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March 5, 2014

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



VIA ELECTRONIC  
AND U.S. MAIL

Re: **XCEL ENERGY UNDERGROUND CABLE OUTAGE REPORT  
CASE NOS. PU-10-657, PU-11-55**

Dear Mr. Nitschke:

Pursuant to the terms of the approved Settlement Agreement in the above referenced case, I hereby submit our 4<sup>th</sup> quarter update of underground residential distribution (“URD”) cable failures for 2013.

As you will note on page 1, there were 22 URD cable failures in our North Dakota system during the 4<sup>th</sup> quarter. This compares to 44 in the 3<sup>rd</sup> quarter and 18 during the 4<sup>th</sup> quarter of 2012. Five of these cables qualified for replacement under either our cable replacement guidelines or our 500 MCM cable replacement program. I have attached the guidelines to the report for your reference, on page 4.

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

192 PU-11-55 Filed 03/10/2014 Pages: 4  
Compliance filing - underground cable outage report - fourth quarter 2013  
Northern States Power Company  
David Sederquist

216 PU-10-657 Filed 03/10/2014 Pages: 4  
Compliance filing - underground cable outage report - fourth quarter 2013  
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**Xcel Energy - North Dakota Electric**  
**2013 Underground 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-01 9:59 PM	4:01	Fargo	79	Jan-07	Yes	1,360	Multiple	6-Feb-2013	21-May-2013	24-Oct-2013	
2	Jan-06 8:07 PM	11:45	Fargo	287	Jan-14	Yes	1,312	Multiple	2/15/2013	1-Jul-2013	12-Nov-2013	
3	Jan-24 4:00 AM	3:12	Grand Forks	112	N/A	No						
4	Jan-26 8:00 PM	3:06	Fargo	42	Jan-28	No						
5	Jan-31 1:26 PM	1:31	Fargo	102	Feb-04	Yes	4,200	Multiple	20-Feb-2013	19-Jun-2013	19-Aug-2013	a
6	Feb-08 8:17 PM	2:13	Fargo	81	Feb-11	No						
7	Feb-16 10:13 AM	2:25	Grand Forks	1,139	Feb-18	No						b
8	Feb-19 12:40 PM	3:05	Grand Forks	866	N/A	No						
9	Feb-24 4:51 AM	2:01	Fargo	167	N/A	No						
10	Mar-06 5:36 AM	2:54	Fargo	39	N/A	No						
11	Mar-06 2:29 PM	0:34	Fargo	3,476	Mar-11	Yes	849	Segment	11-Mar-2013	12-Mar-2013	22-Apr-2013	c
12	Mar-29 5:03 PM	1:06	Grand Forks	1,359	N/A	No						
13	Apr-04 9:00 AM	3:03	Fargo	107	N/A	No						
14	Apr-04 3:40 PM	2:04	Minot	2,361	Apr-08	Yes	2,111	Segment	7-May-2013	1-Jul-2013	16-Sep-2013	d
