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December 10, 2012

VIA ELECTRONIC

**PUBLIC SERVICE COMMISSION**

AND U.S. MAIL

Darrell Nitschke, Executive Secretary  
North Dakota Public Service Commission  
Department 408  
600 East Boulevard Avenue  
Bismarck, ND 58505-0480

Re: **XCEL ENERGY 3<sup>RD</sup> QUARTER UNDERGROUND CABLE OUTAGE REPORT  
CASE NOS. PU-10-657, PU-11-55**

Dear Mr. Nitschke:

Consistent with the terms of the approved Settlement Agreement in our last electric rate proceeding, Northern States Power Company, doing business as Xcel Energy, submits here its summary of underground residential distribution cable failures for the third quarter, 2012.

As shown on pages 1 and 2, there were 59 underground cable failures in our North Dakota system during the third quarter. Twelve of those qualified for replacement based on our cable replacement guidelines and engineering review. I have attached these guidelines to the report for your reference (page 3).

I have also included as page 4 of this submittal a summary of the feeder level outages that occurred through the third quarter this year. As agreed to in our Settlement Agreement, we have been notifying the Commission Staff of these outages as they have occurred throughout the year; I have summarized them again here for your convenience.

Please feel free to contact me with any questions or comments you have about the information provided. Thank you.

Sincerely,

DAVID SEDERQUIST  
SR. REGULATORY CONSULTANT

cc: Jerry Lein

172 PU-11-55 Filed 12/17/2012 Pages: 6  
Compliance filing - underground cable outage report - third quarter 2012  
Northern States Power Company  
David Sederquist

197 PU-10-657 Filed 12/17/2012 Pages: 6  
Compliance filing - underground cable outage report - third quarter 2012  
Northern States Power Company  
David Sederquist

**Xcel Energy - North Dakota Electric**  
**2012 URD Cable Outage, Review, and Replacement Summary**  
(Compliance Report - Case Nos. PU-10-657, PU-11-55)

