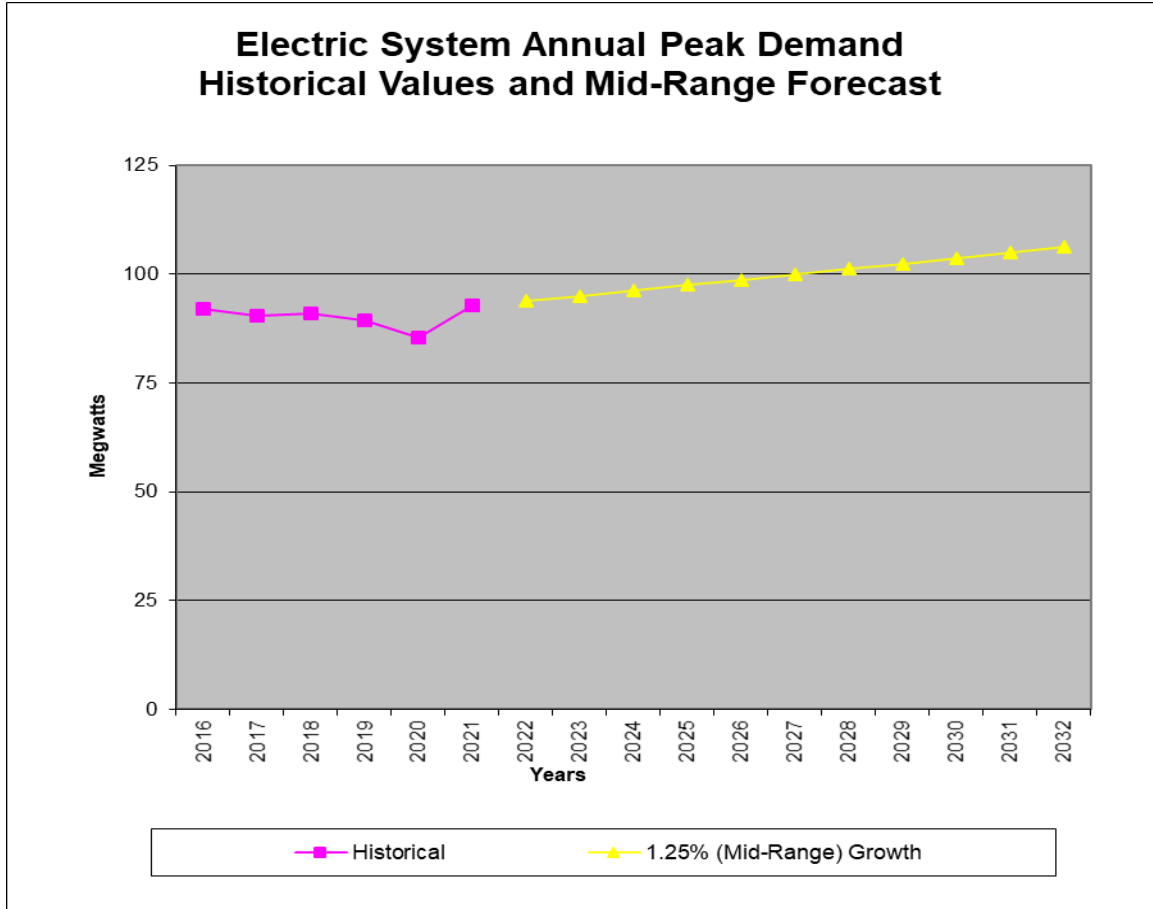
Peak demand from 2017 to 2021 has fluctuated by year but overall has increased by approximately 0.3 percent per year. Comparing information in Tables 6-1 and 6-2, we see

that peak demand has declined until 2021 which shows for the first time in three years that the peak demand grew almost 9 percent from 2020.

6.1.1 Forecasts of Peak Demand Growth

Hastings uses a 1.25 percent annual peak demand growth rate for the Hastings electric system. Annual forecast values resulting by applying this growth rate to the actual 2016 peak demand of 92.0 MW are illustrated in Figure 6-3, along with the historical values. These demand growth values are applied as the Mid-Range growth forecast in this Study.

