Xcel Energy℠

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April 8, 2003

Mr. Scot Cullen
Assistant Administrator, Electric Division
PO Box 7854
Madison, WI 53707

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APR 0 9 2003
Electric Division

RE: NSPW's Response to PSCW Staff's Service Quality Data Request Dated February 6, 2003

Dear Mr. Cullen:

Enclosed are the original and three copies of the response of Northern States Power Company – Wisconsin (NSPW), d/b/a Xcel Energy, to PSCW Staff's service quality information request dated February 6, 2003.

Information Requests numbered 1 through 9 ask the Company to support the processes and information filed in NSPW's annual compliance report required by Wis. Adm. Code § PSC 113.0604. Since the last year of data on file at the PSCW is for year 2001, the Company has answered and provided information for questions 1 through 9 based on the processes in place in 2001, consistent with our previous discussions with PSCW staff. However, due to our continual process improvement efforts, the processes utilized in 2002 and 2003 may be slightly different than those followed in 2001. Where significant process or methodological changes have occurred, the Company has tried to indicate so in the response.

Additional explanation of significant process changes will be included in the 2002 annual report required by PSC 113.0607, which will be filed May 1, 2003. This will not only more fully explain which processes have changed and how, but should also help establish the baseline processes that will be in place on a going forward basis for future information filed in compliance PSC 113.0604.

In February 2001, in compliance with PSC 113.0607(2)(b)5, the Company filed its Preventive Maintenance Plan with the PSCW. On March 15, 2001, the PSCW notified Xcel Energy via letter that its Preventive Maintenance Plan was "in substantial compliance." Also established in the March 15, 2001 letter was a compliance filing date of May 1, 2003, for the Company to file its periodic compliance report as required by PSC 113.0607(2)(b)6.

Information Request number 10 asks the Company to provide a comprehensive report demonstrating NSPW's compliance with PSC 113.0607(2)(b)5 as required by PSC 113.0607(2)(b)6. This request is substantially the same as the May 1, 2003 "compliance filing" requirement of the PSCW's March 15, 2001, letter approving NSPW's Preventive Maintenance Plan. Therefore, the Company views its response to Information Request number10 as satisfying the May 1, 2003 compliance filing requirement of PSC 113.0607(2)(b)6 as stated in the PSCW's March 15 approval letter.

As you will note in the attached responses, a number of process changes have occurred over the past few years and continue to occur within the Company. This is largely due to the Company's commitment to continuous process improvement, which is directly related to our corporate commitment to continually improve the quality of service we provide our customers.

If you have any questions regarding these responses, please feel free to contact me at (608) 280-7301, or Don Reck at (715) 839-2441 We will gladly facilitate additional discussions and/or information request responses with the appropriate topic experts within Xcel Energy.

Sincerely,

Brian R. Zelenak
Manager, Regulatory Policy

Enclosures

Cc: Internal Distribution

PSCW Reliability Information Request of Northern States Power – Wisconsin d/b/a Xcel Energy

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Electric Division

PSCW Question #1

Wis. Adm. Code § PSC 113.0604(2)(a) requires NSPW to submit to the Commission an annual report of aggregate SAIFI, SAIDI, and CAIDI indices.

a. Provide a description of how outage durations, numbers of customers affected, and outage frequency data is obtained, recorded, and compiled.
b. Include samples of completed outage recording forms, if appropriate.
c. Include specifics of how the number of customers affected by an outage is determined.
d. If the data is compiled in electronic form, describe how, when, and by whom the data is entered into that system, and provide a sample of the data in electronic form. Note that reliability indices reported for the purposes Wis. Adm. Code § PSC 113.0604 should include outages caused by major storms, major catastrophic events, and police actions, as stated in Wis. Adm. Code § PSC 113.0602(20).

NSPW Response #1

a. A description of the process in place to handle outage calls in 2000 and 2001 is listed below. The current process used is similar, with the addition of Trouble Tickets in mid 2002. Consistent with our previous conversations with Staff, we will provide an explanation of the introduction of trouble tickets, including sample forms if appropriate, with our May 1, 2003, Annual Report Compliance Filing for Wisconsin Administrative Code Chapter PSC 113.0604.

2000 and 2001 Process for Obtaining and Recording Outage[1] Data

- Call Entry – The Customer Information Center (CIC) agents take customer outage calls, and enter them in the CSS system, which automatically generates a Distribution Dispatch System (DDS) job.
- Dispatch - Normal Hours- The Service Work Coordinator calls out the first responder based on DDS information. The DDS System automatically generates the dispatch time (when truck # is entered). The Distribution Dispatcher II does the Service Work Coordinator function on off-hours and holidays.
- Repair- First responder makes repair if possible and reports cause and time the repairs were completed to the Service Work Coordinator.[2]

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[1] Includes outages, police and fire calls.
[2] If first responder can't make repairs without help, Control Center calls out more help to restore service. If three phase switching is required to isolate the problem, the Distribution Dispatcher works with the field crews via two way radio, or cell phone to safely isolate the area where the problem is to facilitate repairs.

- Job Close- Crew gives information to Control Center Service Work Coordinator or Distribution Dispatcher to enter in comments field of DDS outage ticket, along with cause for the outage, and restoration times.
- Service Work Coordinator or Distribution Dispatcher closes, files, and approves the job to REMS (Reliability Monitoring System that contains outage history file).

Note: Police and Fire Departments have a direct number to the Control Center. The Service Work Coordinator or Distribution Dispatcher takes the information and enters it directly into the System, and calls out First Responder. The Police/Fire Departments are given an estimated time of arrival.

<u>2000 and 2001 Process for Compiling Outage Data</u>
A download of the data is taken from the archived reliability database called Reliability Monitoring System (REMS). This download consists of all outages occurring in NSPW service territory during the year associated with the submission. The data includes several fields that contain detailed information associated with each outage such as the dates, times, duration, region, and customers affected. The information in these fields is then used in calculating the reliability indices for each geographic region as well as NSPW as a whole. This same dataset is also used to determine the reliability indices for each of the feeder circuits and is included with the aggregate system numbers that are filed annually with the PSCW per PSC 113.0604.

b. Attached as **Exhibit 1.b.1** are examples of the outage screens from DDS reflecting the outage data that is entered into DDS and REMS.

c. When an outage is recorded in our outage management system (DDS), the system determines which equipment device point-of-interest (POI) needs to be put back into service to restore electricity to the affected customers. This is done by analyzing the customer calls that come into the system and determining the location of the nearest device that is upstream from all of the affected customers. Once DDS determines which POI has been affected, it references a table that contains a list of all devices on the electric system and the number of customers that are served by them. This table of devices is maintained and updated continually to reflect the current state of the electric system.