15	Apr-16 6:50 AM	2:00	Fargo	7	N/A	No						
16	Apr-18 4:23 AM	2:47	Fargo	145	Apr-22	No						
17	Apr-19 5:48 PM	1:32	Fargo	85	N/A	No						
18	Apr-21 6:14 AM	0:06	Minot	7	Apr-29	No						
19	Apr-21 11:58 AM	2:17	Fargo	161	May-27	No						
20	Apr-27 12:38 PM	4:22	Fargo	2	N/A	No						
21	May-01 8:13 AM	3:37	Minot	136	Jun-03	Yes	1,992	Multiple	3-Jun-2013	17-Jun-2013	5-Jul-2013	
22	May-02 1:56 AM	4:24	Fargo	147	May-27	No						
23	May-02 11:17 PM	6:29	Grand Forks	3	N/A	No						
24	May-04 5:33 AM	2:12	Fargo	113	N/A	No						
25	May-10 5:56 AM	2:06	Fargo	37	May-13	No						
26	May-30 6:49 AM	1:56	Fargo	1	Jun-10	Yes	194	Multiple	14-Jun-2013	20-Sep-2013	23-Sep-2013	
27	May-31 2:51 PM	1:19	Fargo	1	Jun-10	Yes	194	Multiple	14-Jun-2013	20-Sep-2013	23-Sep-2013	
28	Jun-01 10:54 PM	2:39	Minot	137	Jun-03	Yes	1,992	Multiple	3-Jun-2013	17-Jun-2013	5-Jul-2013	
29	Jun-05 6:35 PM	0:45	Fargo	151	Jun-10	Yes	522	Segment	14-Jun-2013	11-Oct-2013	18-Oct-2013	
30	Jun-06 1:28 AM	2:39	Grand Forks	165	N/A	No						
31	Jun-14 1:19 AM	5:17	Fargo	77	Jun-17	Yes	95	Segment	18-Jun-2013	15-Oct-2013	23-Oct-2013	
32	Jun-19 10:17 PM	10:13	Fargo	1	N/A	No						
33	Jun-21 8:14 PM	1:06	Minot	52	Jun-24	No						
34	Jul-04 4:58 AM	2:26	Minot	34	N/A	No						
35	Jul-08 5:40 AM	3:42	Minot	79	Jul-15	No						
36	Jul-09 9:49 PM	1:54	Minot	12	N/A	No						
37	Jul-14 1:18 AM	3:36	Grand Forks	64	Jul-15	No						
38	Jul-14 8:19 AM	1:56	Fargo	64	N/A	No						
39	Jul-14 8:30 AM	1:46	Fargo	6	N/A	No						
40	Jul-15 5:23 AM	4:08	Fargo	28	Jul-22	Yes	1,342	Multiple	31-Jul-2013	8-Oct-2013	21-Oct-2013	
41	Jul-18 4:30 AM	2:29	Grand Forks	9	N/A	No						
42	Jul-18 6:09 AM	14:06	Grand Forks	59	Jul-22	No						
43	Jul-21 6:45 AM	7:49	Minot	7	N/A	No						
44	Jul-25 7:08 AM	1:25	Fargo	147	N/A	No						
45	Jul-26 8:45 AM	2:32	Grand Forks	53	N/A	No						
46	Aug-01 2:08 PM	3:02	Fargo	1	N/A	No						
47	Aug-04 3:53 AM	2:47	Fargo	28	Aug-05	No						
48	Aug-07 10:00 AM	2:24	Fargo	65	Aug-12	No						
49	Aug-08 7:52 AM	3:54	Minot	1	N/A	No						
50	Aug-14 10:43 AM	1:19	Fargo	85	Aug-19	No						
51	Aug-15 8:03 PM	2:09	Fargo	1	N/A	No						
52	Aug-18 3:29 PM	3:21	Grand Forks	36	N/A	No						
53	Aug-19 4:50 PM	2:03	Grand Forks	124	N/A	No						
54	Aug-20 7:08 AM	2:15	Fargo	50	Aug-26	No						
55	Aug-21 2:03 AM	3:36	Grand Forks	209	N/A	No						

