



Ten-Year

Energy Facility Plan

2020–2029

Prepared for the South Dakota Public Utilities Commission

Submitted June 29, 2020

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Ten-Year Energy Facility Plan | 2020–2029

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Pursuant to SDCL § 49-41B-3 and ARSD ch. 20:10:21, NorthWestern Corporation d/b/a NorthWestern Energy submits this Ten-Year Energy Facility Plan for its South Dakota facilities.

ARSD 20:10:21:04 Existing Energy Conversion Facilities¹

NorthWestern owns a 23.4% interest in the Big Stone Plant, which is located near Big Stone City, South Dakota. The other owners of this coal-fired plant are Otter Tail Power Company and Montana-Dakota Utilities Co. (MDU). Otter Tail operates the plant and reports the information required by ARSD 20:10:21:04.²

NorthWestern plans to publish its Integrated Resource Plan (IRP) in July. The IRP will contain additional detail regarding existing energy conversion facilities, including facilities that do not meet the threshold in SDCL § 49.41B-2(6). NorthWestern will provide a copy of the IRP to the SDPUC.

ARSD 20:10:21:05 Proposed Energy Conversion Facilities

NorthWestern does not have any proposed energy conversion facilities as that term is defined in SDCL § 49.41B-2(6). NorthWestern plans to publish its Integrated Resource Plan (IRP) in July. The IRP will contain information regarding proposed energy conversion facilities that do not meet the threshold in SDCL § 49.41B-2(6). NorthWestern will provide a copy of the IRP to the SDPUC.

¹ An “energy conversion facility” is a facility or facility expansion designed for or capable of generation of 100 MW or more of electricity, but does not include wind energy facilities. SDCL § 49-41B-2(6).

² Otter Tail Power Company’s 2018 Ten-Year Biennial Plan is available [HERE](#).

ARSD 20:10:21:06 Existing Electric Transmission Facilities

For existing transmission facilities,³ which are facilities through which electricity is being transmitted, the utility shall provide information as follows: (1) Location; (2) Type and transmission voltage; and (3) Projected date of removal from service and reason for removal.

NorthWestern’s 115 kV transmission facilities run from Ellendale, North Dakota, to Yankton, South Dakota (north to south). A map of these facilities is attached as Exhibit A.

From	To	Type	Voltage
Ellendale Substation (Ellendale, ND)	Aberdeen A-Tap (2 miles west of Aberdeen, SD)	AC	115 kV
Aberdeen A-Tap	Two paths to Aberdeen Siebrecht Substation: (1) connected directly to Aberdeen Siebrecht; and (2) connected through Aberdeen City Substation and Aberdeen Industrial Park Substation (Aberdeen, SD)	AC	115 kV
Aberdeen Siebrecht Substation	<ul style="list-style-type: none"> Western Area Power Administration’s (WAPA) Groton Substation (south of Groton, SD) Redfield Transmission Substation (Redfield, SD) 	AC	115 kV
Redfield Transmission Substation	WAPA Huron Substation (1 mile south of Broadland, SD)	AC	115 kV
WAPA Huron Substation (two circuits)	Huron West Park Substation (Huron, SD)	AC	115 kV
Huron West Park Substation	Mitchell Northwest Substation (Mitchell, SD)	AC	115 kV
Mitchell Northwest Substation	Mitchell Transmission Substation (Mitchell, SD)	AC	115 kV
Mitchell Transmission Substation	<ul style="list-style-type: none"> Interconnection with Northern States Power Company (near McCook County line, approximately 23 miles east of Mitchell, SD) WAPA Letcher Substation (10 miles northeast of Mitchell, SD) Tripp Junction Substation (5 miles south of Tripp, SD) 	AC	115 kV

³ A “transmission facility” is an electric transmission line and associated facilities with a design of more than 115 kV. SDCL § 49-41B-2.1.