New customers are added (and removed) to the electric system each day. A batch program runs nightly which calculates the 'number of services affected' field within the DDS table to ensure accurate customer counts associated with outages. The program starts at the distribution transformer serving the customer and goes all the way up through the connected devices until it gets to the feeder from which that particular customer is served. The program updates the 'number of services affected' count for all these devices to reflect the customer that was added or removed. DDS will predict which device is involved in an outage as the calls come in from the customers. If the trouble crew determines on site that a different device is out than predicted, the crew provides this updated information and the revised customer counts are reflected. The new 'number of services affected' counts are obtained from the table of devices and this information is filed to REMS to be used in our analysis and reporting.

d. See the above responses to 1.a though 1.c for process information. The positions that deal with outages and emergency response (Police and Fire Calls) are:

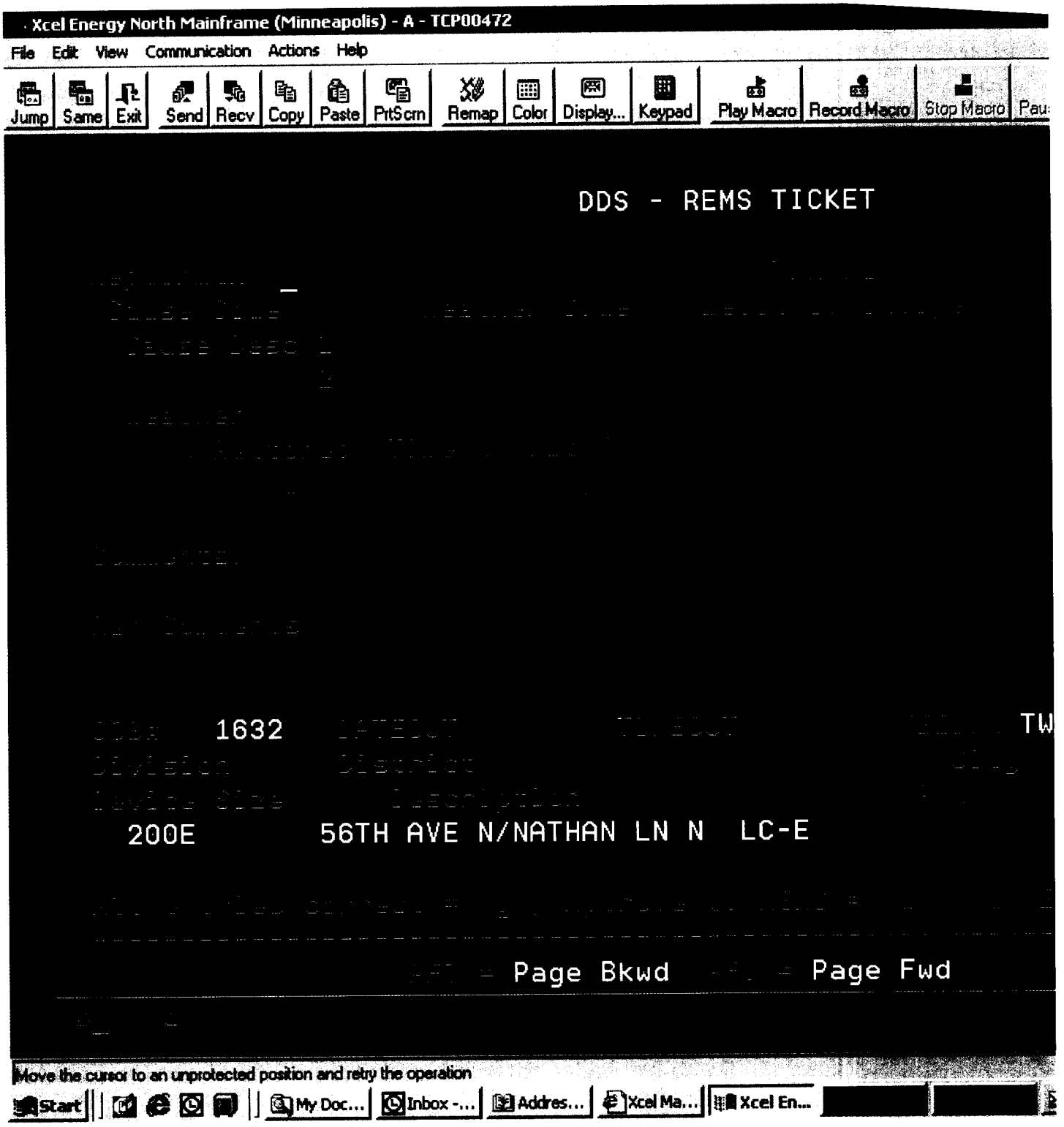
Distribution Dispatcher II- 365 days/Yr. 24X7
Provides direction for the safe, efficient operation of Wisconsin Xcel Energy's Electric Distribution System and Gas Emergency response. Direct and record all 3 phase Distribution switching in Wisconsin and Michigan. Keep accurate records as required by Xcel Energy and Governmental agencies. The Distribution Dispatcher II does the Service Work Coordinator function on Holidays, and off-hours.

Service Work Coordinator- 0700-1600 Mon Through Friday
Does first response/Emergency Call out of First responder, based on DDS information or Police/Fire calls. They will also call additional help if needed. This position does not give switching orders.

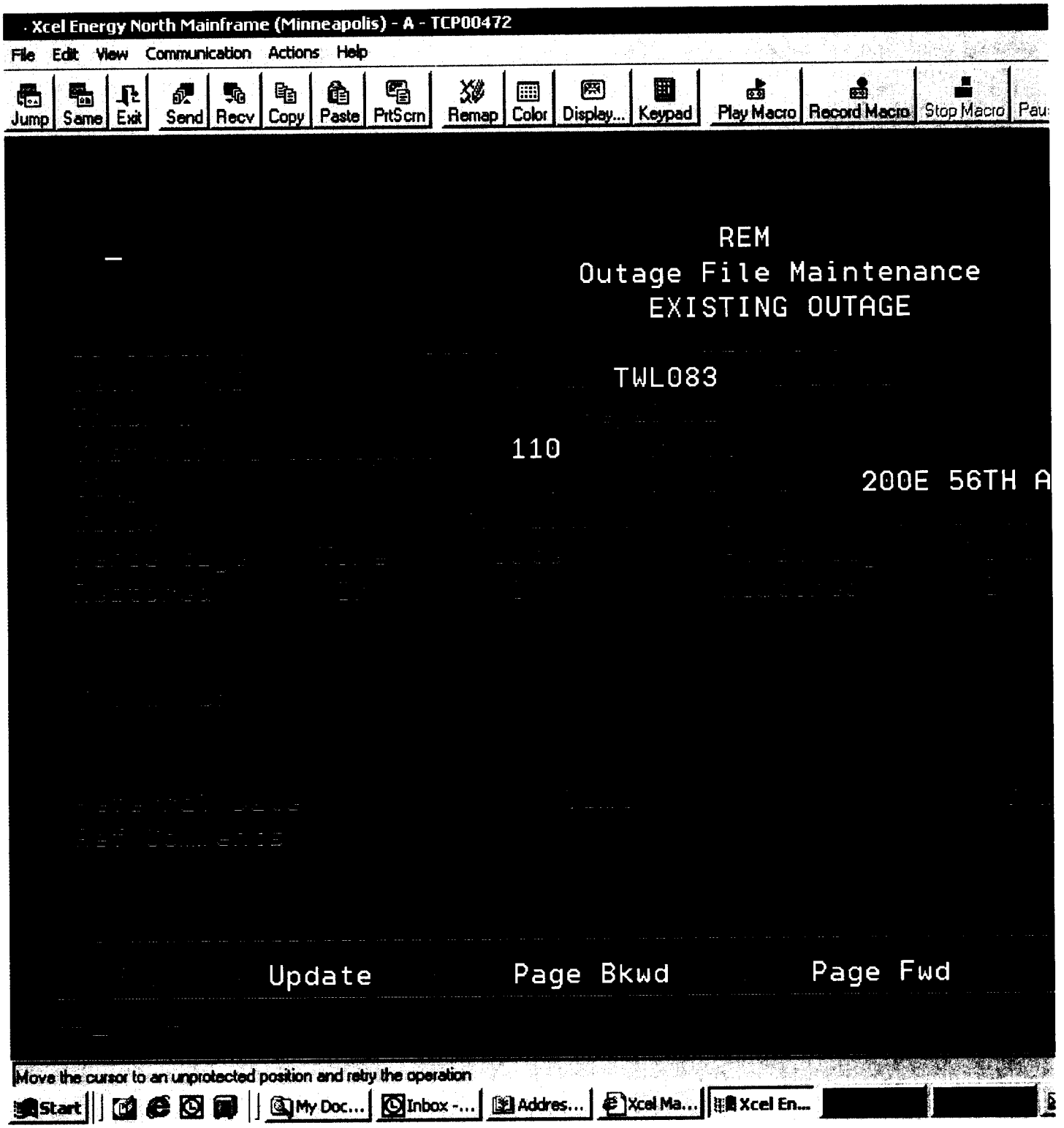
Response #1 By: Bob Richardson

Title: Manager, Distribution Control Center

Response Dated: March 31, 2003



Here is an example of once the outage is already in REMS (Outage History), they can modify it.



