

4
5 DIRECT TESTIMONY
6 OF JOHN D. HINES
7 ON BEHALF OF NORTHWESTERN ENERGY
8

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1 **Witness Information**

2 **Q. Please identify yourself, your employer, and your job title.**

3 **A.** My name is John D. Hines. I am NorthWestern Corporation d/b/a
4 NorthWestern Energy's ("NorthWestern") Vice President – Supply & Montana
5 Government Affairs.

6
7 **Q. Please provide a description of your relevant employment experience
8 and other professional qualifications.**

9 **A.** I have over 30 years of experience in the energy sector including working as
10 a consultant to public interest groups on energy issues and as an economist
11 and Montana member of the Northwest Planning and Conservation Council. I
12 have served as NorthWestern's Vice President - Supply since 2011. In this
13 role, my primary responsibilities include overseeing the functional areas of
14 electric and natural gas planning, market operations, development and supply
15 operations ensuring reliable and affordable electricity and natural gas to meet
16 customers' requirements. I am also responsible for overseeing the Montana
17 government affairs function and the lands and permitting and environmental
18 compliance functions for NorthWestern's governmental affairs in Montana. I
19 hold both a Bachelor's and a Master's degree in Economics from the
20 University of Montana.

1 **Purpose of Testimony**

2 **Q. What is the purpose of your testimony in this proceeding?**

3 **A.** The purpose of my testimony is to provide an overview of the status of our
4 current energy supply portfolio to meet the needs of our customers and
5 discuss NorthWestern’s strategy to address those gaps.

6
7 NorthWestern has taken significant steps to address the key risk our
8 customers face. The risk is an electric portfolio that has insufficient capacity
9 during critical weather events and insufficient capacity to be able to participate
10 in regional markets that will transfer economic value to our customers. The
11 alternative is to continue relying on market purchases for necessary capacity
12 during high demand periods which subjects our customers to significant and
13 increasing risks. These risks are both an affordability issue (high prices and
14 significant price volatility) as well as a reliability issue (lack of sufficient market-
15 based capacity).

16
17 To address the shortage of capacity in the region and manage the risk to our
18 customers from excessive exposure to increasingly uncertain purchases from
19 the market, NorthWestern continues to reinvest in existing generation to
20 improve reliability and increase asset life, to maintain compliance with external
21 requirements, and to develop or acquire new capacity resources such as
22 Yellowstone County Generating Station (“YCGS”). The Direct Testimony of

1 Bleau J. LaFave discusses the need for YCGS and the competitive solicitation
2 process by which it was selected.

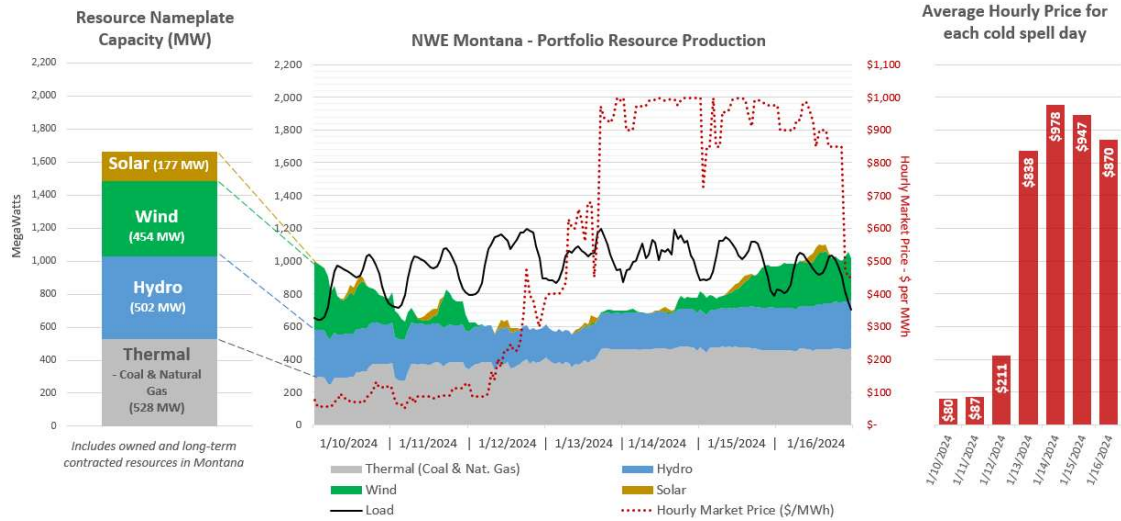
3
4 NorthWestern’s concerns about reliance upon market purchases during
5 critical events is increasing. The North American Electric Reliability
6 Corporation (“NERC”), in its 2023 Long Term Reliability Adequacy Report,
7 noted:

