

**BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE
MINNESOTA PUBLIC UTILITIES COMMISSION
STATE OF MINNESOTA**

IN THE MATTER OF AN APPLICATION OF
NORTHERN STATES POWER COMPANY FOR
AUTHORITY TO INCREASE RATES FOR
ELECTRIC SERVICE IN THE STATE OF
MINNESOTA

MPUC Docket Nos. E002/GR-12-961
E002/GR-13-868

IN THE MATTER OF THE REVIEW OF THE
ANNUAL AUTOMATIC ADJUSTMENT REPORTS
FOR ALL ELECTRIC UTILITIES

E999/AA-13-599
E999/AA-16-523
E999/AA-17-492
E999/AA-18-373

OAH Docket No. 65-2500-38476

SURREBUTTAL TESTIMONY OF

MARK W. KOLB

On Behalf of

NORTHERN STATES POWER COMPANY

October 30, 2023

1 Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

2 A. I respond to rebuttal testimony filed by Mr. Richard Polich, discussing what he
3 refers to as a “water washing” of the Unit 3 LP turbine rotor in 2005 with untreated
4 site well water and suggesting that this occurrence should have prompted further
5 action by the Company, including conducting a major inspection of Unit 3 in 2011.

6
7 Q. PLEASE EXPLAIN THIS 2005 OCCURRENCE.

8 A. In 2005, during the major inspection overhaul, I was advised by the Sherco Plant
9 Chemistry Supervisor, Duane Wold, that the LP turbine L-0 blade rows on one LP
10 rotor had inadvertently been steam cleaned or “washed” using untreated, site well
11 water as the source.¹ Our overhaul contractor was attempting to clean the penetrant
12 exam developer off the L-0 blade satellite strips with a steam cleaner that was
13 borrowed from the Sherco electric shop. Our contractor steam cleaned or
14 “washed” one of the two L-0 rows on one of the rotors. Notably, the L-1 rows
15 were not washed with the untreated steam as the L-0 blade tip being cleaned was
16 at a lower elevation in the rotor stand; accordingly, any steam/water sprayed on the
17 L-0 dropped down to the floor—not over to the adjacent L-1 blade root.

18
19 Q. DID THIS STEAM WASHING CONSTITUTE AN ABNORMAL EVENT OR OPERATIONAL
20 ANOMALY THAT WOULD HAVE TRIGGERED A TIL 1121-3AR1 BLADES-OFF,
21 MAGNETIC PARTICLE INSPECTION?

22 A. No. This was a one-time event that was quickly rectified and properly addressed.
23 As soon as I received Mr. Wold’s notification about this event, Mr. Wold and I
24 immediately met to discuss the issue further and determined an appropriate course
25 of action, which included spraying the affected rotor areas with demineralized water
26 and reviewing the well water chloride levels. Mr. Wold and I monitored the

¹ The amount of water used in steam washing is extremely small, as water expands well over 1000 times in volume when turned into steam.

1 remediation and, based on our collective extensive experience, training, and
2 judgment, determined that any potential contamination event was contained and a
3 minor event.

4
5 Importantly, Sherco Unit 3 was our most critical asset. Accordingly, our operations
6 and steam chemistry teams constantly monitored the equipment. To the extent an
7 issue arose, as will always happen in the operation of a utility-size steam turbine,
8 we responded quickly and appropriately utilizing our extensive experience, training,
9 and judgment. Mr. Polich’s suggestion that an isolated and minor event, such as the
10 2005 rotor steam wash issue, should have triggered a TIL 1121-3AR1 blades-off,
11 magnetic particle inspection, reflects a misunderstanding of steam turbine
12 operations and the plain language of GE’s TIL 1121-3AR1 guidance.

13
14 With regard to the 2005 rotor steam wash event, the fact that such an event
15 occurred does not end the inquiry as to whether an “abnormal event” or
16 “operational anomaly” exists sufficient to warrant a TIL 1121-3AR1 inspection.
17 Rather, the important consideration is the duration and extent of the contamination
18 and whether it was quickly responded to and addressed and whether it would
19 “cause concern for long-term reliability of the unit[.]”² As discussed above, the
20 rotor steam wash event did not cause such a concern and did not warrant a TIL
21 1121-3AR1 inspection.

² See TIL 1121-3AR1 (Exhibit____(HJS-1), Schedule 7 at page 4).