

Department Attach. A

Page 1 of 3

- ☐ Not Public Document – Not For Public Disclosure
☒ Public Document – Not Public Data Has Been Excised
☐ Public Document

Xcel Energy	Information Request No.	3
Docket No.:	E002/GR-12-961	
Response To:	MN Department of Commerce	
Requestor:	Michael Zajicek	
Date Received:	October 21, 2020	

Question:

Topic: August 24, 2020 Compliance Filing

Reference(s): Attachment A page 1

Request:

On Attachment A page 1 Xcel presented a table labeled “Allocation of Costs.” Please provide a narrative fully explaining this table, including a discussion of what costs, if any, have not been recovered by the Company and if the Company intends to seek recovery in a future rates case.

Please include a specific discussion of the \$5.50 Million non-insurance reimbursable costs in the Minnesota jurisdiction.

Response:

The Total Cost column of the table on the bottom of Attachment A, page 1 matches the amounts shown in Table 1 and the amounts shown in greater detail on Attachment A of the March 31, 2015 compliance filing in Docket Nos. E002/GR-12-961 and E002/GR-13-868. We include that attachment as Attachment 1 to this response for ease of review.

The Allocation to NSP column shows 59 percent. As discussed on page 3 of the final compliance filing, 59 percent of Sherco 3 costs are allocated to NSP, while 41 percent are allocated to the unit co-owner, Southern Minnesota Municipal Power Authority (SMMPA). We then allocated NSP’s share of the outage costs to the Minnesota jurisdiction by using a composite jurisdictional allocator.

The \$5.5 million represents the Minnesota share of the Sherco outage costs in excess of insurance proceeds. The \$5.5 million is the amount included in rate base in our last approved rate case, Docket No. E002/GR-15-826. There are no additional costs related to this incident that need to be accounted for in future rate cases.

Preparer: Benj Halama
Title: Manager, Revenue Analysis
Department: Revenue Requirements North
Telephone: 612-330-5703
Date: November 2, 2020



PUBLIC DOCUMENT: TRADE SECRET
INFORMATION REDACTED - PUBLIC DATA

Docket No. E002/GR-13-858
 Docket No. E002/GR-12-961
 Attachment A, Page 1 of 1

PUBLIC ATTACHMENTS Docket Nos. E002/GR-12-961; E002/GR-13-868; E999/
 AA-13-599; E999/AA-14-579; E999/AA-16-523; E999/AA-17-492; E999/AA-18-373
 Sherco 3

Restoration

Department Attach. A

Final Project Cost

Page 3 of 3

		Initial Forecast Estimate At Aug. 31, 2013	Final Cost at Completion	Difference Aug. 2013 to Final
Description				
[Trade Secret Begins]				
EQUIPMENT REPAIR/REPLACEMENT P.O.'s				
	Generator Field			
	Generator Stator			
	LP Steam Turbine Components			
	HP/IP Steam Turbine Components			
	Condenser Tubes			
	Exciter (Alterrex)			
	BOP Contracts			
	HP/IP Steam Turbine Replacement			
	Totals			
CONSTRUCTION CONTRACTS				
	Turbine Generator Disassembly			
	Plant Layups (Special Construction/Maintenance)			
	Turbine Assembly			
	Electrical Construction/Repairs/Cleaning			
	Cleaning (Interstate and Special Construction)			
	Condenser Retubing			
	BOP Mechanical Construction/Repairs			
	Scaffolding			
	Totals			
INDIRECTS				
	A/E Services			
	Project Management			
	OEM Field Engineers/Technical Advisors			
	Construction Management			
	Site Services			
	Other Xcel Departments/Resources			
	Project Startup / Commissioning			
	Insurance Adjustments, Overheads, Credits, P-Loads			
	Totals			
TOTAL REIMBURSABLE COST				
NON-REIMBURSABLE COSTS				
	Insurance Deductible			
	Disputed Items			
	Capital Improvements*			
	Expediting Expense			
	Cause*			
	Miscellaneous			
	TOTAL NON-REIMBURSABLE COST			
TOTAL PROJECT COST				

* Note that Cause and Capital Improvements are combined for Feb 2015 report

Trade Secret Ends]

PUBLIC ATTACHMENTS Docket Nos. E002/GR-12-961; E002/GR-13-868; E999/
AA-13-599; E999/AA-14-579; E999/AA-16-523; E999/AA-17-492; E999/AA-18-373

Department Attach. B

Page 1 of 19

1	STATE OF MINNESOTA	DISTRICT COURT
2	COUNTY OF SHERBURNE	TENTH JUDICIAL DISTRICT
3		Case Type: Property Damage
4	AEGIS INSURANCE	
5	SERVICES, LTD., AND	JURY TRIAL
6	OTHER INTERESTED	
7	INSURERS AS SUBROGEEES	File No. 71-CV-13-1472
8	OF NORTHERN STATES	
9	POWER CO. AND	
10	SOUTHERN MINNESOTA	TRANSCRIPT OF
11	MUNICIPAL POWER	PROCEEDINGS
12	AGENCY,	
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Plaintiffs,

vs.

Defendants.

VOLUME II

The above-entitled matter came duly on for
trial before the Honorable Sheridan Hawley, one of the
judges of the above-named court, on October 17, 2018, at the
Sherburne County Courthouse, Elk River, Minnesota.