From	To	Type	Voltage
Tripp Junction Substation	<ul style="list-style-type: none"> • Schroeder Substation (5 miles southwest of Tripp, SD) • Menno Junction Substation (4 miles north of Lesterville, SD) 	AC	115 kV
Menno Junction Substation	WAPA Utica Junction Substation (2 miles northeast of Lesterville, SD)	AC	115 kV
WAPA Utica Junction Substation	NAPA Junction Substation (5 miles northwest of Yankton, SD)	AC	115 kV
NAPA Junction Substation	<ul style="list-style-type: none"> • Yankton East Substation (1 mile east of Yankton, SD) • Yankton Junction Substation (4 miles west of Yankton, SD) 	AC	115 kV

In addition, NorthWestern is a joint owner (along with MDU and Otter Tail) of the Big Stone Plant Transmission Facilities. NorthWestern owns 18.17 miles of the Big Stone Plant-to-Gary 230 kV transmission line near Big Stone City, South Dakota.

NorthWestern does not project the retirement of any transmission facilities rated 115 kV or above within the next 10-year time period.

ARSD 20:10:21:07 Proposed Electric Transmission Facilities

For proposed transmission facilities for the ensuing 10 calendar years, the utility shall provide information as follows: (1) General anticipated location and reasons for the selection; (2) Probable type and proposed transmission voltage; (3) Description of anticipated associated facilities; (4) Projected date of removal from service; and (5) Total estimated capital cost.

In 2019, NorthWestern completed construction on a 3.3-mile, 115 kV transmission line loop between Aberdeen City Substation and Aberdeen Industrial Park Substation. This created a parallel 115 kV path from Aberdeen A-Tap to Aberdeen Seibrecht Substation.

The second phase of this project, scheduled for construction in 2021, will be a rebuild of NorthWestern’s current A-Tap switchyard, located on the west side of Aberdeen. This construction will include new substation structures, breakers, and relay equipment to coordinate the looped 115 kV facility. As part of the A-Tap rebuild, NorthWestern has also entered into an Engineering, Planning and Construction agreement with East River Electric Power Cooperative, accommodating East River’s request of a 115 kV circuit bay out of the new facility. East River plans to bring the new 115 kV circuit out of A-Tap to loop an existing radial facility in the

Aberdeen area. NorthWestern’s combined estimated cost of the two projects is approximately \$10 million.

ARSD 20:10:21:08 Coordination of Plans

The utility shall provide a statement describing how the utility's plan or plans coordinate with those of other utilities serving the region.

In South Dakota, NorthWestern is both a transmission customer and a transmission-owning member of the Southwest Power Pool (SPP), located in Zone 19, a.k.a. the Upper Missouri Zone (UMZ). NorthWestern transferred functional control of its South Dakota electric transmission facilities to SPP on October 1, 2015, and updates the qualifying facilities under the SPP Tariff annually.

NorthWestern has been coordinating and planning with other systems since 1950, resulting in interconnections, interchange contracts, and the joint construction of facilities. This joint planning effort with neighboring utilities continues today, as NorthWestern is an active participant in the UMZ Coordination Group (UMZCG), which comprises entities with load and transmission facilities registered under Zone 19.

Prior to SPP’s April 1, 2020 deadline, the UMZCG submitted zonal planning criteria for Zone 19. SPP will use the zonal planning criteria for all transmission-owning members in Zone 19 in its Integrated Transmission Planning (ITP) process beginning with the 2021 planning year. The UMZCG worked together for more than 12-months to develop the zonal planning criteria, and will now realize the benefits of all SPP qualifying transmission within the zone being studied under the same planning criteria.

NorthWestern also actively participates in SPP’s regional ITP process, which analyzes reliability, economic, and policy needs within the region and along the seams of neighboring Regional Transmission Organizations (RTOs).

ARSD 20:10:21:09 Single Regional Plans

The utility shall state whether the proposed facilities comprise all or part of a single regional plan.