Kenny Koupal
IBM 1 1 Specialist
Xcel Energy Account
[illegible]
Pager: [illegible]

PSCW Reliability Information Request of Northern States Power – Wisconsin d/b/a Xcel Energy

PSCW Question #2

Wis. Adm. Code § PSC 113.0604(2)(b) requires NSPW to submit to the Commission an annual report listing the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indices.

a. For the randomly selected circuits MCO021, FIN022, and WHR021 from NSPW's April 30, 2002 annual report of service quality for the calendar year 2001, provide adequate supporting data to verify the SAIFI, SAIDI, and CAIDI indices included in that report
b. Include copies of all supporting outage reporting forms, as well as complete electronic data from which the indices were calculated. Note that reliability indices reported for the purposes Wis. Adm. Code § PSC 113.0604 should include outages caused by major storms, major catastrophic events, and police actions, as stated in Wis. Adm. Code § PSC 113.0602(20).

NSPW Response #2

a. File **Exhibit 2.a.1** on the attached CD contains the outage histories for each of the 3 random feeders chosen by the PSCW. It includes all outages associated with those feeders and the details behind each outage. It also contains a summary of the customer interruptions and customer minutes and the calculations and results for the SAIFI, SAIDI, and CAIDI indices. There is a separate tab in the workbook for each feeder. Also attached as file **Exhibit 2.a.2** are descriptions of some of the fields in the outage data such as cause codes, weather codes, and level of outage.

   Below is the information on the feeders filed in our 2001 Annual Compliance Filing for Wisconsin Administrative Code Chapter PSC 113.9694 for comparison purposes.

2001

Xcel Energy - Wisconsin Year-End Feeder Reliability
All Levels Including All Weather Conditions

Feeder	Reg	Div	Custs	# Outs	Cust Ints	Cust Mins	SAIDI	SAIFI	CAIDI
FIN022	Wisc North	61	1927	104	2867	353905	183.66	1.49	123.44
MCO021	Wisc North	63	397	32	1709	214741	540.91	4.30	125.65
WHR021	Wisc North	62	152	13	689	76054	500.36	4.53	110.38

b. See attached files referenced in response to 2.a (**Exhibit 2.a.1 and Exhibit 2.a.2**) for supporting documentation.

Response #2 By: David Clark

Title: Delivery System Reliability Analyst

Response Dated: March 31, 2003

2001 With Storms Outage History for Feeder "FIN022"

Feeder	DateOut	TimeOut	Pri Cause	Sec Cause	Weather	Custs	Dur Hrs	Dur Mins	CustMins	Level	Job #	Division	POI	Truck1	Truck2	DispDate	DispTime	Phase	RefDate
FIN022	20010101	1155	AN	EG	FA	4	1	17	308	OT	21982	61	KP27124789	005047		10101	1203	C	0
FIN022	20010110	1051	UN		FA	32	0	31	992	OP	25733	61	RHL918	005257		10110	1055	C	0
FIN022	20010119	1006	IT	CC	CD	28	1	2	1,736	OP	29649	61	RHE326	005047		10119	1006	A	0
FIN022	20010120	928	CS		CD	1	2	51	171	US	29927	61	JO18009294	005276		10120	938	A	0
FIN022	20010130	621	TX		CD	1	3	12	192	OS	34011	61	KP26006251	005257		10130	621	B	0
FIN022	20010131	1047	AN		CD	116	0	21	2,436	OP	35303	61	RHL006	005257		10131	1053	A	0
FIN022	20010131	1310	OL		CD	1	0	53	53	OT	35409	61	KO19007136	005277		10131	1314	B	0
FIN022	20010206	1235	IT	CC	CD	28	1	6	1,848	OP	37320	61	RHQ002	005276		10206	1241	A	0
FIN022	20010207	1335	IT	CC	CD	6	1	10	420	OP	37801	61	RHD904	005257		10207	1335	A	0
FIN022	20010208	1316	CS		SN	1	6	14	374	US	38166	61	6GACP13827	005257		10208	1318	ABC	0
FIN022	20010212	1239	IT	CC	CD	8	1	2	496	OS	39016	61	RHD815	005257		10212	1239	A	0
FIN022	20010216	1801	CN	CB	CD	1	1	54	114	PO	41068	61	6GCDA12337	005020		10216	1803	C	0
FIN022	20010225	829	TR	NR	SN	4	1	11	284	OP	43734	61	RHO084	005047		10225	830	C	0
FIN022	20010302	857	AN		FA	17	0	28	476	OP	45928	61	RHL999	005257		10302	913	B	0
FIN022	20010302	1149	AN		FA	72	1	6	4,752	OP	46045	61	RHM354	005257		10302	1205	C	0
FIN022	20010313	1307	PD	TT	SN	7	2	8	896	OP	49175	61	RHJ826	005152		10313	1308	B	0
FIN022	20010315	849	UN		FA	11	0	31	341	OP	49967	61	RHJ019	005257		10315	852	C	0
FIN022	20010330	1814	CN	CB	FA	1	1	41	101	SO	55811	61	600P715278	005257		10330	1815	BC	0
FIN022	20010402	1513	PD	OH	CD	7	0	37	259	OP	56662	61	RHJ826	005047		10402	1516	B	0
FIN022	20010404	1012	AN		FA	7	1	3	441	OP	57432	61	RHI159	005257		10404	1014	C	0
FIN022	20010407	1422	TR		WI	88	0	48	4,224	OP	60823	61	RHO088	005257		10407	1424	A	0
FIN022	20010411	2328	IT	CT	LI	6	3	42	1,332	OP	63973	61	RHD904	005257		10411	2329	A	0
FIN022	20010416	1818	UN		CD	1	1	7	67	UP	66241	61	KP14001137	005257		10416	1825	ABC	0
FIN022	20010421	908	TR	NR	WI	1	0	52	52	OT	69564	61	JO06008624	005047		10421	908	A	0
FIN022	20010429	1545	TR	RQ	WI	163	1	44	16,952	OP	75397	61	RHJ968	005257		10429	1551	C	0
FIN022	20010508	1128	PD	DI	FA	1	1	50	110	US	82586	61	6GACP13315	005152		10508	1231	A	0
FIN022	20010509	1835	TX		RA	1	3	45	225	OT	84145	61	6I6J015537	005152		10509	1843	A	0
FIN022	20010510	856	TX		FA	1	1	34	94	OP	84504	61	6I6J015537	005257		10510	916	A	0
FIN022	20010516	348	LI		RA	26	1	57	3,042	OP	88745	61	RHO085	005257		10516	504	B	0
FIN022	20010522	2015	OL	FU	RA	1	0	56	56	UP	94333	61	KP24005322	005257		10522	2015	B	0
FIN022	20010523	719	UN		RA	1	1	12	72	OS	94410	61	6Y6J011123	005257		10523	727	C	0
FIN022	20010530	2134	UN		FA	44	1	26	3,784	OP	99254	61	RHJ454	005020		10530	2144	C	0
FIN022	20010607	855	TX		FA	20	0	40	800	OT	04844	61	RHL998	005257		10607	905	B	0
FIN022	20010608	1607	IT	TT	FA	1	0	23	23	OS	06116	61	6SO0B16137	005257		10608	1634	C	0
FIN022	20010614	149	WL		WL	103	5	11	32,033	OP	17357	61	RHJ355	005257		10614	544	A	0
FIN022	20010614	1910	TX		RA	1	13	50	830	OT	19185	61	KP06006228	005020		10615	558	A	0
FIN022	20010618	705	LI		LI	1	1	0	60	OS	21902	61	6GAFY10492	005257		10618	743	C	0
FIN022	20010703	1859	AN	EG	FA	1	0	41	41	OT	38968	61	KP07005287	005020		10703	1901	A	0
FIN022	20010705	1741	OL	FU	FA	5	1	4	320	OP	40073	61	RHJ018	005020		10705	1758	A	0
FIN022	20010707	939	UN		FA	71	0	41	2,911	OP	41112	61	RHM354	005257		10707	943	C	0
FIN022	20010708	9	AN	EG	FA	1	0	51	51	OT	41389	61	KP08000779	005020		10708	24	A	0
FIN022	20010711	343	TR	RQ	FA	25	2	17	3,425	OP	44435	61	RHJ841	005257		10711	408	B	0
FIN022	20010717	338	LI		RA	1	0	46	46	OT	49626	61	KP25000691	005257		10717	410	B	0
FIN022	20010717	604	LI		LI	1	1	26	86	OS	49750	61	KP26006286	005257		10717	649	B	0
FIN022	20010717	1626	AN	EG	FA	103	3	4	18,952	OP	50886	61	RHJ355	005152		10717	1646	A	0