APPEARANCES

DAVID S. EVINGER and
DANIEL W. BERGLUND,
ATTORNEYS AT LAW
GROTEFELD, HOFFMAN, SCHLEITER, GORDON,
OCHOA & EVINGER, LLP.
150 South Fifth Street
Suite 3650
Minneapolis, MN 55402

and

LEAH C.O. BOOMSMA,
ATTORNEY AT LAW
BRIGGS & MORGAN
80 South Eighth Street
2200 IDS Center
Minneapolis, MN 55402

Appeared on behalf of Plaintiffs.

TIMOTHY R. SCHUPP and
ROBERT W. VACCARO,
ATTORNEYS AT LAW
MEAGHER & GEER
33 South Sixth Street
Suite 4400
Minneapolis, MN 55402

Appeared on behalf of Defendants.

* * *

1	<u>TABLE OF CONTENTS</u>			
2				<u>PAGE</u>
3	TIMOTHY PATRICK MURRAY			219
	Continued Direct Examination By Mr. Evinger			220
4	Cross-Examination By Mr. Schupp			280
	Continued Cross-Examination By Mr. Schupp			402
5	Redirect Examination By Mr. Evinger			426
6	Recross-Examination By Mr. Schupp			430
	Redirect Examination By Mr. Evinger			431
7	MARK KOLB			432
	Direct Examination By Ms. Boomsma			432
8				
9	<u>EXHIBITS</u>			
10	<u>Exhibit</u>	<u>Marked</u>	<u>Offered</u>	<u>Received</u>
11	1099		290	290
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

1 Q. Right. So any sodium that enters from the -- any
2 condenser leaks or in the makeup water that the
3 sodium would not be removed by the condensate
4 polishers before it entered the attemperator sprays,
5 right?
6 A. That would be my understanding, yes.
7 Q. Okay.
8 MR. SCHUPP: Maybe we could put up Exhibit 1163,
9 please. Sorry to pull one on you, Beth.
10 MR. EVINGER: I couldn't hear what you said.
11 MR. SCHUPP: I said sorry to pull one on her.
12 MS. BOOMSMA: Did you say a number?
13 MR. SCHUPP: 1163. I'm talking this way. When
14 I walk away, can you hear me?
15 JUROR: For the most part.
16 MR. SCHUPP: Okay.
17 BY MR. SCHUPP:
18 Q. So do you recognize this as the depiction of the
19 steam cycle diagram for a fossil steam turbine?
20 A. Yes.
21 Q. And this is a reasonably accurate picture --
22 depiction of the system for Sherco Unit 3 with the
23 exception of it has two LP turbines and it has
24 multiple condensate polishers?
25 A. Yeah. I'd say it's reasonably accurate.

- 1 Q. Right. And so that we understand what we're talking
2 about, that contaminants can enter through condenser
3 leaks that the cooling water which is not pure
4 through leaks enters into the purer steam condensates
5 cycle, right?
- 6 A. Yes.
- 7 Q. And that also if there's contaminants in the makeup
8 water, that that can enter into the steam condensate
9 cycle, right?
- 10 A. Correct.
- 11 Q. And then the condensate polisher as it existed at
12 Sherco 3 doesn't take sodium out, so whatever would
13 come in through any problems with the makeup water,
14 or condenser, would then go right into the steam
15 through the attemperators, right?
- 16 A. It would, yes.
- 17 Q. Right. Otherwise the contaminants can go into the
18 boiler and you can use blow-down and other things to
19 regulate the contaminants and keep them from getting
20 into the steam, right?
- 21 A. Correct.
- 22 Q. So you knew in the 1999 to 2000 timeframe that in
23 order to minimize the risk of stress corrosion
24 cracking in LP turbines it was important to limit the
25 sodium compounds that entered the steam turbine?

- 1 **A.** Yes.
- 2 **Q.** Okay. And as a result of that, it was important to
- 3 keep track of and evaluate any corrosive issues with
- 4 respect to the LP turbines such as Unit 3?
- 5 **A.** Yes.
- 6 **Q.** Okay. To summarize, it's fair to say during the
- 7 period 1999 to 2011 you knew, one, about the risk of
- 8 stress corrosion cracking in LP turbines?
- 9 **A.** Yes.
- 10 **Q.** Two, what causes stress corrosion cracking in LP
- 11 turbines?
- 12 **A.** Yes.
- 13 **Q.** Three, how to control steam chemistry to minimize the
- 14 risk of stress corrosion cracking in LP turbines?
- 15 **A.** Well --
- 16 MR. EVINGER: Objection, foundation.
- 17 THE COURT: Did you know that or did you not
- 18 know that?
- 19 THE WITNESS: More or less, I guess, I could
- 20 say.
- 21 BY MR. SCHUPP:
- 22 **Q.** Yeah. And you knew how to inspect for the presence
- 23 of stress corrosion cracking?
- 24 **A.** Yes, we did.
- 25 **Q.** Okay.