#	Date of Cable Failure	Outage Duration	Service Area	Customers Impacted	Date of Engineering Review <sup>1</sup>	Meets Criteria to Replace? <sup>2</sup>	Footage To Replace	Scope of Replacement <sup>3</sup>	Date of Work Order	Date Project Started	Date Project Completed	Note
1	Jan-09 7:40 PM	5:23	Grand Forks	120	Jan-13	No	-	-	-	-	-	
2	Jan-13 11:58 AM	2:44	Minot	13	Jan-20	No	-	-	-	-	-	
3	Jan-31 7:16 PM	4:30	Fargo	148	Feb-03	Yes	-	-	-	-	-	
4	Feb-20 9:55 AM	1:36	Fargo	2	Feb-24	No	-	-	-	-	-	
5	Feb-23 4:14 PM	2:51	Fargo	8	Mar-02	No	-	-	-	-	-	
6	Mar-12 5:06 PM	2:20	Fargo	82	Mar-17	No	-	-	-	-	-	
7	Mar-20 3:10 AM	4:49	Minot	91	Mar-26	No	-	-	-	-	-	
8	Mar-24 11:21 AM	1:10	Fargo	2	Apr-02	No	-	-	-	-	-	
9	Apr-12 10:40 PM	1:32	Grand Forks	1,438	Apr-16	No	7,203	Segment	May-31	Jul-16	In Process	a
10	Apr-21 12:58 AM	2:48	Fargo	145	Apr-30	Yes	176	Segment	May-09	Jul-09	Jul-10	
11	Apr-21 2:26 AM	2:58	Fargo	54	Apr-30	No	-	-	-	-	-	
12	Apr-26 4:40 PM	2:40	Minot	48	Apr-30	No	-	-	-	-	-	
13	Apr-27 1:28 PM	2:37	Fargo	1	Apr-30	No	-	-	-	-	-	
14	May-03 5:27 AM	2:18	Fargo	83	May-07	No	-	-	-	-	-	
15	May-04 1:13 PM	1:32	Minot	24	May-07	No	-	-	-	-	-	
16	May-05 5:47 AM	13:22	Fargo	2	May-14	Yes	2,300	Radial	May-09	Aug-20	Aug-31	
17	May-17 7:53 AM	2:25	Fargo	166	May-21	No	-	-	-	-	-	
18	May-18 12:39 AM	2:21	Minot	8	May-21	No	-	-	-	-	-	
19	May-20 11:39 PM	2:09	Fargo	3,463	May-28	No	-	-	-	-	-	
20	May-25 10:00 PM	1:15	Grand Forks	1,441	May-28	Yes	7,203	Segment	May-31	Jul-16	In Process	b
21	Jun-04 4:14 PM	1:16	Minot	54	Jun-11	No	-	-	-	-	-	
22	Jun-12 4:53 AM	1:45	Minot	1	Jun-18	No	-	-	-	-	-	
23	Jun-12 3:53 PM	3:14	Minot	38	Jun-18	No	-	-	-	-	-	
24	Jun-12 3:53 PM	2:58	Minot	39	Jun-18	No	-	-	-	-	-	
25	Jun-14 7:10 AM	1:46	Fargo	8	Jun-18	No	-	-	-	-	-	
26	Jun-19 2:52 AM	2:18	Fargo	186	Jun-25	No	-	-	-	-	-	
27	Jun-19 4:26 AM	1:52	Fargo	51	Jun-25	No	-	-	-	-	-	
28	Jun-20 1:44 PM	1:40	Minot	1	Jun-25	Yes	519	Radial	Jul-03	-	-	
29	Jun-21 7:47 AM	3:20	Fargo	268	Jun-25	No	-	-	-	-	-	
30	Jun-26 11:11 AM	0:19	Minot	85	Jul-02	Yes	178	Segment	Jul-03	-	-	
31	Jun-26 11:12 PM	5:48	Fargo	18	Jul-02	No	-	-	-	-	-	
32	Jun-27 9:44 PM	6:41	Grand Forks	106	Jul-02	No	-	-	-	-	-	
33	Jun-29 4:22 AM	0:48	Minot	36	Jul-02	No	-	-	-	-	-	
34	Jul-02 2:03 PM	2:14	Grand Forks	18	Jul-09	No	-	-	-	-	-	
35	Jul-03 11:46 AM	6:29	Grand Forks	3	Jul-09	No	-	-	-	-	-	
36	Jul-10 1:37 PM	3:38	Grand Forks	31	Jul-16	No	-	-	-	-	-	
37	Jul-10 4:15 PM	0:45	Grand Forks	18	Jul-16	No	-	-	-	-	-	
38	Jul-12 2:02 PM	1:11	Minot	46	Jul-16	No	-	-	-	-	-	
39	Jul-15 1:38 AM	4:52	Grand Forks	78	Jul-23	Yes	750	Multiple	Aug-06	In Process	In Process	
40	Jul-17 5:42 AM	6:11	Minot	2	Jul-23	Yes	345	Radial	N/A	Jul-17	Jul-17	