2001 With Storms Outage History for Feeder "FIN022"

Feeder	DateOut	TimeOut	Pri Cause	Sec Cause	Weather	Custs	Dur Hrs	Dur Mins	CustMins	Level	Job #	Division	POI	Truck1	Truck2	DispDate	DispTime	Phase	RefDate
FIN022	20010717	2001	TR	NR	HE	6	1	44	624	OP	51127	61	RHD904	005047		10717	2007	A	0
FIN022	20010718	747	LI		LI	40	0	28	1,120	OP	51570	61	RHL893	005257		10718	757	C	0
FIN022	20010720	710	PD	DI	HE	1	2	20	140	US	54407	61	67HJF13155	005257		10720	723	B	0
FIN022	20010720	917	FC		HE	10	0	48	480	OP	54510	61	RHL916	005257		10720	917	B	0
FIN022	20010723	839	CS		RA	1	2	46	166	US	57164	61	6GEAS00700	005257		10723	838	B	0
FIN022	20010725	1105	TR		FA	1	1	5	65	OT	59880	61	KP26004080	005257		10725	1115	B	0
FIN022	20010725	1539	TR	NR	FA	80	1	7	5,360	OP	60341	61	RHJ803	005257		10725	1648	C	0
FIN022	20010725	1540	TR	NR	FA	68	1	10	4,760	OP	60343	61	RHI343	005257		10725	1555	B	0
FIN022	20010726	1519	TR		FA	1	0	31	31	OS	61434	61	6GABW13036	005257		10726	1521	A	0
FIN022	20010727	1621	PD	OH	FA	1	1	29	89	OS	62484	61	6GFCG10393	005257		10727	1628	B	0
FIN022	20010730	1221	TR		WL	1	1	34	94	OS	63971	61	6OWWB12899	005276		10730	1256	A	0
FIN022	20010731	1613	OL	TR	HE	1	1	2	62	OT	66918	61	6OWWB15608	005257		10731	1701	B	0
FIN022	20010801	444	LI		LI	106	3	56	25,016	OP	67868	61	RHJ337	005257		10801	745	C	0
FIN022	20010801	503	LI		LI	87	4	37	24,099	OP	67878	61	RHO088	005257		10801	720	A	0
FIN022	20010801	552	LI		LI	1	2	58	178	OS	67901	61	KP14004637	005257		10801	744	C	0
FIN022	20010801	640	LI		LI	1	2	40	160	OP	67959	61	RHO086	005257		10801	745	C	0
FIN022	20010801	640	LI		LI	118	3	0	21,240	OP	67960	61	RHL006	005257		10801	745	B	0
FIN022	20010801	732	LI		LI	5	1	8	340	OP	68058	61	RHJ337	005257		10801	744	A	0
FIN022	20010801	849	LI		LI	1	3	21	201	OS	68208	61	KP08004991	005257		10801	1046	A	0
FIN022	20010801	1424	LI		LI	115	2	51	19,665	OP	69028	61	RHL006	005257		10801	1436	A	0
FIN022	20010801	2015	LI		RA	1	0	15	15	OT	69424	61	KO20002768	005257		10801	2015	A	0
FIN022	20010804	1223	TX		HE	1	1	57	117	OT	71644	61	KO20006575	005257		10804	1236	A	0
FIN022	20010805	1734	CP		HE	1	6	41	401	UP	72407	61	KP21148444	005257		10805	1735	ABC	0
FIN022	20010805	1900	OL	TR	HE	37	0	25	925	OT	72594	61	KP14008636	005257		10805	1906	C	0
FIN022	20010811	1751	AN	EG	FA	1	0	39	39	OP	83296	61	RHJ159	005276		10811	1754	B	0
FIN022	20010812	1036	CP		HE	3	6	4	1,092	UP	83607	61	KP23005727	005257		10812	1036	C	0
FIN022	20010818	540	TR	NR	RA	5	1	58	590	OP	89473	61	RHJ338	005047		10818	555	A	0
FIN022	20010821	1328	PD	OH	FA	47	0	59	2,773	OP	91561	61	RHD814	005257		10821	1330	A	0
FIN022	20010829	2255	TR		RA	1	4	50	290	OP	99815	61	KQ02001508	005257		10829	2255	A	0
FIN022	20010903	814	UN		FA	37	1	1	2,257	OP	02413	61	RHK023	005047		10903	820	B	0
FIN022	20010907	1446	AN		FA	20	0	39	780	OP	06964	61	RHJ827	005257		10907	1454	A	0
FIN022	20010908	1451	TR		FA	164	0	59	9,676	OP	07590	61	RHJ968	005276		10908	1459	C	0
FIN022	20010909	1735	UN		FA	20	1	25	1,700	OT	07879	61	RHJ827	005276		10909	1737	A	0
FIN022	20010928	1510	PD	OH	FA	25	0	40	1,000	OP	24231	61	RHQ001	005047		10928	1519	A	0
FIN022	20011002	1552	OL	FU	LI	1	1	19	79	OT	26930	61	KO15009214	005020		11002	1618	C	0
FIN022	20011005	1041	TR		FA	28	0	34	952	OS	29404	61	RHI259	005152		11005	1046	A	0
FIN022	20011007	1827	UN		FA	20	1	33	1,860	OP	30340	61	RHJ827	005257		11007	1828	A	0
FIN022	20011016	1308	PD	OH	FA	111	0	57	6,327	OP	38276	61	RHJ337	005257		11016	1328	AC	0
FIN022	20011017	1608	AN	EG	FA	2	2	32	304	OP	39388	61	RHK172	005257		11017	1729	B	0
FIN022	20011018	915	IT	CC	FA	44	0	10	440	OP	39714	61	RHJ454	005152		11018	915	C	0
FIN022	20011021	1709	TX		FA	1	2	55	175	OT	41294	61	6EE1712546	005020		11021	1753	A	0
FIN022	20011030	1744	AN	EG	FA	1	1	16	76	OT	50070	61	KO06007247	005257		11030	1752	B	0
FIN022	20011103	401	TR	NR	FA	75	3	4	13,800	OP	52765	61	RHJ340	005257		11103	404	A	0
FIN022	20011105	2054	OL	TR	FA	1	1	6	66	OT	54030	61	KP08000779	005257		11105	2053	A	0
FIN022	20011106	838	AN		FA	1	0	47	47	OT	54192	61	6SO0B16152	005257		11106	844	C	0