- 1 Q. Okay. Was there a book of TILs kept at the plant?
- 2 A. I believe they did have one, but -- no, I guess I
- 3 can't answer that for sure. I don't know that they
- 4 actually had a book.
- 5 Q. Did they have -- did they have them in one place,
- 6 whether it was in a book form or not? Were they all
- 7 collected in one location?
- 8 A. I -- I don't know for sure.
- 9 Q. Okay. This TIL applies to all steam turbine rotors
- 10 which have buckets attached with finger dovetails,
- 11 right?
- 12 A. That's correct.
- 13 Q. Provides instructions how to do the inspection that
- 14 you described for us?
- 15 A. Yes.
- 16 MR. SCHUPP: Could we see page 3, please, Beth?
- 17 BY MR. SCHUPP:
- 18 Q. And it has two recommendations of when to do it.
- 19 Number one, whenever buckets are removed, and, number
- 20 two, abnormal operation or unusual operating events
- 21 that cause concern for long-term reliability may be
- 22 reason to consider removal of the buckets, right?
- 23 A. Correct.
- 24 Q. And then that TIL was revised in 1993; is that
- 25 correct?

1 **A.** That's correct.

2 **Q.** Okay. So the original TIL is 1992, right?

3 **A.** Yes.

4 **Q.** Revision 1993?

5 **A.** Correct.

6 **Q.** All right.

7 MR. SCHUPP: So let's see Exhibit 6, please,

8 Beth.

9 BY MR. SCHUPP:

10 **Q.** Again, this is transmitted where?

11 **A.** This particular one would have been to the Sherburne

12 County plant.

13 **Q.** Okay. And we can see at the bottom that it has

14 numbers on the bottom that show it was produced by

15 NSP as a part of this lawsuit?

16 **A.** Yes.

17 **Q.** Those Bates numbers down at the bottom right -- no,

18 up above that, next one. That shows that that came

19 from Sherco, right?

20 **A.** I believe that's true, yes.

21 **Q.** So that means this document delivered to the

22 Sherburne plant was a document that NSP had, right?

23 **A.** Correct.

24 **Q.** Okay. It's the same applicability. If we can flip

25 to the TIL, please. Okay, this is the

1 recommendations, but do you know of your own
2 knowledge that it's the same applicability, the same
3 purpose, same inspection, it's just modified the
4 recommendations and some background information?

5 A. Yes.

6 Q. Okay. So still, first, whenever buckets are off,
7 right?

8 A. Correct, yes.

9 Q. But Item 2 lists examples of events that may increase
10 the risk of stress corrosion cracking. Is that how
11 you read that?

12 A. Yes.

13 Q. And three events: A is caustic or chemical ingestion
14 or contamination, A. B, carryover from the boiler,
15 and, C, leaking condenser heater tubes. And down at
16 the bottom it says in there -- can you read that for
17 me?

18 A. If in doubt, GE will help evaluate the need for
19 additional MPI of the rotor wheel finger dovetail
20 area. Contact your local GE field service
21 representative.

22 BY MR. SCHUPP:

23 Q. Now, I understand from your testimony yesterday that
24 this language in the TIL is confusing and vague to
25 you; is that right?

1 BY MR. SCHUPP:

2 Q. And you got involved in what came to be called the

3 L-1 users group in 1995 to 1996 timeframe, right?

4 A. Yes.

5 Q. And what that involved is a power company known as

6 Navajo Generating Station, I believe that was in

7 Utah?

8 A. Or Arizona.

9 Q. Arizona?

10 A. Arizona.

11 Q. They had cracks in their LP tie wires, and they

12 started this L-1 users group, right?

13 A. I'm not sure that it was -- I know Navajo Station was

14 part of the user group, but I don't know that they

15 actually were the ones that started it.

16 Q. Okay, fair enough. They were involved in it, right?

17 A. They were.

18 Q. And it involved their units, right?

19 A. Yes, they were having those issues.

20 Q. Right. And they also had stress corrosion cracking

21 in their L-1 LP finger dovetails on three units in

22 that time period.

23 A. I believe that's correct.

24 Q. And those units were identical to Sherco Unit 3

25 except for they had once-through boilers.

- 1 **A.** I can't say for sure that they were identical, but
2 they were very close, yes.
- 3 **Q.** Okay. They had finger dovetails on the L-1 rows.
- 4 **A.** Yes.
- 5 **Q.** And they were G3 units.
- 6 **A.** Yes.
- 7 **Q.** Okay. And you attended meetings where they discussed
8 methods of how to detect stress corrosion cracking
9 without removing all the buckets, right?
- 10 **A.** I believe there was a presentation made at one of the
11 meetings.
- 12 **Q.** Okay.
- 13 MR. SCHUPP: Let's see Trial Exhibit 1063,
14 please. If we could enlarge the bottom. Before you
15 do that, hang on, Beth.
- 16 BY MR. SCHUPP:
- 17 **Q.** This is a document that comes from NSP's files,
18 right?
- 19 **A.** Yes.
- 20 **Q.** And does this come from your personal files?
- 21 **A.** I believe so.
- 22 **Q.** Okay. And this is actually copies of a PowerPoint
23 presentation, is it not, these little slides?
- 24 **A.** Yes, I believe it was something like a PowerPoint.
- 25 **Q.** So you actually saw the PowerPoint, and then you got

1 this distributed afterwards as a paper copy of what
2 was presented?

3 **A.** Yes.