41	Jul-17 1:25 PM	3:35	Minot	2	Jul-23	Yes	345	Radial	N/A	Jul-17	Jul-17
42	Jul-18 8:59 AM	1:31	Minot	8	Jul-23	No	-	-	-	-	-
43	Jul-19 6:04 PM	3:26	Fargo	131	Jul-23	No	-	-	-	-	-
44	Jul-20 1:36 AM	10:47	Fargo	93	Jul-20	Yes	980	Segment	Feb-08	Aug-29	Sep-17
45	Jul-21 1:48 AM	2:51	Fargo	23	Jul-30	Yes	1,060	Loop	Aug-03	Nov-13	In Process
46	Jul-22 12:15 AM	8:54	Minot	10	Jul-30	Yes	706	Radial	Aug-13	In Process	In Process
47	Jul-22 2:09 PM	1:41	Minot	61	Jul-30	Yes	1,231	Multiple	Aug-13	In Process	N/A
48	Jul-25 1:12 AM	1:48	Grand Forks	102	Jul-30	Yes	1,900	Multiple	Aug-07	Nov-02	In Process
49	Jul-26 9:31 AM	6:29	Fargo	4	Jul-30	No	-	-	-	-	-
50	Jul-30 2:03 AM	8:57	Minot	18	Jul-31	No	-	-	-	-	-
51	Jul-30 6:22 AM	1:38	Fargo	2	Jul-31	No	-	-	-	-	-
52	Jul-31 7:37 AM	7:20	Grand Forks	53	Jul-31	No	-	-	-	-	-
53	Aug-01 3:09 AM	7:51	Minot	35	Aug-06	No	-	-	-	-	-
54	Aug-03 1:17 PM	0:56	Grand Forks	320	Aug-06	No	-	-	-	-	-
55	Aug-06 6:45 AM	2:30	Grand Forks	239	Aug-13	No	-	-	-	-	-
56	Aug-07 7:26 AM	3:10	Grand Forks	151	Aug-13	Yes	750	Multiple	Aug-06	In Process	N/A
57	Aug-07 7:12 PM	6:18	Fargo	10	Aug-13	No	-	-	-	-	-
58	Aug-09 11:39 PM	7:37	Minot	25	Aug-13	No	-	-	-	-	-
59	Aug-10 1:44 PM	1:09	Fargo	18	Aug-13	No	-	-	-	-	-
60	Aug-12 5:40 PM	1:56	Grand Forks	63	Aug-20	No	-	-	-	-	-
61	Aug-13 9:27 AM	1:18	Minot	10	Aug-20	No	-	-	-	-	-
62	Aug-13 5:13 PM	1:37	Minot	8	Aug-20	No	-	-	-	-	-
63	Aug-16 9:23 AM	6:27	Fargo	125	Aug-20	No	-	-	-	-	-
64	Aug-18 1:07 AM	3:13	Grand Forks	30	Aug-20	No	-	-	-	-	-
65	Aug-21 9:03 PM	7:57	Minot	5	Aug-27	No	-	-	-	-	-
66	Aug-24 6:58 AM	1:04	Minot	23	Aug-27	No	-	-	-	-	-
67	Aug-24 8:07 AM	0:22	Fargo	2,298	Aug-27	No	-	-	-	-	-
68	Aug-25 7:49 AM	1:46	Fargo	43	Aug-27	Yes	840	Multiple	Jun-13	Sep-20	Sep-25
69	Aug-26 9:15 AM	1:33	Minot	2	Sep-03	No	-	-	-	-	-
70	Aug-28 6:01 AM	1:57	Minot	5	Sep-03	No	-	-	-	-	-
71	Aug-28 7:44 AM	1:49	Grand Forks	20	Sep-03	No	-	-	-	-	-
72	Aug-31 12:26 AM	8:49	Grand Forks	53	Sep-03	No	-	-	-	-	-
73	Sep-02 7:13 PM	2:57	Minot	2	Sep-03	Yes	1,325	Multiple	Sep-07	Nov-09	In Process
74	Sep-03 10:30 AM	3:07	Fargo	12	Sep-10	No	-	-	-	-	-
75	Sep-07 2:53 AM	3:49	Grand Forks	77	Sep-10	No	-	-	-	-	-
76	Sep-09 2:55 PM	1:05	Fargo	22	Sep-10	No	-	-	-	-	-
77	Sep-10 1:34 PM	4:31	Fargo	28	Sep-17	Yes	840	Multiple	Jun-13	Sep-20	Sep-25
78	Sep-13 6:46 PM	5:29	Fargo	36	Sep-17	No	-	-	-	-	-
79	Sep-14 12:00 PM	1:53	Fargo	105	Sep-17	No	-	-	-	-	-
80	Sep-14 12:29 PM	1:41	Fargo	67	Sep-17	No	-	-	-	-	-
81	Sep-16 4:41 AM	2:09	Grand Forks	105	Sep-17	No	-	-	-	-	-
82	Sep-17 2:50 AM	3:20	Grand Forks	95	Sep-24	No	-	-	-	-	-
83	Sep-17 7:13 PM	4:32	Fargo	24	Sep-24	No	-	-	-	-	-
84	Sep-17 11:45 PM	8:13	Fargo	9	Sep-24	No	-	-	-	-	-
85	Sep-20 5:40 AM	6:42	Fargo	2	Sep-24	No	-	-	-	-	-
86	Sep-22 3:35 AM	1:10	Minot	29	Sep-24	No	-	-	-	-	-
87	Sep-23 3:25 PM	1:25	Fargo	37	Sep-24	No	-	-	-	-	-
88	Sep-25 7:35 PM	3:55	Minot	7	Oct-01	No	-	-	-	-	-
89	Sep-26 7:58 PM	3:17	Minot	3	Oct-01	No	-	-	-	-	-
90	Sep-27 7:03 AM	3:02	Fargo	22	Oct-01	No	-	-	-	-	-
91	Sep-27 6:48 PM	10:29	Grand Forks	86	Oct-01	No	-	-	-	-	-
92	Sep-30 10:13 AM	2:25	Grand Forks	72	Oct-01	No	-	-	-	-	-

<sup>1</sup> The Company's Reliability Management System ("REMS") compiles and processes outage-related information and will flag an engineering review if one of the protective devices (i.e., fuse, breaker, recloser) designed to isolate the fault and protect the system operates *twice within a two year period*. The review will determine if a failed cable qualifies for replacement. A designation of "na" in this column indicates that REMS did not flag such a review for this event.