2001 With Storms Outage History for Feeder "FIN022"

Feeder	DateOut	TimeOut	Pri Cause	Sec Cause	Weather	Custs	Dur Hrs	Dur Mins	CustMins	Level	Job #	Division	POI	Truck1	Truck2	DispDate	DispTime	Phase	RefDate
FIN022	20011106	1000	IT	CC	FA	88	0	7	616	OP	54286	61	RHO088	SUPERI		11106	1007	A	0
FIN022	20011116	929	AN		FA	1	1	1	61	OT	60671	61	KP22316654	005257		11116	928	C	0
FIN022	20011121	1100	IT	CC	FA	1	0	30	30	OT	62966	61	KP23005920	005276		11121	1121	C	0
FIN022	20011122	1203	TR	NR	FA	75	1	52	8,400	OP	63409	61	RHJ340	005020		11122	1208	A	0
FIN022	20011129	1923	OL	FU	FA	1	0	36	36	OT	69394	61	KP08000779	005276		11129	1923	A	0
FIN022	20011130	918	IT	CC	CD	2	1	34	188	OS	69484	61	RHL011	005276		11130	918	C	0
FIN022	20011205	2022	TR	NR	WI	7	2	25	1,015	OP	72333	61	RHJ826	005276		11205	2036	B	0
FIN022	20011208	1531	CS	RF	FA	1	2	54	174	SU	73749	61	JO17000940	005152		11208	1540	A	0
FIN022	20011221	1005	IT	CC	CD	5	2	17	685	OS	79068	61	JP35004842	001939		11221	1010	C	0
FIN022	20011224	1951	UN		SN	1	0	57	57	OT	79845	61	KP07004375	005257		11224	1957	A	0
FIN022	20011224	2057	TX		SN	1	1	23	83	OT	79846	61	KP07004375	005257		11224	2058	A	0
FIN022	20011227	1130	PD	BP	CD	368	3	55	86,480	OP	80455	61	RHJ900	005276		11227	1129	BC	0
FIN022	20011228	839	UN		FA	1	0	36	36	OT	80713	61	6PDVV12222	005257		11228	842	C	0
FIN022	20011228	1940	CS		FA	1	1	35	95	OT	80999	61	KP07004375	005020		11228	1942	A	0

Total Cust Ints = 2,867

Total Cust Mins = 353,905

Total Cust Served on Feeder = 1,927

SAIFI = 1.49

CAIDI = 123.44

SAIDI = 183.66

2001 With Storms Outage History for Feeder "FIN022"

Feeder	DateOut	RefTime	CloseDate	CloseTime	City	EstDate	EstTime	PartRst%1	PartRst%2	DateIn1	TimeIn1	DateIn2	TimeIn2	Comments
FIN022	20010101	0	10101	1312	HAYW	0	0	100	0	10101	1312	0	0	
FIN022	20010110	0	10110	1122	HAYW	0	0	100	0	10110	1122	0	0	
FIN022	20010119	0	10119	1108	LENR	0	0	100	0	10119	1108	0	0	CREW WORKING APPROX 1HRPOI ENTRY JOB
FIN022	20010120	0	10120	1219	LENR	0	0	100	0	10120	1219	0	0	
FIN022	20010130	0	10130	933	HAYA	0	0	100	0	10130	933	0	0	
FIN022	20010131	0	10131	1108	HAYA	0	0	100	0	10131	1108	0	0	transformer for sewer pump tripped will have design follow up
FIN022	20010131	0	10131	1403	HAYA	0	0	100	0	10131	1403	0	0	
FIN022	20010206	0	10206	1341	BASL	0	0	100	0	10206	1341	0	0	CRW WORKING 1 HRPOI ENTRY JOB
FIN022	20010207	0	10207	1445	LENR	0	0	100	0	10207	1445	0	0	CRW WORKING 1HRPOI ENTRY JOB
FIN022	20010208	0	10208	1930	HAYA	0	0	100	0	10208	1930	0	0	UNDERGROUND FAULTMOBLE STATION‖
FIN022	20010212	0	10212	1341	LENR	0	0	100	0	10212	1341	0	0	CREW WORKING APPROX 1 HRPOI ENTRY JOB
FIN022	20010216	0	10216	1955	LENR	0	0	100	0	10216	1955	0	0	Tightened our connections seems ok now it still could be a customer problem
FIN022	20010225	0	10225	940	HAYA	0	0	100	0	10225	940	0	0	
FIN022	20010302	0	10302	925	HAYA	0	0	100	0	10302	925	0	0	power all out
FIN022	20010302	0	10302	1255	ROUN	0	0	100	0	10302	1255	0	0	
FIN022	20010313	0	10313	1515	LENR	0	0	100	0	10313	1515	0	0	charlie blair (tree cutter) cut tree & it fell backwards on this line
FIN022	20010315	0	10315	920	LENR	0	0	100	0	10315	920	0	0	On CTY T about 5 MI N of Hayward/Customer heard bang
FIN022	20010330	0	10330	1955	HAYA	0	0	100	0	10330	1955	0	0	Carol Barthel called to say partial outage/ Lanes in bowling alley not working /located 1 ml East of Hayward on Hwy 77.
FIN022	20010402	0	10402	1550	LENR	0	0	100	0	10402	1550	0	0	___LOGGERS HIT LINE
FIN022	20010404	0	10404	1115	LENR	0	0	100	0	10404	1115	0	0	hwy 27n to cty T to Hard Rock Cir. to F#12550n//Kurt Messner-ph#715-634-8591 ph'd in /housesitting
FIN022	20010407	0	10407	1510	HAYA	0	0	100	0	10407	1510	0	0	LITES OUT 30 MINUTES @ 241P
FIN022	20010411	0	10412	310	LENR	0	0	100	0	10412	310	0	0	4 CSP TRANSF'S ON LINE W/ BAD ARRESTERSREPLACED
FIN022	20010416	0	10416	1925	HAYA	0	0	100	0	10416	1925	0	0	
FIN022	20010421	0	10421	1000	LENR	0	0	100	0	10421	1000	0	0	
FIN022	20010429	0	10429	1729	LENR	0	0	100	0	10429	1729	0	0	Tree on Line/No Power/This is at the Darrel Salzman's residence
FIN022	20010508	0	10508	1318	HAYA	0	0	100	0	10508	1318	0	0	NOT MARKED
FIN022	20010509	0	10509	2220	HAYA	0	0	100	0	10509	2220	0	0	heard loud boom
FIN022	20010510	0	10510	1030	HAYA	0	0	100	0	10510	1030	0	0	BAD TRANSFORMER BACK IN @ 1030
FIN022	20010516	0	10516	545	HAYA	0	0	100	0	10516	545	0	0	
FIN022	20010522	0	10522	2111	HAYA	0	0	100	0	10522	2111	0	0	breakers ok/off since 16:30FUSE COORDINATION WAS WRONG
FIN022	20010523	0	10523	831	ROUN	0	0	100	0	10523	831	0	0	heard loud bang
FIN022	20010530	0	10530	2300	HAYA	0	0	100	0	10530	2300	0	0	Hear a great big BOM
FIN022	20010607	0	10607	935	HAYA	0	0	100	0	10607	935	0	0	
FIN022	20010608	0	10608	1630	LENR	0	0	100	0	10608	1630	0	0	Wire are done and wrapped below poles Steve restored service
FIN022	20010614	0	10614	700	LENR	0	0	100	0	10614	700	0	0	
FIN022	20010614	0	10615	900	LENR	0	0	100	0	10615	900	0	0	all power out chked circuit brkrs ROLLIE KNOWS WILL CONTACT TO ADVISE GENERATOR FOR FREEZERSTONE
FIN022	20010618	0	10618	805	HAYA	0	0	100	0	10618	805	0	0	1 1/2 mile out of town on hwy 77
FIN022	20010703	0	10703	1940	LENR	0	0	100	0	10703	1940	0	0	
FIN022	20010705	0	10705	1845	LENR	0	0	100	0	10705	1845	0	0	If need to contact shannon cell#492-3204 pls contact whn repaired
FIN022	20010707	0	10707	1020	ROUN	0	0	100	0	10707	1020	0	0	power lost // no explaination.
FIN022	20010708	0	10708	100	LENR	0	0	100	0	10708	100	0	0	