The Aberdeen Loop project and the rebuild of Aberdeen A-Tap were identified as local reliability needs in NorthWestern’s local planning efforts, and not projects that originated from SPP’s regional ITP process. The benefit of these projects will be realized by NorthWestern’s customers, while having little benefit to the SPP region at this time. In SPP, these projects are classified as Sponsored Upgrades. For a Sponsored Upgrade, SPP studies the project and issues a Notice To Construct (NTC), but the cost of the project is not allocated to other members of SPP.

NorthWestern has worked closely with SPP through the steps of the Sponsored Upgrade process and received all necessary approvals prior to starting construction.

ARSD 20:10:21:10 Submission of Regional Plan

If proposed facilities comprise all or part of a regional plan, the utility shall submit the plan.

As mentioned in Section 20:10:21:09, the Aberdeen Loop project was studied and approved by SPP, but did not originate from SPP's ITP process.

ARSD 20:10:21:11 Utility Relationships

The utility shall describe any relationship of the utility to other utilities and regional associations, power pools, and networks.

As discussed in Section 20:10:21:08, NorthWestern is a member of the SPP and actively participates in SPP's ITP process, working groups, and committees. NorthWestern is also an active participant in the UMZCG and has played an important role in the development of the goals for the group, and the implementation of the zonal planning criteria.

ARSD 20:10:21:12 Efforts to Minimize Adverse Effects

The utility shall provide a detailed statement describing methodology used and efforts of the utility to identify, minimize, or avoid adverse environmental, social, economic, health, public safety, and historic or aesthetic preservation effects.

NorthWestern's policy is to provide cost-effective, reliable, and stably priced energy while being good stewards of the natural resources and complying with environmental regulations. We apply the following environmental principles in our day-to-day business:

1. Our business practices reflect a respect for, and a commitment to, sustainability and the long-term quality of the environment.
2. One of our priorities is being good stewards of natural and cultural resources at our hydroelectric projects.
3. We comply with the spirit as well as the letter of environmental laws and regulations.
4. Environmental issues and impacts are an integral part of our planning, operating, and maintenance decisions.
5. We promote our customers' efforts to conserve energy.
6. We support providing energy through non-carbon emitting and renewable resources when consistent with our statutory requirement to provide cost-effective energy.
7. We strive to minimize the generation of wastes and promote the reuse or recycling of materials.

8. We seek to continually improve our environmental compliance and stewardship.
9. We embrace a team culture where positive environmental stewardship and compliance are encouraged, mentored, and rewarded.
10. Our contractors and consultants must comply with this policy when working for or representing NorthWestern.

Promoting safety is an important part of NorthWestern’s public service commitment. Our goal is to prevent all incidents by doing our best to warn the public of the potential dangers of working or playing near electric and natural gas lines and facilities. Below is a list of measures we take to protect and educate the public:

1. The public must be protected from hazards generated by NorthWestern’s operations and construction activities. NorthWestern’s operating personnel take the appropriate safeguards to minimize and prevent, if possible, any hazards to the general public. Tailboards include a discussion of any public hazards that could be created by work activities.
2. Contractors and equipment rental shops are targeted for education due to their high exposure and potential for digging up natural gas lines or contacting overhead power lines.
3. First Responders are another specific audience that is targeted to ensure that they are educated about how to respond to natural gas or electrical emergencies.
4. NorthWestern offers a variety of educational materials to support our efforts and commitment to public safety. Our public website maintains an extensive safety section for all types of audiences.⁴
5. We offer electric and natural gas safety education programs targeted to third and fourth/fifth grade students.

In response to COVID-19, NorthWestern has made a number of commitments to the communities we serve in the collective efforts to prevent the spread of the virus. These efforts include:

- All NorthWestern facilities are closed to the public.
- Our customer call center remains open 24/7. In order to keep our Customer Care employees safe, we have customer service representatives operating from five locations and some home-based employees.
- NorthWestern voluntarily suspended service disconnections for non-payment to help customers financially impacted by the outbreak.
- Strict travel restrictions were implemented for NorthWestern employees.
- Access to critical facilities is restricted to essential employees only. Employees in these facilities have been split into segregated work groups to avoid physical contact.