4 **Q.** Okay.

5 MR. SCHUPP: Let's see the bottom one, please.

6 BY MR. SCHUPP:

7 **Q.** So it says what happened, there was a maintenance
8 outage, removed damaged LP B generator and
9 four-bucket group. Do you know what that means?

10 **A.** Yes.

11 **Q.** Because you had a bucket group removed in '96, so you
12 understand on the LP turbines you can remove a group
13 of buckets, right?

14 **A.** Correct.

15 **Q.** And LP B, that suggests it's a multiple L-3 turbine
16 unit, right?

17 **A.** Yes.

18 **Q.** And it says: Inspected the wheel fingers, TIL 1121,
19 and found indications, right?

20 **A.** It does, yes.

21 **Q.** Right. And you understood that and heard that at the
22 presentation back in the '95, '96 timeframe, right?

23 **A.** Yes.

24 **Q.** And it says: Replicated L-1 wheel circumferential
25 indication, SCC. Do you know what that means?

- 1 **A.** So it would have been like a metallurgical
2 examination where they try to basically replicate or
3 copy the actual surface, and then they can examine
4 that copy of the surface under a microscope and try
5 to determine the mechanism involved.
- 6 **Q.** So they are doing an investigation trying to figure
7 out the mechanism and this is the method they used
8 and they found out it was SCC?
- 9 **A.** Yes.
- 10 **Q.** They then removed and inspected the entire L-1
11 generator and buckets and found crack indications,
12 right?
- 13 **A.** Yes.
- 14 **Q.** And then they also removed and inspected one 5-bucket
15 L-1 turbine end group and found crack indications,
16 right?
- 17 **A.** Correct.
- 18 **Q.** So you knew from this particular presentation that it
19 was possible to remove a bucket group, do an
20 inspection of the wheel, and make a determination as
21 to whether there's any crack indications if you
22 didn't want to take all the buckets off, right?
- 23 **A.** That's what they suggest.
- 24 **Q.** Right. And you had the presentation, it was
25 presented to you, it was in your file, and you knew

1 it was done at Navajo Generating Station, right?

2 **A.** Correct.

3 **Q.** Okay.

4 MR. SCHUPP: Let's go to the last page of this,

5 please. Up at the top, the top slide, please.

6 MS. JORGES: Would you like the drawing, as

7 well?

8 MR. SCHUPP: Sure.

9 BY MR. SCHUPP:

10 **Q.** Is that your handwriting, Mr. Murray?

11 MS. JORGES: I'm sorry.

12 MR. SCHUPP: Oops.

13 THE WITNESS: Yes, that looks like my

14 handwriting.

15 BY MR. SCHUPP:

16 **Q.** Okay. And this is an action plan that they

17 presented?

18 **A.** Yes.

19 **Q.** And they said: Do a lift check of the L-1 buckets;

20 is that right?

21 **A.** That's what they say, yes.

22 **Q.** Right. Those were finger dovetail buckets, right?

23 **A.** On that unit, yes.

24 **Q.** Okay. So at least according to this slide, they were

25 able to do a lift check on the L-1 buckets; is that

1 please? And again, this is authored by Mr. Kolb,
2 correct?
3 **A.** Correct.
4 **Q.** And you are listed as a team member?
5 **A.** Yes.
6 **Q.** Do you recall this particular health report?
7 **A.** I don't think that I reviewed this.
8 **Q.** Okay. It says, GE recommends a TBO of five years,
9 increasing inspection interval adds risk. Do you see
10 that there?
11 **A.** Yes.
12 **Q.** Currently scheduled for an eight-and-a-third-year TBO
13 cycle. Do you see that there?
14 **A.** Yes.
15 **Q.** So am I correct that according to this 2010 document,
16 the LP major unit inspection that should have been
17 conducted in 2011 has been pushed to 2014?
18 **A.** Yes, the plan was changed to move that to 2014.
19 **Q.** Okay. So you did not maintain a six-year inspection
20 interval, correct?
21 **A.** Not on the low-pressure turbines.
22 **Q.** Correct. And it was -- we saw in 2005 that green
23 rating was contingent on maintaining a six-year TBO;
24 is that right?
25 **A.** That was -- yes, that was Mark's --

- 1 **A.** It is.
- 2 **Q.** You don't share this with GE?
- 3 **A.** I don't believe it was shared with GE, but you would
- 4 have to talk to Mr. Kolb.
- 5 **Q.** Okay. If we can turn to page 4 of 5, future plans.
- 6 If you could highlight the first bullet under future
- 7 plans, please?
- 8 It says, With the proper engineering study, the LP
- 9 inspection interval could possibly be extended to
- 10 nine years to fit with the HP, IP generator schedule
- 11 if required, otherwise maintain six-year overhaul
- 12 frequency, next major overhaul scheduled for 2014; do
- 13 you see that there?
- 14 **A.** Yes.
- 15 **Q.** That actually -- that last part doesn't make sense,
- 16 does it? Because it's already been rescheduled for
- 17 2014 and that's not a six-year overhaul frequency,
- 18 right?
- 19 **A.** Yeah, I believe that, at the time this was written in
- 20 2010, that that decision had been made to move that
- 21 outage to 2014.
- 22 **Q.** Okay. And you're not aware of any engineering study
- 23 to study the LP inspection interval to extend to nine
- 24 years, right?
- 25 **A.** No, I am not.