2001 With Storms Outage History for Feeder "MCO021"

Feeder	DateOut	CloseDate	CloseTime	City	EstDate	EstTime	PartRst%1	PartRst%2	DateIn1	TimeIn1	DateIn2	TimeIn2	Comments
MCO021	20010117	10117	1710	MREN	0	0	100	0	10117	1710	0	0	
MCO021	20010117	10117	1835	MREN	0	0	100	0	10117	1835	0	0	reset breakers &still out/house is known as "THE WHITE HOUSE"locat
MCO021	20010211	10211	955	MREN	0	0	100	0	10211	955	0	0	@ E16515 1/4 mi E Highway M64 wire down p to p laying over snowmobile trl
MCO021	20010211	10211	1050	MREN	0	0	100	0	10211	1050	0	0	OPEN TO REPAIR DOWN WIRE
MCO021	20010211	10211	1800	MREN	0	0	100	0	10211	1800	0	0	CREW ISOLATED SECTIONS OF LINEPATROLED
MCO021	20010319	10319	1208	MREN	0	0	100	0	10319	1208	0	0	Says fuse is blown at x-former at the road.
MCO021	20010413	10413	2025	MREN	0	0	100	0	10413	2025	0	0	Lights out on whole block Grace Pardi
MCO021	20010419	10419	1513	MREN	0	0	100	0	10419	1513	0	0	
MCO021	20010427	10427	1115	MREN	0	0	100	0	10427	1115	0	0	power outbreakers checked
MCO021	20010624	10624	1125	MREN	0	0	100	0	10624	1125	0	0	part out chck breakers
MCO021	20010627	10627	1627	MREN	0	0	100	0	10627	1627	0	0	
MCO021	20010627	10627	1627	MREN	0	0	100	0	10627	1627	0	0	
MCO021	20010720	10720	1140	MREN	0	0	100	0	10720	1140	0	0	NO POWER - CHECKED BREAKERS ALL ARE ON
MCO021	20010801	10801	1015	MREN	0	0	50	50	10801	1015	10801	1100	6 miles N. on Hwy 64 rgt on E. Shore Dr about 9 miles on left/F#N11263___RIZ016 CLOSED 1015
MCO021	20010801	10801	1225	MREN	0	0	100	0	10801	1225	0	0	
MCO021	20010807	10807	1123	MREN	0	0	100	0	10807	1123	0	0	
MCO021	20010904	10904	1345	MREN	0	0	100	0	10904	1345	0	0	CREW WORKING 1 HOURPOI ENTRY JOB
MCO021	20010906	10906	720	MREN	0	0	100	0	10906	720	0	0	THIS IS AN INTETIONAL OUTAGE
MCO021	20011006	11006	1200	MREN	0	0	100	0	11006	1200	0	0	all outcust has checked the breakers
MCO021	20011006	11006	1300	MREN	0	0	100	0	11006	1300	0	0	POWER OUT PER JOHN--FIRE NUMBER N8861
MCO021	20011011	11011	1420	MREN	0	0	100	0	11011	1420	0	0	not sure how long outbut can see fuse hanging out of transformer
MCO021	20011012	11012	1035	MREN	0	0	100	0	11012	1035	0	0	complete electrical outage-please double ck to see that their electricity is on before leaving the area.
MCO021	20011017	11017	2050	MREN	0	0	100	0	11017	2050	0	0	
MCO021	20011025	11026	150	MREN	0	0	100	0	11026	150	0	0	power outageplease send some one as soon as you can
MCO021	20011026	11026	1945	MREN	0	0	100	0	11026	1945	0	0	
MCO021	20011026	11027	1400	MREN	0	0	100	0	11027	1400	0	0	
MCO021	20011127	11127	1325	MREN	0	0	100	0	11127	1325	0	0	lights blinked on and off then went out completely about 10 minutesago //
MCO021	20011127	11127	1830	MREN	0	0	100	0	11127	1830	0	0	Cust. says that her power was fixed for a whileand then it went ou
MCO021	20011127	11127	2050	MREN	0	0	100	0	11127	2050	0	0	power out
MCO021	20011205	11206	1215	MREN	0	0	100	0	11206	1215	0	0	TAKE DRIVEWAY FOR 998 SHORE- TREE DOWN ON LINES ON NEXT LOT
MCO021	20011206	11206	1825	MREN	0	0	100	0	11206	1825	0	0	power out againhad been restored this afternoon
MCO021	20011227	11227	1125	MREN	0	0	100	0	11227	1125	0	0	CRW WORKING FOR 1 HRPOI ENTRY JOB