Figure 6-3



6.1.2 Forecasts of Retail Energy Sales

A mid-range forecast of energy sales was derived from the mid-range peak demand forecast and recent system load characteristics. This methodology implies that the customer classes would grow at similar rates in future years.

The following equation details the electric system parameters applied to develop forecasts of energy forecasts:

- $\text{Annual Energy Requirements} = \text{Peak Demand} \times \text{Annual Hours} \times \text{Load Factor}$

- $\text{Annual Energy Sales} = \text{Energy Requirements} \times (100 - \text{Percent System Losses}) / 100$

From the above equations, the direct relationship between peak demand and energy sales can be expressed as follows:

- $\text{Annual Energy Sales} = \text{Peak Demand} \times \text{Annual Hours} \times \text{Load Factor} \times (100 -$

Percent Losses)/100

Load factor and system energy losses on the Hastings electric system were evaluated to discern trends over the past several years. Historical values for these parameters on the Hastings system in 2017 through 2021 are summarized in Table 6-3.

The average percentage energy losses for the Hastings transmission and distribution system over the five-year period has been 2.6 percent. This is a relatively low percentage for an electric system, and reflects the fact that generation is located close to the load centers on the Hastings electric system.

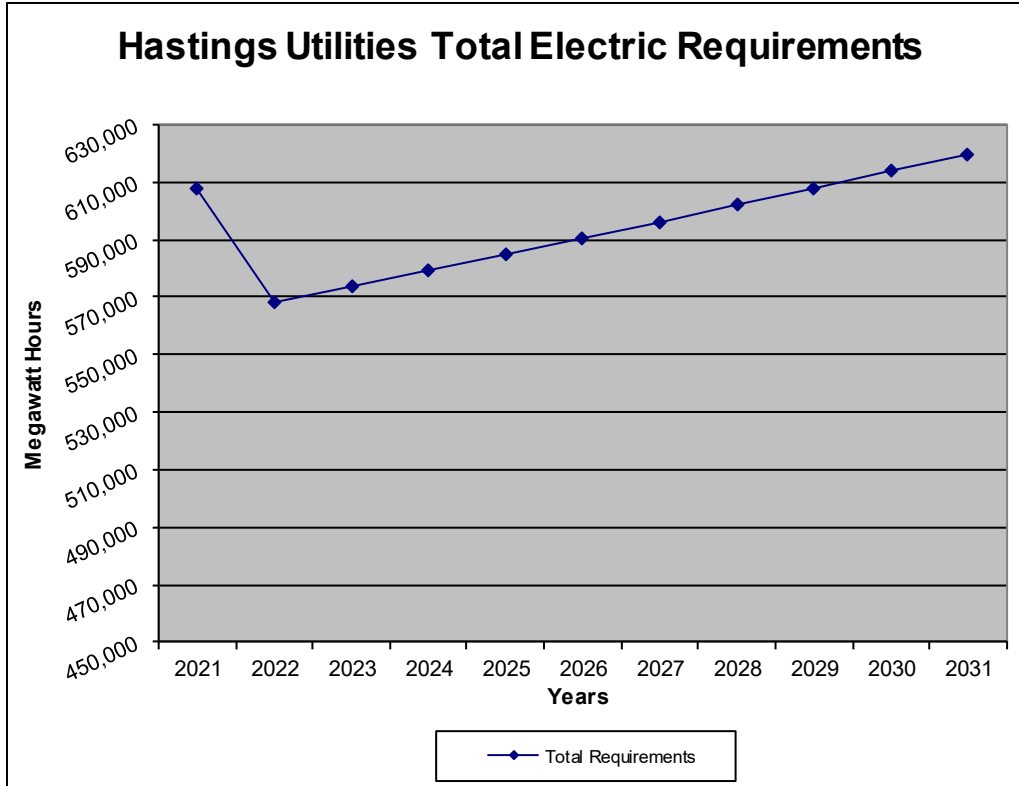
Annual system load factors for the five-year period are also shown in Table 6-3. The average load factor from 2017 through 2021 is 55.4 percent.