8 “This assessment provides clear evidence of growing resource
9 adequacy concerns over the next 10 years. Capacity deficits are
10 projected in areas where future generator retirements are expected
11 before enough replacement resources are in service to meet rising
12 demand forecasts.”

13 Montana’s recent cold weather events have affirmed these operational
14 realities. In recent years during peak capacity periods or cold weather events,
15 demand has been extremely high, while wind and solar typically contributed
16 very little compared to their nameplate capacity, resulting in the need for
17 NorthWestern to purchase significant quantities of power in the market during
18 a time that prices surged.

19
20 On January 13, 2024, NorthWestern purchased energy to supply nearly 50%
21 of our customers’ energy needs throughout that bitterly cold day.

Figure 1: January 2024 Event



1

NorthWestern's Energy Supply Portfolio

2

Q. Please describe important attributes of NorthWestern's current electric supply portfolio.

3

4

A. At NorthWestern, we focus on providing our customers reliable energy at the lowest long-term cost while satisfying legal and regulatory requirements.

5

6

NorthWestern serves its retail customers with a diverse mix of hydro, wind,

7

solar, and thermal generation resources. At this juncture in our portfolio

8

development, NorthWestern is focusing on resources that we can reliably

9

count on to be available, especially during critical weather events, and that

10

are affordable, that is, the lowest cost and consistent with the governing rules

11

and laws.

12

1 NorthWestern continues to have concerns about meeting the long-term
2 capacity needs of our customers in Montana. With intermittent generation
3 making up a significant part of our portfolio and with more projects being
4 developed, coupled with forecast increases in customer load and continued
5 acceleration of retirements of baseload generation throughout the West, a
6 capacity shortfall situation is occurring throughout the Pacific Northwest – a
7 key source for NorthWestern’s market purchases. Basic economics indicate
8 that price volatility and significant increases in peak pricing occur during times
9 of shortage – in this case a decreasing amount of capacity.

10

11 Our hydro resources provide a critical base to our fuel-diverse electric
12 portfolio. NorthWestern continues to invest to maintain and also enhance the
13 output of this generation at very low cost. While hydro generation output
14 does fluctuate depending on the quantity of water, we are able to predict with
15 some certainty how much will be produced days and weeks in advance of a
16 particular period.

17

18 Wind and solar on the other hand are variable and totally dependent on
19 immediate weather, meaning they do not produce power if the wind is not
20 blowing or the sun is not shining and is difficult to forecast, especially with
21 specific timing.. As a result, while they produce energy, (NorthWestern’s
22 portfolio has excessive energy), they provide limited capacity to ensure
23 reliable service for our customers, especially during critical weather events.

1 This reality is confirmed in regionally based accredited capacity calculations
2 as well as empirical showings during times of peak demand.

3
4 Currently NorthWestern uses market purchases when these costs are lower
5 than the variable costs of our fleet but critically also continues to be reliant on
6 market purchases of various terms for a significant part of our obligation to
7 meet the peak needs of our customers. Reliability during these extreme
8 weather events requires that we continue to re-invest in our existing
9 resources and add new resources with critical reliability attributes.

10

11 The continued investments in our hydroelectric generation, completion of the
12 175-MW YCGS, and the incremental 222 MW of Colstrip acquisition from
13 Avista are key implementation steps to NorthWestern's strategy to address its
14 capacity needs. As presented in the figures below, our current and future
15 thermal generation and the operation of the YCGS are critical to meeting
16 NorthWestern customers' capacity needs. Coal and natural gas generation
17 resources are necessary components to our portfolio because they can be
18 turned on, turned up or down, or shut off as needed.