1 new turbine.

2 Q. Your stay at Westinghouse, how long was that?

3 A. It was four months. I was on the road a hundred

4 percent of the time and just realized that wasn't the

5 lifestyle that I wanted.

6 Q. So you said you started there in August of?

7 A. Let's see, I graduated fall of '80, and then in

8 January of '81 I went to Westinghouse for four months

9 and then told them I was going to take a different

10 position and so I moved back to Rochester, stayed

11 with my parents.

12 Q. Where did you go next after Westinghouse?

13 A. Then in August I got a job with NSP.

14 Q. And that was August of what year?

15 A. August of '81.

16 Q. And that was about a year after you graduated?

17 A. Yes. Um-hum.

18 Q. All right. How long did you stay with NSP?

19 A. I just retired from NSP after almost 37 years.

20 Q. In your time at NSP did you go to multiple -- let's

21 start with what was your role at NSP?

22 A. When I first started with NSP I started at the

23 Monticello nuclear plant and as a system engineer.

24 Q. And where did you go after -- let's figure out all of

25 the places you went, so after you were at Monticello

- 1 as assistant engineer where did you go next?
- 2 **A.** I want to -- NSP has a plant in Stillwater,
- 3 Minnesota, the Allen S. King plant, so I transferred
- 4 there.
- 5 **Q.** And where was the last place that you worked at NSP?
- 6 **A.** Then I transferred in, I believe, it was '85, June of
- 7 '85 to the Sherco Plant in Becker, Minnesota.
- 8 **Q.** I'm sorry, was it June of 1985?
- 9 **A.** Let's see.
- 10 **Q.** Or was that the King Plant?
- 11 **A.** Let see, '81 I was at Monticello for about four
- 12 years, and then -- so then about '85 -- excuse me --
- 13 in '85 -- I'm a little nervous -- '85 I went to
- 14 Stillwater, and then in '94 I transferred to Sherco
- 15 and then I finished out my career there, so I was at
- 16 Sherco for about 24 years.
- 17 **Q.** Okay. So let's talk about the four years you were at
- 18 Monticello, what was your role when you were there?
- 19 **A.** Same as it's been virtually my entire career, a
- 20 system engineer. I was assigned systems that I
- 21 oversee and be involved with. The systems I started
- 22 out with were some of the junior engineer systems and
- 23 I transitioned into reactor protection systems.
- 24 **Q.** The systems engineer role you were that for 37 years.
- 25 Can you describe the progression within that role,

- 1 the different systems that you could be involved
2 with?
- 3 **A.** Sure. Sure. You know, a new engineer they start
4 training you up with some of the -- or some of the
5 less important systems. As you gain knowledge and
6 experience and prove yourself you transition into
7 some of the more critical systems. So I started with
8 some of the balance of plant systems and then I got
9 into the turbine, and then I started narrowing down
10 to the main turbine and its auxiliary service.
- 11 **Q.** The term "balance of plant" can you explain what the
12 balance of plant systems are?
- 13 **A.** Sure. Sure. In a plant there is dozens and dozens
14 of systems. Some are the main critical systems, like
15 the turbine or the boiler, then there's many systems
16 that support that, like compressors or cooling towers
17 that you see driving by the plants, feedwater
18 systems, just dozens of systems.
- 19 **Q.** Okay. I am going to grab a notepad that I have.
20 (Whereupon, there was a brief pause in the proceedings.)
- 21 BY MS. BOOMSMA:
- 22 **Q.** We are going to pull up stipulated Exhibit 1001A,
23 1001A.
- 24 **A.** I see it.
- 25 **Q.** What do you see in this picture?

PUBLIC ATTACHMENTS Docket Nos. E002/GR-12-961; E002/GR-13-868; E999/
AA-13-599; E999/AA-14-579; E999/AA-16-523; E999/AA-17-492; E999/AA-18-373

Department Attach. C

Page 1 of 6

1	STATE OF MINNESOTA	DISTRICT COURT
2	COUNTY OF SHERBURNE	TENTH JUDICIAL DISTRICT
3		Case Type: Property Damage
4	AEGIS INSURANCE	
5	SERVICES, LTD., AND	JURY TRIAL
6	OTHER INTERESTED	
7	INSURERS AS SUBROGEEES	File No. 71-CV-13-1472
8	OF NORTHERN STATES	
9	POWER CO. AND	
10	SOUTHERN MINNESOTA	TRANSCRIPT OF
11	MUNICIPAL POWER	PROCEEDINGS
12	AGENCY,	
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

AEGIS INSURANCE
 SERVICES, LTD., AND
 OTHER INTERESTED
 INSURERS AS SUBROGEEES
 OF NORTHERN STATES
 POWER CO. AND
 SOUTHERN MINNESOTA
 MUNICIPAL POWER
 AGENCY,
 vs.
 GENERAL ELECTRIC
 COMPANY; GENERAL
 ELECTRIC
 INTERNATIONAL, INC.;
 GE ENERGY SERVICES,
 INC.,
 Plaintiffs,
 Defendants.