Table 6-3			
Recent Electric System Energy Losses & Load Factor			
Fiscal Year	Energy Losses	Load Factor Percent	
	Percent		
2017	3.2%	54.5%	
2018	3.4%	55.3%	
2019	2.4%	55.8%	
2020	9.0%	56.8%	
2021	3.2%	54.5%	
Average	2.6%	55.4%	

When applying this methodology, load factor is assumed to remain constant in future years, and energy sales are assumed to grow at the same rate as the peak demand after 2021. Table 6-4 shows these forecasted energy sales. Figure 6-4 summarizes the energy forecasts.

Table 6-4			
Forecast Range of System Energy Sales Growth			
Annual Energy Sales w/1.25% growth			
Year	Residential sales	Wholesale Sales	Total Requirements
2021	427,555	180,368	607,923
2022	432,899	135,600	568,499
2023	438,311	135,600	573,911
2024	443,790	135,600	579,390
2025	449,337	135,600	584,937
2026	454,954	135,600	590,554
2027	460,641	135,600	596,241
2028	466,399	135,600	601,999
2029	472,229	135,600	607,829
2030	478,131	135,600	613,731
2031	484,108	135,600	619,708

Figure 6-4



6.2.0 Historical Peak Demand – YRTC/HRC

The peak demand of HRC has been relatively flat during the past three years. Currently, the WAPA summer/winter CROD is more than adequate to handle all electrical needs of HRC.

Electrical usage data for the past three years is as follows:

Peak Electrical Demand	519 KW in September, 2019
Peak Annual Energy Use	1,978,088 KWH (Jan. 2019 – Dec. 2019)
Monthly Energy Use Varied From	29,064 KWH (January, 2021) 269,275 KWH (June, 2019)

6.2.1 Projected Peak Demand – YRTC/HRC

YEAR	TOTAL ANNUAL REQUIREMENT		WAPA - FURNISHED REQUIREMENTS	
	PEAK DEMAND -KW	TOTAL ENERGY - KWH	PEAK DEMAND -KW	TOTAL ENERGY - KWH
2016	651	2,383,378	737	2,682,000
2017	538	2,105,772	737	2,682,000
2018	550	2,100,000	737	2,682,000
2019	550	2,100,000	737	2,682,000
2020	550	2,100,000	737	2,682,000
2021	550	2,100,000	737	2,682,000
2022	550	2,100,000	737	2,682,000
2023	550	2,100,000	737	2,682,000
2024	550	2,100,000	737	2,682,000
2025	550	2,100,000	737	2,682,000
2026	550	2,100,000	737	2,682,000
2027	550	2,100,000	737	2,682,000

NOTES:

1. All Demand Peaks occur during the “Summer” allocation Season.
2. Current WAPA CROD’s are Winter – 316 kW, Summer – 737 kW.
3. It is expected that Peak Demand and annual energy usage at YRTC has declined since 2019 when the construction project began.

7.0 Capacity and Energy Situation

These sections summarize the need for additional capacity on the Hastings electric system, and the sources and uses of energy on the system. The range of capacity need is based on the load growth forecasts discussed in Section 6, and other scenario parameters.

7.1.0 Scenarios of Need for Capacity

7.1.1 Base Case Scenario

The Base Case scenario of capacity need assumes the mid-range peak demand forecast, existing WAPA power purchase agreement, and operation of all existing generating units through 2020. The available capacity of the existing supply system under this scenario in future years is detailed in Table 7-1. Table 7-1 also shows the total capacity requirement compared to available capacity at a growth factor of 1.25% plus the addition of 35 MW’s

from the 220 MW WEC 2 Unit that was put into service in 2011.