⁴ <http://www.northwesternenergy.com/safety/safety>

- NorthWestern is using technology for meetings.
- NorthWestern split work groups, instituted work-from-home for a large portion of its workforce, and assigned separate shifts.
- Extra social-distancing protocols were implemented for field personnel, who are still performing operations and maintenance work.

NorthWestern maintains a COVID-19 response webpage that offers resources and information to the customers and communities we serve.⁵

ARSD 20:10:21:13 Efforts Relating to Load Management

The utility shall provide a statement describing its efforts toward efficient load management.

NorthWestern works with customer requests by utilizing load-research monitoring equipment in an effort to explain usage patterns and causes. NorthWestern also offers time-of-use rates and off-peak rates with curtailment programs to assist commercial or irrigation customers and control demand.

ARSD 20:10:21:14 List of Reports

The utility shall provide a list of all reports or studies filed or proposed to be filed with federal or other state agencies relating to the proposed facilities.

NorthWestern does not anticipate filing any reports for the Aberdeen Loop project.

ARSD 20:10:21:15 Changes in Status of Facilities

The utility shall provide a list of changes in status of the utility's facilities during the past two years or since submission of its last previous 10-year plan.

As described in 20:10:21:07, NorthWestern completed the construction of 3.3 miles of 115 kV between Aberdeen Industrial Park Substation and Aberdeen City Substation, creating a looped 115 kV transmission facility in the Aberdeen area.

⁵ <http://northwesternenergy.com/safety/covid-19>

ARSD 20:10:21:16 Projected Electric Demand

The utility shall provide a statement of the projected demand, both in-state and out-of-state, for the electric service to be rendered by the utility for each of the ensuing 10 years.⁶

Projected Electric Demand | South Dakota Service Territory

Year	Peak Demand (MW)	Increase	Increase (MW)
2020	338.8	-1.2%	-4.2
2021	338.8	0.0%	0.1
2022	338.9	0.0%	0.1
2023	339.0	0.0%	0.1
2024	339.1	0.0%	0.1
2025	339.2	0.0%	0.1
2026	339.3	0.0%	0.1
2027	339.4	0.0%	0.1
2028	339.5	0.0%	0.1
2029	339.6	0.0%	0.1

These projections are based upon historical trends and known changes for a 50/50 forecast for NorthWestern's South Dakota service territory based on guidance from SPP.

ARSD 20:10:21:17 Changes in Electric Energy

The utility shall present a table showing the increase or decrease of projected electric energy demand and allocation by volume and percentage for each year relative to the prior year.

Projected Electric Usage | South Dakota Service Territory

Year	Electric Energy (MWh)	Annual Load Growth
2020	1,836,165	1.4%
2021	1,848,252	0.7%
2022	1,860,338	0.7%
2023	1,872,425	0.6%
2024	1,884,512	0.6%
2025	1,896,599	0.6%

⁶ NorthWestern also provides electric service in Montana. NorthWestern's Montana and South Dakota facilities are not physically connected and are not in the same Interconnection. Therefore, this report does not include data for its Montana operations.

Year	Electric Energy (MWh)	Annual Load Growth
2026	1,908,686	0.6%
2027	1,920,773	0.6%
2028	1,932,859	0.6%
2029	1,944,946	0.6%

ARSD 20:10:21:18 Map of Service Area

The utility shall include a map or maps indicating the specific geographic location of the utility's service area or areas.

A map of NorthWestern's South Dakota service territory is below.