<sup>2</sup> See URD Cable Replacement Guidelines summary, attached. Cable may also qualify for replacement under the current 500 MCM replacement program funded under Case. No. PU-10-657.

<sup>3</sup> Based on our replacement guidelines, primary cable replacements can involve 1) a single cable segment, 2) multiple cable segments, 3) all common vintaged cable on a radial, or 4) all common vintaged cable on a half-loop.

Notes

- a. NOR035 feeder cable failure did not qualify for replacement under Cable Replacement Guidelines, but does under the current 500 MCM cable replacement program.
- b. Second failure of NOR035 feeder cable qualifies it for replacement under Cable Replacement Guidelines; however, replacement work has already begun (see note a.)

Key:

	1st Qtr
	2nd Qtr
	3rd Qtr
	4th Qtr

# **Xcel Energy**

## **Underground Residential Distribution Cable Replacement Guidelines**

Effective Jan. 1, 2009

### **Radial Feeds:**

- After two cable failures occur anywhere on a given radial within a two year period, any cable segments (on the radial) that have failed within the last two years are replaceable.
- If two thirds (2/3) of the cable segments on the radial qualify for replacement, all segments (on the radial) that are of the *same vintage*, regardless of their failure history are replaceable.

### **Loop Feeds:**

- After two failures occur on any single cable segment within a two year period, the cable segment is replaceable.
- After two failures occur anywhere on the same half of the loop within a two year period, any cable segments that have failed (on the half-loop) within the last two years are replaceable.
- If two thirds (2/3) of the cable segments on the same half of the loop qualify for replacement, all segments (on the half-loop) that are of the *same vintage* are replaceable.

### **Any Feeder Configuration:**

- If a cable replacement project can be shown to reduce the customer minutes out ("CMO") at a cost of \$0.13 or less per reduced CMO, the cable may be replaced.
- If a repaired cable segment fails again within one week after being placed back into service, the cable is replaceable.

Note: Final decisions regarding the replacement (and/or related scheduling) of failed underground cable is subject to the consideration of circumstances not contemplated in the guidelines shown here.

## Xcel Energy - North Dakota Electric 2012 Feeder Level Outages Summary

3rd Quarter Summary

#	Date of Outage	Outage Duration	Service Area	Customers Impacted	Cause
1	Jan-31 9:00 AM	1:29	Berthold	262	Burned jumper wire on Verendrye Elec Co-op side of feeder
2	Mar-08 9:25 AM	1:11	Mayville	628	Loose connection created high heat, burned jumper
3	Apr-12 10:40 AM	1:32	G Forks	1,445	Underground cable fault
4	Apr-14 7:37 AM	2:32	G Forks	1,926	Broken, downed wire
5	Apr-15 2:27 PM	2:39	Minot	1,384	Pole fire
6	May-16 6:31 PM	1:57	G Forks	364	Switching equipment failure
7	May-20 11:39 PM	2:09	Fargo	3,513	Underground cable fault
8	May-22 10:45 PM	1:23	Thompson	472	Tree branch on line
9	May-25 10:00 PM	1:15	G Forks	1,448	Underground cable fault
10	Jun-13 3:00 AM	2:51	Mayville	556	Intentional; install mobile sub
11	Jun-13 5:18 AM	0:33	Mayville	230	Intentional; install mobile sub
12	Jun-13 5:18 AM	0:33	Mayville	449	Intentional; install mobile sub
13	Jun-13 5:18 AM	0:33	Mayville	192	Intentional; install mobile sub
14	Jul-20 6:06 AM	0:54	Minot	1,187	Bird
15	Jul-25 11:36 PM	1:42	Fargo	1,984	Tree branch on line
16	Aug-03 1:17 PM	0:56	G Forks	375	Underground cable fault
17	Aug-20 8:34 AM	0:18	G Forks	832	Switching error
18	Aug-24 8:07 AM	0:22	Fargo	2,310	Underground cable fault; restore delayed by damaged brkr panel
19-25	Aug-24 11:33 PM	0:54	G Forks	8,085	Lightning strike
26	Sep-02 1:33 PM	0:21	G Forks	1,570	Unclear-possibly a lightning strike
27	Sep-02 4:49 PM	0:49	Fargo	1,664	Switching equipment failure