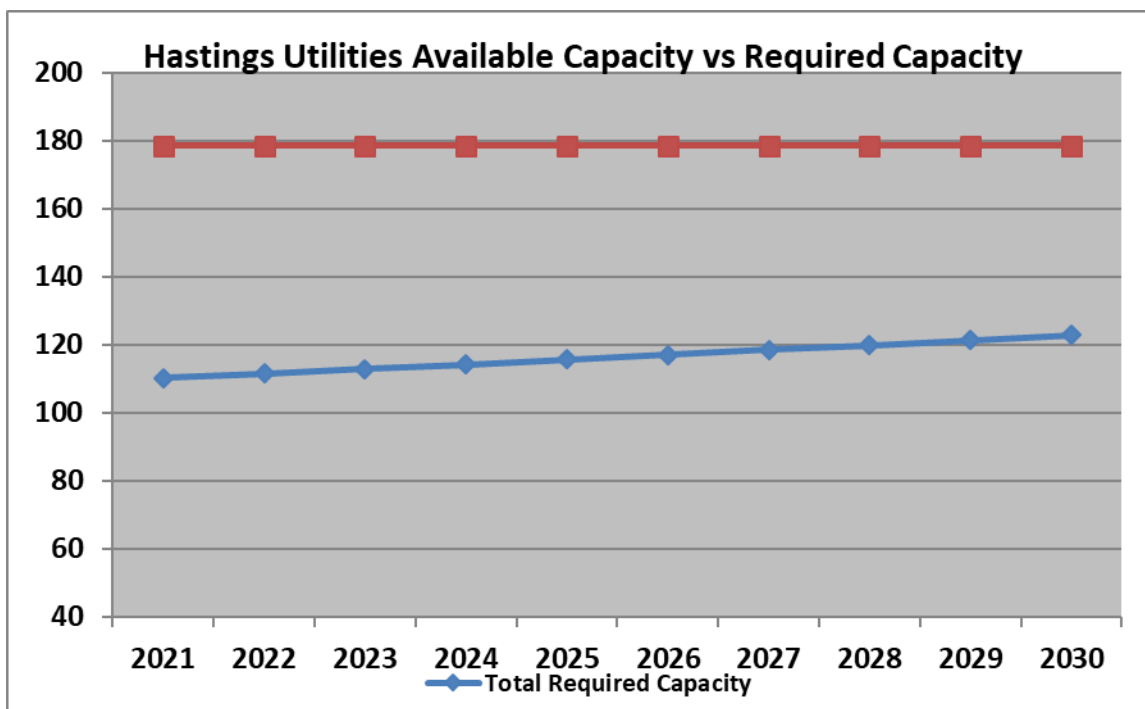
The total capacity requirement for Hastings includes the retail peak demand, reserves and wholesale sales. Reserves are calculated as 12.0 percent of the retail peak demand less firm purchases from WAPA. This calculation will move to 15.0 percent effective June 1st 2023.

Figure 7-1 illustrates the amount of existing capacity available to the system in comparison to capacity needs in future years as well as the actual values for 2021.

Table 7-1

Hastings Utilities							
Capacity Requirements vs. Available Capacity							
MW							
Year	Peak Demand	15.0% Reserve	MEAN	Assign WEC 2	Total Required	Available Capacity	Excess (Deficit) Capacity
2021	92.7	12.2	5.3	0.0	110.2	178.4	68.2
2022	93.9	12.4	5.3	0.0	111.5	178.4	66.9
2023	95.0	12.5	5.3	0.0	112.9	178.4	65.5
2024	96.2	12.7	5.3	0.0	114.2	178.4	64.2
2025	97.4	12.9	5.3	0.0	115.6	178.4	62.8
2026	98.6	13.1	5.3	0.0	117.0	178.4	61.4
2027	99.9	13.3	5.3	0.0	118.4	178.4	60.0
2028	101.1	13.5	5.3	0.0	119.9	178.4	58.5
2029	102.4	13.6	5.3	0.0	121.3	178.4	57.1
2030	103.7	13.8	5.3	0.0	122.8	178.4	55.6
Notes:							
1. Reserves calculated as 15.0% of Peak Demand less WAPA firm Capacity (11.4 MW)							
2. Available capacity based on following values:							
		WAPA	11.4 MW				
		WEC	77.0 MW				
		NDS	37.0 MW				
		DHPC	18.0 MW				

Figure 7-1



7.2 Energy Sources and Uses

Sources of energy for the Hastings electric system in years 2020 and 2021 are summarized in Figure 7-2. Hastings produces the bulk of system energy from its own generating facilities, representing roughly 62 percent of the total need each of these years. Approximately 8 percent of energy is currently provided by the WAPA capacity purchase, and 30.3 percent is provided by SPP IM purchases. Net Generation increased substantially in 2021 due to the “February Event” (Arctic Freeze) and the aftermath the “February Event” had on the energy market.