2001 With Storms Outage History for Feeder "FIN022"

Feeder	DateOut	RefTime	CloseDate	CloseTime	City	EstDate	EstTime	PartRst%1	PartRst%2	DateIn1	TimeIn1	DateIn2	TimeIn2	Comments
FIN022	20010711	0	10711	600	HAYA	0	0	100	0	10711	600	0	0	
FIN022	20010717	0	10717	424	HAYA	0	0	100	0	10717	424	0	0	transformer struck by lightning-David Johnston cbr # 715-833-8830
FIN022	20010717	0	10717	730	HAYA	0	0	100	0	10717	730	0	0	
FIN022	20010717	0	10717	1930	LENR	0	0	100	0	10717	1930	0	0	checked breakers
FIN022	20010717	0	10717	2145	LENR	0	0	100	0	10717	2145	0	0	
FIN022	20010718	0	10718	815	HAYA	0	0	100	0	10718	815	0	0	heard loud bang
FIN022	20010720	0	10720	930	LENR	0	0	100	0	10720	930	0	0	skip was inpart power
FIN022	20010720	0	10720	1005	HAYA	0	0	100	0	10720	1005	0	0	HEARD LOUD BANG*ALSO TREES (CAUSE)
FIN022	20010723	0	10723	1125	HAYA	0	0	100	0	10723	1125	0	0	breakers ok
FIN022	20010725	0	10725	1210	HAYA	0	0	100	0	10725	1210	0	0	customer said that a line is on the ground by the transformerhe fo
FIN022	20010725	0	10725	1646	LENR	0	0	100	0	10725	1646	0	0	TREE ON LINE AT THIS ADDRESS
FIN022	20010725	0	10725	1650	LENR	0	0	100	0	10725	1650	0	0	breakers okunsure of neighbors
FIN022	20010726	0	10726	1550	HAYA	0	0	100	0	10726	1550	0	0	may have been out for days/is a cabin setting
FIN022	20010727	0	10727	1750	HAYA	0	0	100	0	10727	1750	0	0	contractor tore wire downcell # 715-492-7021
FIN022	20010730	0	10730	1355	LENR	0	0	100	0	10730	1355	0	0	lines downmay have trees on lines
FIN022	20010731	0	10731	1715	HAYW	0	0	100	0	10731	1715	0	0	
FIN022	20010801	0	10801	840	HAYA	0	0	100	0	10801	840	0	0	all out-back in at rhj337 at 8:40 am per sre 8/1/01 due to lightening
FIN022	20010801	0	10801	940	HAYA	0	0	100	0	10801	940	0	0	on generator nowentire bldgs out
FIN022	20010801	0	10801	850	HAYA	0	0	100	0	10801	850	0	0	BACK IN AT 8:50 AM DUE TO LIGHTNING PER SRE 8/1/01
FIN022	20010801	0	10801	920	HAYA	0	0	100	0	10801	920	0	0	on generator nowentire bldgs out
FIN022	20010801	0	10801	940	HAYA	0	0	100	0	10801	940	0	0	on generator nowentire bldgs out
FIN022	20010801	0	10801	840	HAYA	0	0	100	0	10801	840	0	0	
FIN022	20010801	0	10801	1210	LENR	0	0	100	0	10801	1210	0	0	
FIN022	20010801	0	10801	1715	HAYA	0	0	100	0	10801	1715	0	0	Next door neighbor is also out fuse appears to be hanging
FIN022	20010801	0	10801	2030	HAYA	0	0	100	0	10801	2030	0	0	out since 3AM per Mike/DDS#69028 was closed at 5:27pm/
FIN022	20010804	0	10804	1420	HAYA	0	0	100	0	10804	1420	0	0	please have lineman call before coming 715-492-4059
FIN022	20010805	0	10806	15	HAYW	0	0	100	0	10806	15	0	0	
FIN022	20010805	0	10805	1925	HAYA	0	0	100	0	10805	1925	0	0	whole park out
FIN022	20010811	0	10811	1830	HAYA	0	0	100	0	10811	1830	0	0	saw flash and heard bang
FIN022	20010812	0	10812	1640	HAYA	0	0	100	0	10812	1640	0	0	
FIN022	20010818	0	10818	738	HAYA	0	0	100	0	10818	738	0	0	
FIN022	20010821	0	10821	1427	LENR	0	0	100	0	10821	1427	0	0	checked breakers
FIN022	20010829	0	10830	345	STIN	0	0	100	0	10830	345	0	0	
FIN022	20010903	0	10903	915	HAYW	0	0	100	0	10903	915	0	0	
FIN022	20010907	0	10907	1525	HAYA	0	0	100	0	10907	1525	0	0	per Alisha Austin/
FIN022	20010908	0	10908	1550	LENR	0	0	100	0	10908	1550	0	0	all of resort out
FIN022	20010909	0	10909	1900	HAYA	0	0	100	0	10909	1900	0	0	CHECKED BREAKERSOK POSSIBLE BAD CSP
FIN022	20010928	0	10928	1550	HAYA	0	0	100	0	10928	1550	0	0	
FIN022	20011002	0	11002	1711	HAYW	0	0	100	0	11002	1711	0	0	checked breakers
FIN022	20011005	0	11005	1115	LENR	0	0	100	0	11005	1115	0	0	
FIN022	20011007	0	11007	2000	HAYA	0	0	100	0	11007	2000	0	0	
FIN022	20011016	0	11016	1405	HAYA	0	0	100	0	11016	1405	0	0	PART POWER /LIGHTS VERY DIM WHERE ON
FIN022	20011017	0	11017	1840	HAYW	0	0	100	0	11017	1840	0	0	
FIN022	20011018	0	11018	925	HAYA	0	0	100	0	11018	925	0	0	CREW REPAIRING BURNT JUMPERPOI ENTRY JOB
FIN022	20011021	0	11021	2004	LENR	0	0	100	0	11021	2004	0	0	

2001 With Storms Outage History for Feeder "MCO021"

Feeder	DateOut	TimeOut	Pri Cause	Sec Cause	Weather	Custs	Dur Hrs	Dur Mins	CustMins	Level	Job #	Division	POI	Truck1	Truck2	DispDate	DispTime	Phase	RefDate	RefTime
MCO021	20010117	1448	TR	NR	FA	3	2	22	426	OP	28920	63	RIZ010	005136		10117	1452	A	0	0
MCO021	20010117	1728	BC	CW	SN	1	1	7	67	OP	28981	63	FS03007448	005136		10117	1735	A	0	0
MCO021	20010211	715	CN	CC	CD	135	2	40	21,600	OP	38768	63	RIY008	005136	005224	10211	801	A	0	0
MCO021	20010211	955	IT	CT	CD	393	0	55	21,615	FD	38784	63	MCO021	005136		10211	956	ABC	0	0
MCO021	20010211	1347	OL	FU	CD	68	4	13	17,204	OP	38802	63	RIZ002	005136		10211	1351	C	0	0
MCO021	20010319	1103	AN		FA	1	1	5	65	OP	51231	63	RIZ068	005224		10319	1106	A	0	0
MCO021	20010413	1909	AN	EG	FA	41	1	16	3,116	OP	64994	63	RIZ001	001939		10413	1913	C	0	0
MCO021	20010419	1431	AN		FA	1	0	42	42	OS	68390	63	4185N10616	005224		10419	1430	C	0	0
MCO021	20010427	1027	UN		FA	41	0	48	1,968	OP	74422	63	RIZ001	005224		10427	1033	C	0	0
MCO021	20010624	921	CN	CB	FA	1	2	4	124	SO	28664	63	4185N09456	005224		10624	1009	B	0	0
MCO021	20010627	1351	LI		RA	14	2	36	2,184	OP	32956	63	RIX002	005136		10627	1353	B	0	0
MCO021	20010627	1447	LI		RA	396	1	40	39,600	FD	33085	63	MCO021	005173		10627	1647	ABC	0	0
MCO021	20010720	949	AR	OH	FA	1	1	51	111	OS	54542	63	ES21005127	005136		10720	1002	B	0	0
MCO021	20010801	530	LI		LI	57	4	45	16,245	OT	67887	63	RIZ016	005224		10801	552	A	0	0
MCO021	20010801	948	LI		LI	1	2	37	157	OT	68368	63	4185N10523	005224		10801	1024	C	0	0
MCO021	20010807	903	AN		FA	1	2	20	140	OS	76267	63	4185N09590	005136		10807	906	B	0	0
MCO021	20010904	1225	IT		FA	3	1	20	240	OP	03117	63	RIZ010	005224		10904	1226	A	0	0
MCO021	20010906	618	IT	CC	FA	121	1	2	7,502	OP	04926	63	RIZ008	005173		10906	626	A	0	0
MCO021	20011006	814	TR	RQ	SN	96	3	46	21,696	OP	30047	63	RIZ007	005136		11006	823	C	0	0
MCO021	20011006	1106	TR	RQ	SN	9	1	54	1,026	OP	30095	63	RIZ045	005136		11006	1124	A	0	0
MCO021	20011011	1224	TR		WI	1	1	56	116	OS	34463	63	4BGAN11247	005173		11011	1228	A	0	0
MCO021	20011012	931	AN		FA	41	1	4	2,624	OP	35125	63	RIZ001	005136		11012	933	C	0	0
MCO021	20011017	1838	TR	RQ	FA	2	2	12	264	OP	39498	63	RIZ066	005173		11017	1839	C	0	0
MCO021	20011025	1809	TR		WI	4	7	41	1,844	OP	46457	63	RIZ072	005224		11025	1819	A	0	0
MCO021	20011026	548	TR		IC	1	13	57	837	OT	46919	63	4185N10414	005183		11026	1946	C	0	0
MCO021	20011026	2204	TR		SN	2	15	56	1,912	OP	47782	63	RIZ029	005183		11027	637	B	0	0
MCO021	20011127	1123	TR		SN	42	2	2	5,124	OP	66776	63	RIZ001	005136		11127	1134	C	0	0
MCO021	20011127	1607	TR	RQ	SN	88	2	23	12,584	OP	67166	63	RIZ019	005136		11127	1609	C	0	0
MCO021	20011127	1906	TR	RQ	SN	88	1	44	9,152	OP	67534	63	RIZ019	005136		11127	1908	C	0	0
MCO021	20011205	2246	TR		WI	27	13	29	21,843	OP	72395	63	RIZ018	005173		11206	422	A	0	0
MCO021	20011206	1626	TR		WI	27	1	59	3,213	OP	72995	63	RIZ018	005173		11206	1702	A	0	0
MCO021	20011227	1035	IT	CC	FA	2	0	50	100	OP	80426	63	RIZ004	005224		11227	1037	A	0	0