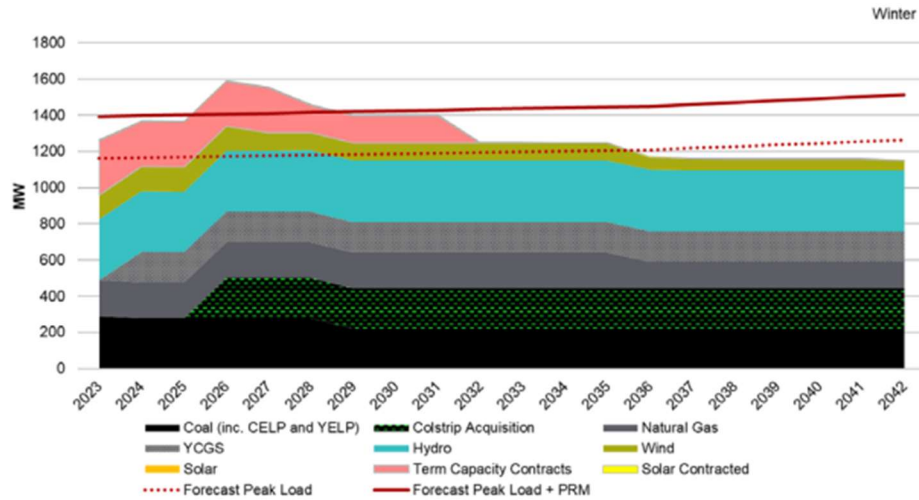
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21

**Chart 1: Role of YCGS and future incremental Colstrip from
NorthWestern's 2023 IRP**

Figure 1-1. NorthWestern's Capacity Position with Current Owned and Contracted Resources and Yellowstone County Generating Station (YCGS) – Winter WRAP ELCCs



1 **Q. Please describe NorthWestern's strategy for meeting customers need**
2 **for reliable energy.**

3 **A.** NorthWestern has been focused on implementing cost-effective long duration
4 capacity to serve our customers. NorthWestern takes a two-pronged
5 approach to addressing its capacity deficit.

- 6 • To support our ability to provide customers with reliable, affordable and
7 sustainable energy, NorthWestern continues to re-invest in its existing
8 resources to increase capacity, asset life, and reliability as well as
9 maintain compliance recognizing this to be a low-cost strategy with
10 limited incremental environmental impact.
- 11 • Second, the acquisition of additional high capacity resources is a
12 necessary component of the strategy to achieve resource adequacy.

1 This includes the operation of the YCGS and the incremental
2 acquisition of Colstrip. As presented in Chart 1 above, without current
3 and future Colstrip generation, and successful construction of the
4 YCGS, NorthWestern customers face an immediate and critical
5 capacity deficit. This is addressed further by Witness LaFave.

6
7 **Yellowstone County Generating Station**

8 **Q. When will YCGS begin serving NorthWestern’s customers?**

9 **A.** YCGS began putting test energy on the system in May of 2024 and is
10 expected to reach substantial completion or be in service in July/August of
11 2024. It will continue to provide capacity and economic dispatch prior to the
12 substantial completion milestone is met. Mr. LaFave discusses further how
13 YCGS meets customer energy needs.

14
15 **Q. Who is the plant operator?**

16 **A.** NorthWestern contracted with Caterpillar Power Generation Systems, LLC
17 (“Caterpillar”) to provide the operations and maintenance (“O&M”) services for
18 the YCGS. Caterpillar was selected due to Caterpillar’s expertise with
19 operating and maintaining the reciprocating internal combustion engine
20 (“RICE”) units it built that are being used at YCGS and its detailed
21 understanding of the instrumentation and controls associated with the RICE
22 units. If a problem arises, Caterpillar has direct access to the engineering
23 and technical support within its company allowing it to use its fleet knowledge

1 and experience in performing maintenance on the equipment. As part of the
2 O&M Agreement, Caterpillar will leverage its significant buying power for lube
3 oil at a pass-through cost to NorthWestern providing another significant cost
4 and availability benefit.

5
6 Partnering with Caterpillar to operate the facility supports NorthWestern's
7 goals of reducing cost and downtime, while simultaneously increasing
8 reliability over the long term.