The uses of energy on the Hastings electric system in years 2020 and 2021 are summarized in Figure 7-3. Retail energy sales accounted for 70 percent of total system energy in 2021.

Figure 7-2

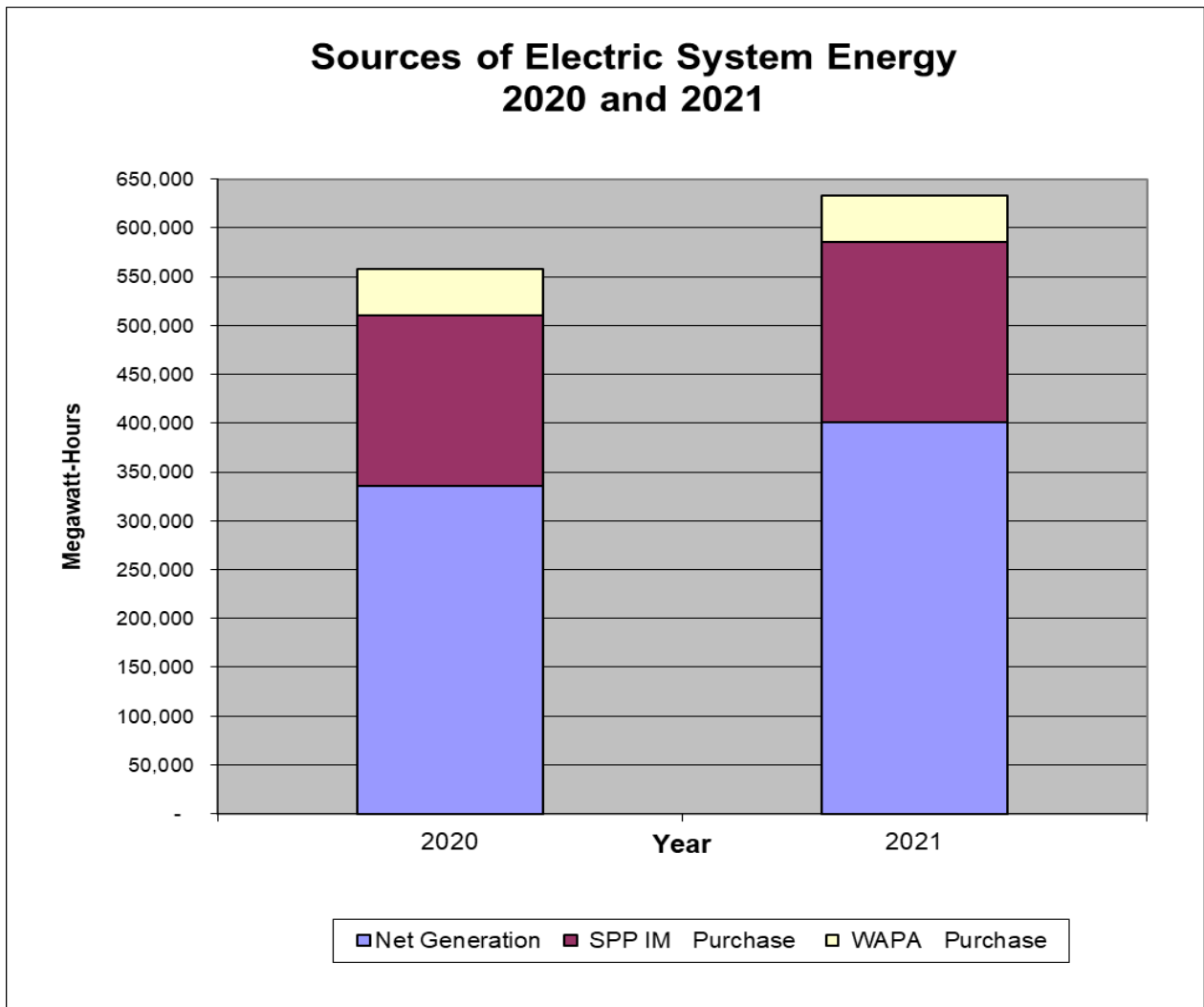
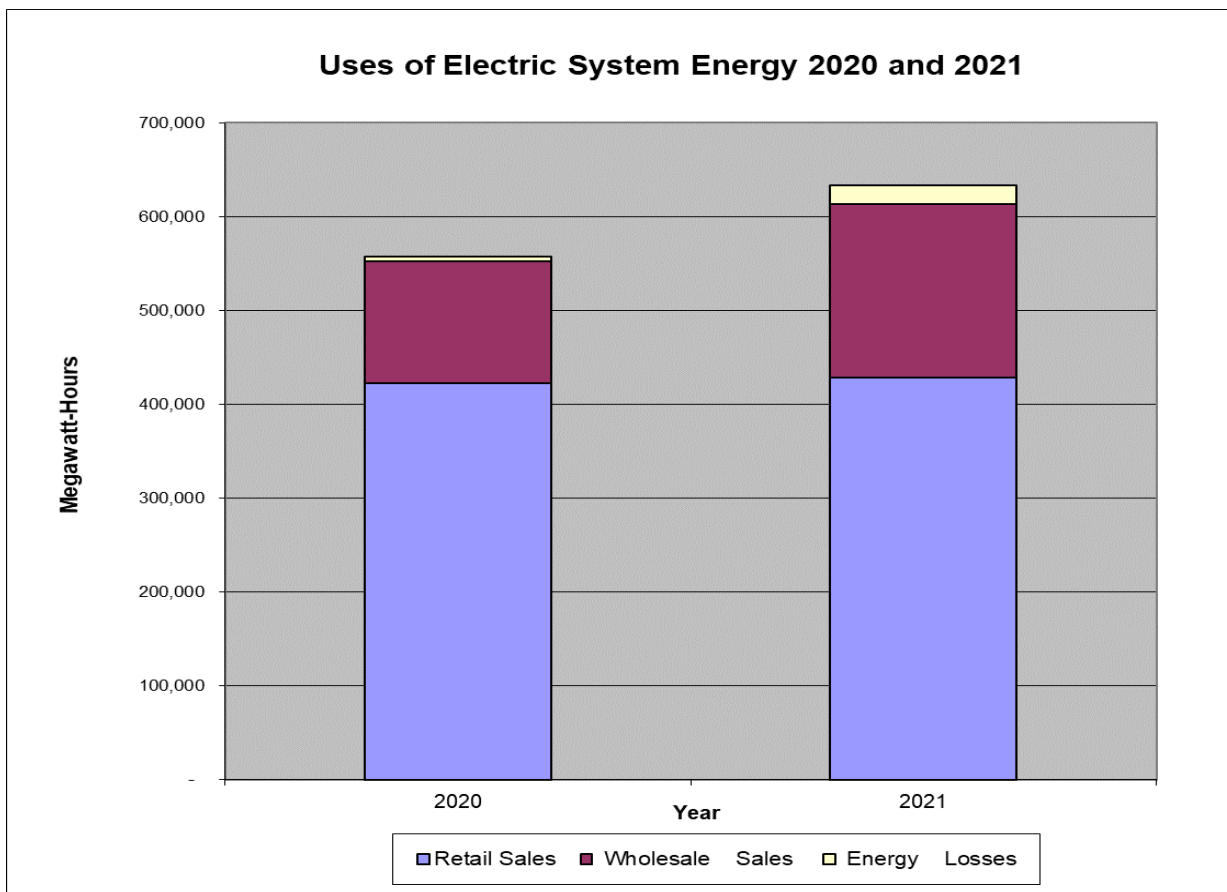


Figure 7-3



8.0 Nebraska Power Association - Statewide Plan

According to the 2022 Nebraska Power Association (NPA) Load and Capability Report, the current generation capacity is expected to be in an excess capacity past 2041. Statewide annual energy requirements continue to grow at a 0.4 percent growth rate per year.