The above-entitled matter came duly on for
 trial before the Honorable Sheridan Hawley, one of the
 judges of the above-named court, on October 16, 2018, at the
 Sherburne County Courthouse, Elk River, Minnesota.

APPEARANCES

DAVID S. EVINGER and
DANIEL W. BERGLUND,
ATTORNEYS AT LAW
GROTEFELD, HOFFMAN, SCHLEITER, GORDON,
OCHOA & EVINGER, LLP.
150 South Fifth Street
Suite 3650
Minneapolis, MN 55402

and

LEAH C.O. BOOMSMA,
ATTORNEY AT LAW
BRIGGS & MORGAN
80 South Eighth Street
2200 IDS Center
Minneapolis, MN 55402

Appeared on behalf of Plaintiffs.

TIMOTHY R. SCHUPP and
ROBERT W. VACCARO,
ATTORNEYS AT LAW
MEAGHER & GEER
33 South Sixth Street
Suite 4400
Minneapolis, MN 55402

Appeared on behalf of Defendants.

* * *

PUBLIC ATTACHMENTS Docket Nos. E002/GR-12-961; E002/GR-13-868; E999/
AA-13-599; E999/AA-14-579; E999/AA-16-523; E999/AA-17-492; E999/AA-18-373

Department Attach. C

Page 3 of 6

1	<u>TABLE OF CONTENTS</u>			
2				<u>PAGE</u>
3	Timothy Patrick Murray			121
	Direct Examination By Mr. Evinger			122
4	Continued Direct Examination By Mr. Evinger			166
	Examination By Mr. Schupp			208
5				
6	<u>EXHIBITS</u>			
7	<u>Exhibit</u>	<u>Marked</u>	<u>Offered</u>	<u>Received</u>
	7	153	153
8	10	196	201
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

1 **A.** Six.

2 **Q.** What?

3 **A.** Six kids.

4 **Q.** Okay. Who's your current employer?

5 **A.** Xcel Energy.

6 **Q.** And how long have you worked with Xcel Energy?

7 **A.** Well, including my time with NSP, it would be

8 34 years.

9 **Q.** Just briefly, what is your educational background

10 starting in college?

11 **A.** I have a doctoral of science degree in mechanical

12 engineering. I graduated from University of

13 California-Berkeley in 1980.

14 **Q.** Do you have any degrees beyond that?

15 **A.** No.

16 **Q.** Okay. Where did you go to work after college?

17 **A.** I worked for Bechtal Power Corporation out of

18 San Francisco.

19 **Q.** And just describe briefly what you did for them and

20 where.

21 **A.** Yeah, so in our San Francisco office, we designed

22 power plants. I was actually working in a group that

23 supported operating power plants, including the

24 Monticello nuclear plant, and we were doing design

25 mods for that facility to implement NRC, nuclear

1 regulatory commission-mandated changes after the
2 Three Mile Island accident.

3 Q. And what were your responsibilities?

4 A. Initially I worked in the design group. We did
5 design changes to the plants, heating ventilation,
6 air-conditioning system. We implemented changes to
7 fire protection systems.

8 Q. Okay. What did you do after that?

9 A. Well, I was still working for Bechtal, they sent me
10 out to Monticello as a field engineer, and so I was
11 helping with the construction and the implementation
12 of those modifications that we designed back at our
13 San Francisco office.

14 Q. Then what did you do?

15 A. In 1984, I went to work for Northern States Power at
16 the Monticello nuclear plant. I was a system
17 engineer and a -- I worked five years on rafter
18 safety systems, so that was from '84 to '89, and then
19 from '89 to '94, I was the turbine generator system
20 engineer.

21 Q. Where?

22 A. At the Monticello plant.

23 Q. Then what happened?

24 A. In 1994, I transitioned to our centralized
25 maintenance organization based out of downtown

- 1 Minneapolis. It was the -- they called it the
2 operations and maintenance support group, and I
3 worked with the turbine overhaul services department.
- 4 Q. What were the duties at that time, the scope and
5 duties?
- 6 A. Primarily I was providing technical support for
7 planning and executing major steam turbine overhauls.
- 8 Q. Was this at a particular plant, or was it broader
9 than that?
- 10 A. Oh, this was for all of our steam turbines throughout
11 the Minnesota and Wisconsin region.
- 12 Q. So how many plants would you be talking about?
- 13 A. At that time, gosh, it was probably like ten
14 different plants.
- 15 Q. And now?
- 16 A. It's about the same. We have more -- we have fewer
17 units now because of some of the shutdowns, you know,
18 the coal plants, some of the coal plants have been
19 shut down. We have gas turbines that have replaced
20 those.
- 21 Q. Is that actually something NSP is focused on right
22 now?
- 23 A. Yes, it is. Yep.
- 24 Q. Okay. And you're actually doing it?
- 25 A. Yeah, they are. Yeah, uh-huh.