9

10 **Q. Who is the engineer, procure, and construct (“EPC”) contractor for**
11 **YCGS?**

12 **A.** NorthWestern selected Burns & McDonnell as the EPC contractor for YCGS.
13 NorthWestern granted Burns & McDonnell a Limited Notice To Proceed
14 (“LNTP”) on July 12, 2021. Under this LNTP, Burns & McDonnell developed a
15 detailed project schedule, reviewed and commented on Caterpillar submittals,
16 engaged in weekly project coordination meetings, and developed a general
17 arrangement drawing of the site. NorthWestern granted Burns & McDonnell a
18 second LNTP on November 18, 2021. Under this LNTP, Burns & McDonnell
19 began design, equipment specifications and bidding, and construction
20 contract development and bidding.

21

22 NorthWestern granted Burns & McDonnell the Full Notice To Proceed
23 (“FNTP”) on December 21, 2021. Under the FNTP, Burns & McDonnell

1 continued with tasks associated with the LNTPs and ramped up design and
2 procurement activities. In late March 2022, Burns & McDonnell began
3 physical construction activities, such as excavation and civil work,
4 underground piping and wiring, foundations, buildings, and installation of
5 equipment.

6

7 **Q. Was Burns & McDonnell able to achieve the original construction**
8 **schedule and costs?**

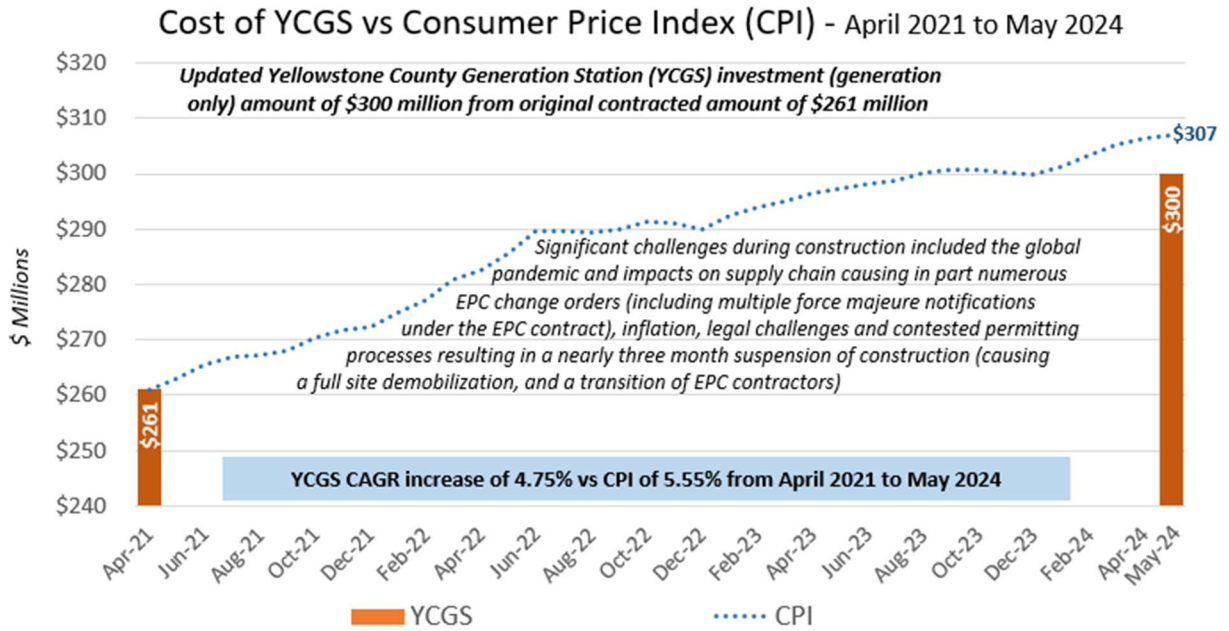
9 **A.** No. Supply Chain issues following the onset of COVID, which ultimately
10 impacted industries across the country and world, emerged as an early
11 challenge to keeping this project within the agreed upon budget and
12 schedule, especially because of force majeure events beyond
13 NorthWestern's, the contractors' or the equipment manufacturer's control.
14 Contractually, force majeure events supersede a fixed- price contract for
15 those affected items and these occurred during an extremely high inflationary
16 period, reflected in higher costs. Inflation year over year from April 2021
17 (date contract with EPC had to be executed and May of 2024 was 5.55%
18 Compound Annual Growth Rate ("CAGR") compared to a total project cost
19 CAGR increase of 4.75 percent as presented in Figure 2 below.