9.0 Public Participation Process

9.1 Hastings

Part of the Cooperative Integrated Resource Plan (IRP) implementation process involves public participation. Hastings has a Utility Board (Board) that serves an advisory function to the Hastings City Council (Council) and meets under the Open Meeting Laws of the State of Nebraska. The Open Meeting Laws require all meetings of the Board to be advertised prior to the meeting date and to provide for open attendance of all interested members of the general public. Notice of the pending Board meeting was advertised in the Hastings Tribune, a local newspaper. The agenda was published and distributed to media outlets prior to the meeting and the opportunity for public input was provided for at the December 14, 2017 Board meeting. There were no comments received by the public and the Board took action to unanimously recommend approval of the IRP by the Council at its next regularly scheduled meeting on January 8, 2018.

The Council also meets under the Open Meeting Laws of the State of Nebraska. Notice of the January 8, 2018 Council meeting was advertised in the Hastings Tribune. The agenda, including the proposed IRP action item was published and distributed to media outlets and posted on the City website prior to the meeting, plus an opportunity for public input was provided for at the January 8, 2018 Council meeting. There were no public comments received and through Resolution No. 2018-02, the IRP was formally approved for submittal to WAPA by a unanimous vote of the Council on January 8, 2018 (attachment 11-1).

In addition, Hastings has been active in providing information of interest to customers via a monthly newsletter. Information has included rate comparisons, pending federal legislation that may impact utility operations, operational considerations and concerns including future power supply needs along with many other topics. Hastings has also surveyed its customers twice in the past several years to determine their desires and satisfaction level with Hastings' service and operations.

As a locally owned municipally utility, Hastings makes great efforts to operate in a transparent manner and as such, comes under the scrutiny of the press and general public. Major operational decisions receive full public disclosure prior to being implemented. As Hastings moves closer towards the need to make a decision in regard to future power supply resources, the general public will be kept apprised and provided the opportunity to submit input along the way.

9.2 YRTC at Hastings / HRC

YRTC is a State Governmental Agency that does not purchase for resale. As such, the public participation requirement is satisfied by review and concurrence of a top management official with resource acquisition responsibility. Please see attachment 11-2.

10.0 Renewable Energy Options

10.1 Hastings Wind Energy

On August 31, 2016, Hastings entered into a Power Purchase Agreement with Omaha, Nebraska based Bluestem Energy Solutions (Bluestem) to purchase 100% of the output from a 1.7 MW General Electric wind turbine. The single commercial scale wind turbine interconnects directly into the Hastings distribution system with all energy produced being used locally. The project was facilitated by Hastings and Central Community College (CCC) and will be owned and operated by Bluestem. The turbine is located just south of the CCC Hastings' campus on property owned by CCC and began commercial operation on December 29, 2016.

Hastings also entered into a Wind Power Purchase Agreement with CCC, which CCC purchases 100% of its annual energy needs at the Hastings' campus from a renewable energy resource. CCC also has an agreement in place with Bluestem that will allow CCC students access to the GE turbine for training and instructional purposes for CCC's wind tech program which it will be expanding in the near future.

Hastings is participating in a local renewable energy project with high visibility, CCC will be in better position to achieve its goal of 100% green energy plus it gains the ability to expand curriculum for students in a "hands on" learning environment, and Bluestem constructed the facility and has developed a positive business relationship with both Hastings and CCC going forward.

10.2 Community Solar Farm

In 2019, the Utility Board and Hastings City Council approved the construction of the Hastings Community Solar Farm. The Hastings Community Solar Farm has a

generation capacity of 1.5 MW and contains just over 6000 photovoltaic solar panels. Each panel is generating an average of forty-nine kilowatt hours of renewable solar electricity per month. The solar farm interconnects directly with Hastings' 13.8 KV distribution system. Commencement of the solar farm begin in September, 2019. Hastings Utility customers can participate in the solar farm by purchasing shares (1 share equals 150 kwh) or by purchasing installed panels.