PUBLIC ATTACHMENTS Docket Nos. E002/GR-12-961; E002/GR-13-868; E999/
AA-13-599; E999/AA-14-579; E999/AA-16-523; E999/AA-17-492; E999/AA-18-373

Department Attach. D

Page 1 of 10

1	STATE OF MINNESOTA	DISTRICT COURT
2	COUNTY OF SHERBURNE	TENTH JUDICIAL DISTRICT
3		Case Type: Property Damage
4	AEGIS INSURANCE	
5	SERVICES, LTD., AND	JURY TRIAL
6	OTHER INTERESTED	
7	INSURERS AS SUBROGEEES	File No. 71-CV-13-1472
8	OF NORTHERN STATES	
9	POWER CO. AND	
10	SOUTHERN MINNESOTA	TRANSCRIPT OF
11	MUNICIPAL POWER	PROCEEDINGS
12	AGENCY,	
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Plaintiffs,
vs.

VOLUME III

GENERAL ELECTRIC
COMPANY; GENERAL
ELECTRIC
INTERNATIONAL, INC.;
GE ENERGY SERVICES,
INC.,
Defendants.

The above-entitled matter came duly on for
trial before the Honorable Sheridan Hawley, one of the
judges of the above-named court, on October 18, 2018, at the
Sherburne County Courthouse, Elk River, Minnesota.

APPEARANCES

DAVID S. EVINGER and
DANIEL W. BERGLUND,
ATTORNEYS AT LAW
GROTEFELD, HOFFMAN, SCHLEITER, GORDON,
OCHOA & EVINGER, LLP.
150 South Fifth Street
Suite 3650
Minneapolis, MN 55402

and

LEAH C.O. BOOMSMA,
ATTORNEY AT LAW
BRIGGS & MORGAN
80 South Eighth Street
2200 IDS Center
Minneapolis, MN 55402

Appeared on behalf of Plaintiffs.

TIMOTHY R. SCHUPP and
ROBERT W. VACCARO,
ATTORNEYS AT LAW
MEAGHER & GEER
33 South Sixth Street
Suite 4400
Minneapolis, MN 55402

Appeared on behalf of Defendants.

* * *

1 you.

2 **Q.** I understand that, but you yourself don't have that
3 knowledge?

4 **A.** I don't have that responsibility or knowledge.

5 **Q.** You would typically heavily rely on the chemistry
6 guys to advise you if they are exceeding any of the
7 GE documents and criteria set forth under those,
8 right?

9 **A.** Among others, yes.

10 **Q.** When I asked you about that in your deposition, you
11 identified the chemistry guys as the ones you relied
12 upon.

13 **A.** I do rely upon them, yes. Not solely.

14 **Q.** You were aware of the Sherco LP turbines were
15 susceptible to SCC during the time that you were the
16 lead systems engineer?

17 **A.** Yes.

18 **Q.** And where was it -- where is the susceptibility in
19 the Sherco GE turbines to stress corrosion cracking?

20 **A.** Generally, SCC, as far as buckets and rotor,
21 occurs around the -- predominantly along the L-1 row
22 and potentially L-2 and further upstream.

23 **Q.** So the largest risk is L-1, with lesser risk at L-2
24 and L-3; is that your understanding?

25 **A.** Generally, yes.

- 1 Q. And you understand that that's true regardless of the
2 type of dovetail connection at the L-1 row?
- 3 A. Yes.
- 4 Q. So doesn't matter whether it's a finger dovetail or a
5 tangential entry dovetail, they both have the same
6 risk of stress corrosion cracking?
- 7 A. I don't agree that they have the same risk, but
8 that's the predominant area in which SCC occurs.
- 9 Q. In both types of connections, that's the area of
10 concern; would you agree with that?
- 11 A. Regardless of type of inspection --
- 12 Q. Connection I think you might --
- 13 A. Excuse me, thank you.
- 14 Q. You're welcome.
- 15 A. Still nervous.
- 16 Q. Let's start over to make sure we are clear.
17 Regardless of the type of connection --
- 18 A. Yes.
- 19 Q. -- do you understand that the L-1 row is where the
20 greatest susceptibility is to stress corrosion
21 cracking?
- 22 A. Yes.
- 23 Q. And do you understand why that is?
- 24 A. That's an area they call the Wilson line. It is
25 predominantly where impurities would tend to come out

- 1 **A.** Yes.
- 2 **Q.** Did you review this recently to prepare for your
- 3 testimony?
- 4 **A.** I've read it recently.
- 5 **Q.** Yeah. So you got an e-mail from Duane Wold. He's
- 6 the plant chemistry supervisor, right?
- 7 **A.** He was at that time, yes.
- 8 **Q.** Uh-huh. That the LP rotors are in the drop area
- 9 being steam-cleaned with supply water from Sherco
- 10 wells which is high in sulfate and chlorides, right?
- 11 **A.** That's what he thought at the time.
- 12 **Q.** Now, we can tell from the date that this would have
- 13 been during the 2005 major outage, right, because
- 14 it's November of 2005?
- 15 **A.** Yes.
- 16 **Q.** And the rotors were out of the machine, right?
- 17 **A.** Yes.
- 18 **Q.** So it had to be towards the end of the -- of the
- 19 outage?
- 20 **A.** Not sure what the dates were, but --
- 21 **Q.** If they were being steam-cleaned with supply water,
- 22 does that give you an indication that it would be
- 23 toward the end of the outage, or not so?
- 24 **A.** I would have to see the schedule.
- 25 **Q.** Okay. And you don't know if it was both rotors that