20

21

22

Figure 2: Cost of YCGS compared to CPI



Note: YCGS cost of \$300M excludes any ancillary transmission components tied to the overall YCGS project

1 **Q. What steps did NorthWestern take to manage the construction schedule**
 2 **and costs?**

3 **A.** NorthWestern assigned two full-time project managers, internal subject matter
 4 experts (“SME”), and management to support the project. We also obtained
 5 the services of HDR Inc. (“HDR”) to review all submittals and ensure
 6 conformance with the EPC Contract and project schedule. HDR provided
 7 additional on-site SMEs throughout the project and discipline-specific
 8 engineers (mechanical, instrumentation, controls, and electrical) at the
 9 appropriate times to oversee specialty areas of the project.

10

1 NorthWestern's efforts to oversee and manage costs and schedule included
2 managing the contracts, monitoring the project schedule and on-site activities,
3 and providing updates and reports to NorthWestern's executive supply and
4 transmission board and the Board of Directors.

5
6 NorthWestern participated in daily, weekly, and monthly meetings with Burns
7 & McDonnell, HDR, and Caterpillar to ensure adherence to the project
8 schedule and that any changes or challenges were addressed promptly and
9 consistently.

10

11 **Q. How did the construction suspension due to air quality permit litigation**
12 **affect the construction schedule (MEIC and Sierra Club litigation)?**

13 **A.** The litigation and subsequent construction suspension created significant
14 delay in the construction time table and in total project costs. The District
15 Court vacated the construction air quality permit on April 14, 2023 requiring
16 NorthWestern to suspend construction for the lack of a construction air quality
17 permit. To be clear, a partial suspension basically stopped all new build at
18 the site and substantial work was focused on shut-down and preservation of
19 the site.

20

21 The project incurred costs for properly preserving and maintaining equipment
22 and the site during the partial suspension. Site security was maintained,
23 inventory and monitoring of materials continued, and critical equipment that

1 would be difficult to re-attain was kept on rent, and ongoing equipment and
2 site maintenance was performed.

3

4 Even though the District Court ultimately stayed its decision to vacate the air
5 quality permit on June 8, 2023, allowing construction to resume, it took some
6 additional time and additional costs for the project to be back at full
7 construction due to the cascading effects of the suspension. For example,
8 Burns & McDonnell needed additional time to bring the site back to a
9 “constructible state”. Burns & McDonnell needed to remobilize to the site, and
10 craft labor who were new to the site needed time to get up to speed on project
11 drawings, layout of equipment, and the project site. The delay was
12 exacerbated due to the fact that Burns & McDonnell was for a time unable to
13 attract adequate craft labor in multiple disciplines and was never able to
14 attract electricians to a pre-suspension level.

15

16 **Q. How did these delays in the construction schedule affect the**
17 **construction costs?**

18 **A.** NorthWestern calculates the cost impact of the suspension delay exceeds
19 \$18 million or nearly half of the additional total project costs over forecast as
20 of the date of this filing. These costs are included in the overall costs of
21 YCGS. The cost increase associated with this MEIC/Sierra Club litigation
22 premium account for approximately \$3.2 million in owner's costs for
23 assessment, oversight, security, planning, and allowance for funds used

1 during construction (“AFUDC”). Burns & McDonnell billed \$15.16 million for
2 demobilization, site preservation, planning, labor, equipment rentals, and
3 difficulty attracting craft labor, notably electricians. The changes due to the
4 suspension continued to impact the project costs long after the suspension
5 was lifted. In other words, the suspension in construction had cascading
6 effects on the cost and timing of the entire project.

7

8 **Q. Were there any further challenges to the project schedule and/or costs?**

9 **A.** Burns & McDonnell informed NorthWestern that it would not reach a
10 completion/in-service date until January 2025. In addition, cost estimates
11 would further exceed the original EPC contract cost. Continued discussions
12 were unsuccessful in making any material changes to move up the
13 completion date or reduce project costs. Ultimately, in November 2023,
14 Burns & McDonnell and NorthWestern agreed to terminate the EPC Contract.