11.0 Implementation Plan

11.1 Hastings

With the addition of the 35 MW's from the joint PPGA owned coal-fired plant that began commercial operation in May, 2011, Hastings will be in the excess generation position well beyond 2031. Hastings has the luxury of monitoring market developments to determine the optimum energy source for anticipated load growth. To accomplish this goal, the following tasks will be completed in the next two to five years:

1. Hastings will continue to market excess capacity as opportunities become available.
2. Hastings will continue to utilize load conservation measures and improve system efficiency as outlined in Section 5 to minimize the impact of anticipated growth levels on existing capacity.
3. Hastings will continue to monitor customer needs for more renewable energy.

11.2 YRTC at Hastings / HRC

YRTC currently has adequate supplies of energy available to satisfy all anticipated load swings during the next fifteen years. No increase in energy needs are anticipated to be needed in the near term, YRTC will continue to enhance its current system efficiency in the following manner:

1. YRTC will continue all load conservation and DSM programs as outlined in Section 5.
2. YRTC will communicate closely with Hastings as to its load status to ensure the availability of supplemental power supplies from Hastings.

Attachment 11-1

RESOLUTION NO. 2022-44

WHEREAS, the City of Hastings, Nebraska (Hastings) has a long-term firm power resource commitment (Allocation) with the Western Area Power Administration (WAPA) to supply the Allocation to Hastings; and

WHEREAS, as required by the Energy Policy Act of 1992 and WAPA's adoption of the Energy Planning and Management Program, Hastings is required to prepare and submit an

Integrated Resource Plan (IRP) to WAPA every five years to maintain the Allocation; and

WHEREAS, in 1996 Hastings received authorization from WAPA to submit a Cooperative IRP that included the Youth Rehabilitation Treatment Center (YRTC) facilities as YRTC (formally known as Hastings Regional Center) also holds a WAPA Allocation that Hastings oversees administratively, including the delivery of the Allocation to the YRTC facility, and

WHEREAS, the City Council of Hastings has reviewed and approves of the IRP prepared for Hastings and YRTC.

NOW, THEREFORE, BE IT RESOLVED in consideration of the foregoing recitals, and the recommendation of the Hastings Utility Board, the Mayor and City Council of the City of Hastings, Nebraska, hereby adopt the following resolution:

BE IT RESOLVED that the Integrated Resource Plan (IRP) for the City of Hastings and the Youth Rehabilitation Treatment Center be and the same is hereby adopted and the City Clerk is directed to submit the same to the attention of the Regional Manager of the Billings, Montana area office of the Western Area Power Administration prior to January 30, 2023.

PASSED AND APPROVED this 12th day of December, 2022.

Corey Stutte
Mayor

ATTEST:

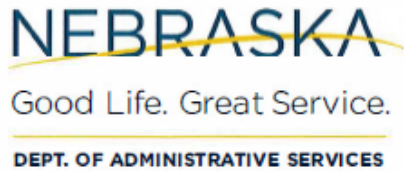
Kimberly Jacobitz
City Clerk

(SEAL)

Approved as to form:

Jesse Oswald
City Attorney

Attachment 11-2



Pete Ricketts, Governor

November 30, 2022

Jason Redding
1228 N Denver Ave
Hastings, NE 68901

RE: Youth Rehabilitation Treatment Center (YRTC) at Hastings Cooperative Integrated Resource Plan

Dear Mr. Redding:

Thank you for your collaborative preparation of the YRTC formerly the Hastings Regional Center Cooperative Integrated Resource Plan for the Western Area Power Administration dated December 2022. The YRTC Cooperative Integrated Resource Plan accurately details the current and future changes proposed for the campus.

The State Building Division will provide energy consumption data as we monitor the impacts of the proposed improvements to the campus.

Sincerely,

Steve Fehringer

Steve Fehringer
Operations Manager | State Building Division
Nebraska Department of Administrative Services

Michelle Potts, Building Administrator

Department of Administrative Services | STATE BUILDING DIVISION

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