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56	Aug-21 10:06 PM	2:58	Minot	14	N/A	No							
57	Aug-24 10:48 AM	5:46	Fargo	43	Aug-26	No							
58	Aug-26 7:40 AM	2:27	Grand Forks	63	N/A	No							
59	Aug-27 9:21 AM	2:32	Fargo	46	N/A	No							
60	Aug-27 9:22 AM	2:11	Fargo	11	N/A	No							
61	Aug-28 10:34 PM	3:06	Fargo	137	N/A	No							
62	Sep-02 5:23 PM	5:46	Minot	3	N/A	No							
63	Sep-04 1:29 PM	1:33	Fargo	30	N/A	No							
64	Sep-07 4:47 AM	2:57	Minot	39	Sep-09	No							
65	Sep-08 5:30 PM	2:17	Fargo	65	Sep-09	No							
66	Sep-09 7:37 AM	3:59	Fargo	49	N/A	No							
67	Sep-11 8:24 AM	1:41	Fargo	74	N/A	No							
68	Sep-12 1:30 AM	3:20	Fargo	52	Sep-16	Yes	1,000	Multiple	13-Sep-2013	27-Nov-2013	10-Dec-2013		
69	Sep-12 5:04 PM	2:14	Grand Forks	55	N/A	No							
70	Sep-13 7:19 AM	1:45	Fargo	4,598	Sep-16	No							
71	Sep-15 10:01 PM	1:00	Minot	4	Sep-23	No							
72	Sep-16 11:52 AM	0:49	Fargo	146	Sep-23	No							
73	Sep-18 4:24 PM	1:50	Fargo	6,999	Sep-23	Yes	10,500	Segment	24-Sep-2013	15-Oct-2013	20-Nov-2013		e
74	Sep-19 10:50 AM	2:30	Minot	5	N/A	No							
75	Sep-25 7:40 PM	3:05	Fargo	84	Sep-30	No							
76	Sep-27 8:34 AM	5:26	Grand Forks	142	N/A	No							
77	Sep-28 9:34 AM	1:24	Grand Forks	731	Sep-30	Yes	1,056	Segment	30-Sep-2013	26-Nov-2013	30-Dec-2013		f
78	Oct-05 11:10 AM	2:05	Minot	34	Oct-07	No							
79	Oct-08 3:45 AM	3:15	Minot	55	N/A	No							
80	Oct-08 1:28 PM	1:59	Minot	18	Oct-24	No							
81	Oct-09 9:50 AM	2:28	Grand Forks	21	N/A	No							
82	Oct-12 1:20 AM	7:23	Minot	23	Oct-14	No							
83	Oct-12 8:06 PM	1:58	Fargo	145	Nov-03	No							
84	Oct-17 5:22 AM	1:51	Fargo	1,133	Oct-24	Yes	1,927	Segment					
85	Oct-20 10:09 PM	1:41	Grand Forks	15	N/A	No							
86	Oct-23 11:51 AM	2:19	Minot	32	N/A	No							
87	Oct-26 3:25 AM	3:54	Fargo	97	Dec-03	Yes	480	Multiple	3-Dec-2013	In Design			
88	Nov-04 10:25 AM	1:05	Fargo	1	N/A	No							
89	Nov-06 4:29 AM	14:46	Minot	2	N/A	No							
90	Nov-07 9:49 PM	1:00	Fargo	1	N/A	No							
91	Nov-11 1:12 PM	9:38	Grand Forks	20	N/A	No							
92	Nov-23 11:29 AM	2:31	Grand Forks	91	Dec-03	No							
93	Nov-24 2:24 PM	1:56	Fargo	98	Dec-03	Yes	480	Multiple	3-Dec-2013	In Design			
94	Nov-25 12:19 PM	1:49	Fargo	85	N/A	No							
95	Nov-28 2:30 AM	11:04	Grand Forks	103	N/A	No							
96	Nov-30 7:34 PM	3:56	Fargo	20	N/A	No							
97	Dec-07 9:17 AM	6:43	Fargo	1	N/A	No							
98	Dec-29 4:11 PM	3:33	Fargo	32	Jan-08	Yes	1,770	Multiple	8-Jan-2013	In Design		-	
99	Dec-30 7:40 AM	2:20	Fargo	32	Jan-08	Yes	1,770	Multiple	8-Jan-2013	In Design		-	

<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

- NOR035 feeder cable failure did not qualify for replacement under Cable Replacement Guidelines, but does under the current 500 MCM cable replacement program.
- Second failure of NOR035 feeder cable qualifies it for replacement under Cable Replacement Guidelines; however, replacement work has already begun (see note a.)
- Cable was replaced under the 500 MCM project, not under REMS criteria.
- Cable was replaced under the 500 MCM project, not under REMS criteria.
- Replacement was part of a larger project with the city of Fargo to remove overhead line.
- Cable was replaced under the 500 MCM project, not under REMS criteria.

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.