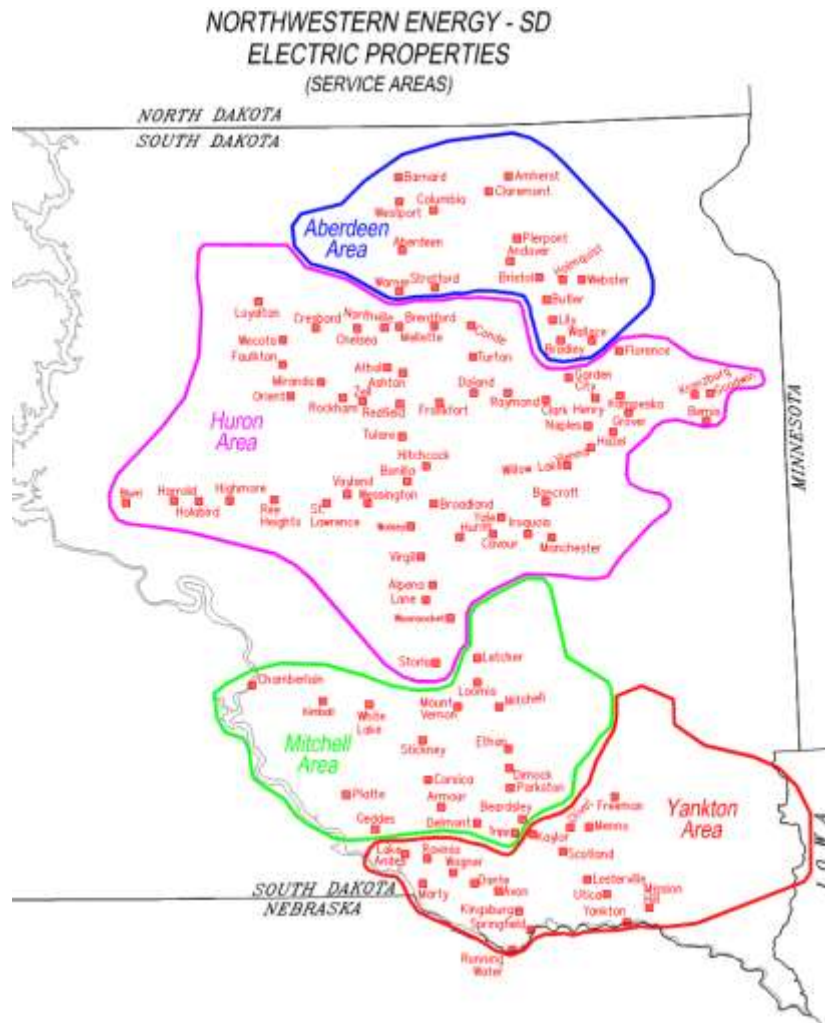
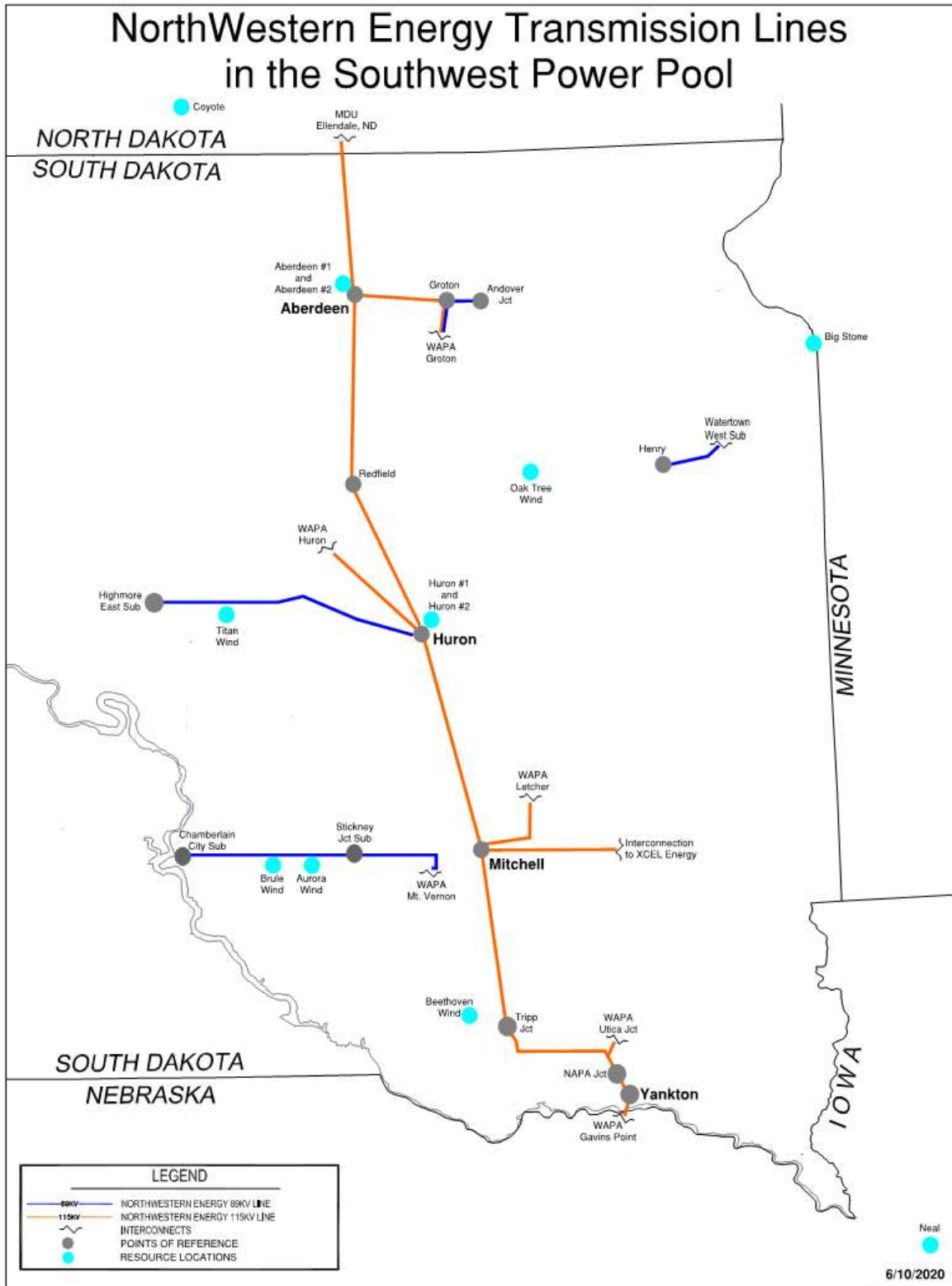


Exhibit A Map of Existing Transmission Facilities



Certificate of Service

I hereby certify that, in accordance with ARSD 20:10:21:23, I have this day served electronic notice of NorthWestern Energy's plan filing to the following state agencies and officers:

- (1) Aeronautics Commission
bandc@state.sd.us
- (2) Department of Agriculture
agmail@state.sd.us
- (3) Attorney General
jason.ravnsborg@state.sd.us
- (4) Department of Revenue
bustax@state.sd.us
- (5) Governor's Office of Economic Development
goedinfo@state.sd.us
- (6) Department of Education and Cultural Affairs
doe@state.sd.us
- (7) State Engineer
stacy.watters@state.sd.us
- (8) Department of Game, Fish and Parks
wildinfo@state.sd.us
parkinfo@state.sd.us
- (9) State Geologist
tim.cowman@usd.edu
- (10) Office of the Governor
tony.venhuizen@state.sd.us (Chief of Staff)
- (11) Department of Health
DOHino@state.sd.us
- (12) Department of Tribal Relations
dave.flute@state.sd.us

- (13) Department of Labor & Regulation
marcia.hultman@state.sd.us
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LRC@sdlegislature.gov
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Dated this 29th day of June, 2020.

s/ Dori L. Quam

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