- 1 Q. And you said that you were going to wash the rotor
2 out with demineralized water, basically, right?
- 3 A. Yes, uh-huh.
- 4 Q. And did you do that?
- 5 A. Yes, we did.
- 6 Q. All right. Now, before you did that, when Duane had
7 sent you that e-mail, you didn't witness the spraying
8 with the supply water?
- 9 A. Duane nor I didn't witness the actual spraying.
- 10 Q. Right. You were told after the fact?
- 11 A. Yes, uh-huh.
- 12 Q. And did you consider supply water with sulfate and
13 chloride to be chemical contamination of the turbine?
- 14 A. Contamination with those chemicals in a sufficient
15 enough quantity could be.
- 16 Q. Did you contact GE and ask them whether or not that
17 would qualify for MPI of the rotor dovetail under
18 1121-3AR1 because of the steam cleaning with supply
19 water?
- 20 A. No, I did not.
- 21 Q. Did you pull the buckets off as a result to inspect
22 and test the dovetails?
- 23 A. No.
- 24 Q. Are you familiar with TIL 1231 regarding cleaning for
25 chemical contamination?

1 MR. SCHUPP: That's I can't read my own writing,
2 Your Honor.
3 THE COURT: All right.
4 BY MR. SCHUPP:
5 Q. We have seen this before. Let's look at it again for
6 a second.
7 MS. JORGES: I have a cull-out available if you
8 would like that.
9 MR. SCHUPP: Yes. Thank you.
10 BY MR. SCHUPP:
11 Q. So this is December 7, 2010. Do you see that, Mr.
12 Kolb?
13 A. Yes.
14 Q. And we see down below that GE recommends a TBO of
15 five years, right?
16 A. Yes.
17 Q. This is -- you wrote this, right?
18 A. Yes, sir. Um-hum.
19 Q. And did you right this with great input from Tim
20 Murray?
21 A. I got input from a number of people.
22 Q. I am asking you about Tim Murray.
23 A. I don't recall specifically what was given by who.
24 Q. Okay. And you said increasing the inspection
25 interval adds risk; is that right?

- 1 **A.** Yes.
- 2 **Q.** And that you had currently scheduled it for
- 3 eight-and-a-third time between overhauls in the
- 4 cycle; is that right?
- 5 **A.** Yes.
- 6 **Q.** That's consistent with the earlier e-mails that you
- 7 wanted to push it out because of the HP IP
- 8 replacement, right?
- 9 **A.** That was one of the factors.
- 10 **Q.** And the turbine rating is still green, is it not?
- 11 **A.** Yes.
- 12 **Q.** And you recall in 2005 you said the green rating was
- 13 contingent on a six-year TBO, right?
- 14 **A.** Yes.
- 15 **Q.** Okay. And you pushed the TBO out and you left the
- 16 rating green; is that right?
- 17 **A.** Yes. I mean, that's what's said --
- 18 **Q.** Yeah, let's see the next page.
- 19 **A.** -- I don't get to defend that, I guess.
- 20 **Q.** Risks associated with a yellow or red code is wheels
- 21 cracking involving wheel failure and buckets
- 22 departing the rotor. Is that what happened in
- 23 November 2011?
- 24 **A.** Yes.
- 25 **Q.** And extending GE recommended TBO increases risk of

1 failures. Do you see that?

2 A. Yes.

3 Q. And that includes risk of an SCC failure with the

4 buckets departing the rotor, right?

5 A. I was referring to risks, in general.

6 Q. And one of the risks in general that you identified

7 above, risks associated with a wheel cracking involve

8 wheel failure and buckets departing the rotor.

9 That's one of the risks, in general, right?

10 A. Yes.

11 MR. SCHUPP: So let's go down to III, if we

12 could, please?

13 BY MR. SCHUPP:

14 Q. I think you said before this is the plan that you had

15 coming up for this unit, is that right?

16 A. That was the plan at the time, yes.

17 Q. Right. And there is no mention in here of TIL

18 1121-3AR1 is there?

19 A. Not specifically, no.

20 Q. Okay. There is no mention in here about the finger

21 dovetails at all, is there?

22 A. Not specifically. This was a very general high-level

23 summary.

24 Q. Now, at the time that this system health report was

25 written, the LP overhaul, which should have been

1 performed in -- it was originally scheduled for 2011
2 had already been deferred to 2014, correct?
3 A. I don't recall when the deferral was.
4 Q. My question is: It had been deferred by the time
5 this system health report was written?
6 A. It appears that way, yes.
7 Q. Is there any question in your mind?
8 A. From this couple sentences, I would not have a
9 question.
10 Q. Yeah. So in connection with the 2011 outage, before
11 you deferred the LP turbine major overhaul, you did
12 not review the steam and water chemistry for Unit 3,
13 correct?
14 A. Personally, to the degree that you are implying, no.
15 Q. And you are not aware of anybody else who did so?
16 A. I am not aware of anybody else.
17 Q. Okay. Performing to budget is one of your important
18 jobs?
19 A. Yes.
20 Q. Budget is an important item on maintenance outages?
21 A. Yes.
22 Q. If Tim Murray had come to you before the 2011 Unit 3
23 outage and told you that TIL 1277, which is written
24 for once-through boilers, applies to drum boilers,
25 you would not have conducted a buckets-off