15

16 NorthWestern reached out to Fagen, Inc. (“Fagen”), an EPC contractor that
17 NorthWestern had partnered with in South Dakota, to discuss Fagen’s ability
18 to step in and complete the project, if a resolution to terminate the EPC
19 contract with Burns & McDonnell could be reached. Fagen provided a
20 proposal and construction execution approach that allowed the project to
21 proceed more timely and at a lower cost than proceeding with Burns &
22 McDonnell.

23

1 **Q. What qualifications did Fagen possess to complete the project?**

2 **A.** Fagen is a contractor based in Granite Falls, Minnesota and was the EPC
3 contractor on a very similar project to the YCGS in Huron, South Dakota – the
4 Bob Glanzer Generating Station (“BGGG”). BGGG is a NorthWestern- owned
5 and developed generating station utilizing the same Caterpillar RICE units as
6 YCGS. Previous experience with Fagen and the communication,
7 coordination, and commitment with which our companies worked together
8 gave NorthWestern a high degree of confidence in the teams’ ability to
9 execute and complete the project to serve our customers’ needs, beginning in
10 the 2024 summer peak season.

11
12 **Q. Please explain the primary provisions of NorthWestern’s engagement
13 with Fagen.**

14 **A.** NorthWestern engaged Fagen to evaluate the status of the YCGS
15 construction and complete the installation and commissioning of the RICE
16 units, and place the plant into commercial operation. The price in the contract
17 to complete this work was on a time and materials basis plus 15 percent.

18
19 Fagen was to mobilize to the site and evaluate the status of site conditions,
20 systems, engineering and design upon mobilization. Fagen was also
21 responsible for developing an initial project schedule and manpower loading
22 plan and hiring subcontractors and procuring materials. Fagen also was
23 required to manage the work including incorporation of Caterpillar and

1 NorthWestern assigned contractors work and schedule into the overall project
2 execution.

3

4 **Q. What was the result of NorthWestern's decision to contract with Fagen?**

5 **A.** The result was a more timely completion of the YCGS project as compared to
6 Burns and McDonnell's revised schedule with transparency into cost,
7 schedule, and documentation. Fagen provided daily labor levels and
8 documentation to support those levels along with documentation on material
9 expenditure and need. The coordination with NorthWestern, subcontractors,
10 and Caterpillar was exemplary and significantly contributed to a more cost-
11 controlled and timely project execution.

12

13 By NorthWestern utilizing Fagen and assuming subcontracts from Burns &
14 McDonnell, the incremental cost to finish the project was approximately half of
15 the Burns & McDonnell-quoted remaining cost to finish. In addition, Fagen
16 completed the project in roughly half Burns & McDonnell's scheduled time to
17 finish.

18

19 In other words, the project costs and schedule delays were limited only
20 because NorthWestern and Burns and McDonnell mutually agreed to part
21 ways and enable NorthWestern to engage a different contractor in an attempt
22 to realign and achieve project needs.

23

1 **Q. What was the result of these actions?**

2 **A.** Despite these challenges, excluding incremental costs that occurred resulting
3 from work suspensions related to litigation, the total project was managed to
4 be 7% over budget despite incredible supply chain issues and inflationary
5 increases that were experienced economy and world wide. Note that the
6 original budget was developed nearly 3 years prior to project completion.

7

8

Conclusion

9 **Q. Please summarize your testimony.**

10 **A.** While NorthWestern has undertaken substantial steps to mitigate the risks
11 associated with reliance upon market purchases, the electric portfolio
12 continues to have too high a reliance upon the market. NorthWestern has
13 invested in cost effective hydroelectric upgrades to increase reliability and
14 increase output in its existing generation. Further, the addition of YCGS
15 helps offset reliance upon market purchases and helps integrate intermittent
16 generation. This project was undertaken during a period of extreme upheaval
17 in supply chains because of the COVID-19 pandemic and was subject to
18 litigation. Despite these challenges, YCGS will still be a very beneficial source
19 of generation for our customers.

20

1 **Q. Does this conclude your direct testimony?**

2 **A.** Yes.

3

4

Verification

This Direct Testimony of John D. Hines is true and accurate to the best of my knowledge, information, and belief.

/s/ John D. Hines
John D. Hines