Total Cust Ints = 1,709

Total Cust Mins = 214,741

Total Cust Served on Feeder = 397

SAIFI = 4.30

CAIDI = 125.65

SAIDI = 540.91

2001 With Storms Outage History for Feeder "FIN022"

Feeder	DateOut	RefTime	CloseDate	CloseTime	City	EstDate	EstTime	PartRst%1	PartRst%2	DateIn1	TimeIn1	DateIn2	TimeIn2	Comments
FIN022	20011030	0	11030	1900	LENR	0	0	100	0	11030	1900	0	0	cust was LNP but appears to have been restored. Cust says cked breakers & still doesn't have power
FIN022	20011103	0	11103	705	LENR	0	0	100	0	11103	705	0	0	chkd breakers
FIN022	20011105	0	11105	2200	LENR	0	0	100	0	11105	2200	0	0	TRBLMN SAID TRANSF OVERLOADEDBACK IN
FIN022	20011106	0	11106	925	LENR	0	0	100	0	11106	925	0	0	squirrel got into transformer
FIN022	20011106	0	11106	1007	HAYW	0	0	100	0	11106	1007	0	0	CRW WORKING 15 MINSPOI ENTRY JOB
FIN022	20011116	0	11116	1030	HAYW	0	0	100	0	11116	1030	0	0	electrician on siteone phase power
FIN022	20011121	0	11121	1130	HAYW	0	0	100	0	11121	1130	0	0	UT AT 1100 OUT FOR 7 MINSFILE AS INTENTINAL
FIN022	20011122	0	11122	1355	LENR	0	0	100	0	11122	1355	0	0	
FIN022	20011129	0	11129	1959	LENR	0	0	100	0	11129	1959	0	0	
FIN022	20011130	0	11130	1052	HAYA	0	0	100	0	11130	1052	0	0	CREW WORKING APPROX 1 1/2 HRSPOI ENTRY JOB
FIN022	20011205	0	11205	2247	LENR	0	0	100	0	11205	2247	0	0	neighbors out west/ east side has lights// very windy
FIN022	20011208	0	11208	1825	LENR	0	0	100	0	11208	1825	0	0	Ran temp service to restore power urd service failed
FIN022	20011221	0	11221	1222	LENR	0	0	100	0	11221	1222	0	0	CREW WORKING 3 HOURSPOI ENTRY JOB
FIN022	20011224	0	11224	2048	LENR	0	0	100	0	11224	2048	0	0	checked breakers/kurt cell ph 715 492 0684
FIN022	20011224	0	11224	2220	LENR	0	0	100	0	11224	2220	0	0	cross 77 and company lake
FIN022	20011227	0	11227	1235	LENR	0	0	98	2	11227	1235	11227	1525	Contractor Jim Rheaa & J Excavation 715-492-8828 Hit guide wire
FIN022	20011228	0	11228	915	LENR	0	0	100	0	11228	915	0	0	
FIN022	20011228	0	11228	2115	LENR	0	0	100	0	11228	2115	0	0	

2001 With Storms Outage History for Feeder "WHR021"

Feeder	DateOut	TimeOut	Pri Cause	Sec Cause	Weather	Custs	Dur Hrs	Dur Mins	CustMins	Level	Job #	Division	POI	Truck1	Truck2	DispDate	DispTime	Phase	RefDate	RefTime
WHR021	20010110	1407	IF		CD	1	0	56	56	OS	25861	62	EK22005147	005150		10110	1407	A	0	0
WHR021	20010525	1653	AN	EG	FA	1	0	37	37	OT	96656	62	EK28004954	005150		10525	1653	A	0	0
WHR021	20010629	2307	LI		WL	106	1	58	12,508	OP	35932	62	RAW030	005032		10629	2307	A	0	0
WHR021	20010705	1519	PD	OH	FA	14	0	56	784	OP	39917	62	RMC021	005150		10705	1527	C	0	0
WHR021	20010713	1652	AN	EG	FA	1	0	53	53	OT	47088	62	EK33000989	005032		10713	1652	A	0	0
WHR021	20010726	918	FC	BA	FA	1	1	27	87	OS	60747	62	EK32000841	005032		10726	919	C	0	0
WHR021	20010801	404	WL		LI	147	3	38	32,046	SB	68002	62	WHR021	005182	005137	10801	707	ABC	0	0
WHR021	20010810	638	AN		FA	1	1	17	77	OT	81720	62	EK33000989	005137		10810	640	A	0	0
WHR021	20011002	1809	LI		RA	1	0	36	36	OT	27103	62	5AAHC01711	005020		11002	1822	A	0	0
WHR021	20011124	632	UN		FA	110	0	28	3,080	OP	63835	62	RAW030	005150		11124	633	A	0	0
WHR021	20011124	815	IN		RA	38	0	50	1,900	OP	63848	62	RAW034	005137		11124	818	A	0	0
WHR021	20011124	1834	WL		WL	117	0	26	3,042	OP	64022	62	RMC021	005137		11124	1838	A	0	0
WHR021	20011124	2206	WL		WL	151	2	28	22,348	FD	64049	62	WHR021	005137		11125	45	ABC	0	0

2001 With Storms Outage History for Feeder "WHR021"

Feeder	DateOut	CloseDate	CloseTime	City	EstDate	EstTime	PartRst%1	PartRst%2	DateIn1	TimeIn1	DateIn2	TimeIn2	Comments
WHR021	20010110	10110	1503	GING	0	0	100	0	10110	1503	0	0	FIRE#22564 milles south of ashland on hwy 13--near race track/yell
WHR021	20010525	10525	1730	GING	0	0	100	0	10525	1730	0	0	
WHR021	20010629	10630	105	GING	0	0	100	0	10630	105	0	0	large storm heavy windsarea out contact at 682-9447 or 682-2488 to
WHR021	20010705	10705	1615	GING	0	0	100	0	10705	1615	0	0	
WHR021	20010713	10713	1745	GING	0	0	100	0	10713	1745	0	0	
WHR021	20010726	10726	1045	GING	0	0	100	0	10726	1045	0	0	
WHR021	20010801	10801	742	WHIT	0	0	100	0	10801	742	0	0	
WHR021	20010810	10810	755	GING	0	0	100	0	10810	755	0	0	
WHR021	20011002	11002	1845	GING	0	0	100	0	11002	1845	0	0	chkd brkers/out snc 2:30pm
WHR021	20011124	11124	700	GING	0	0	100	0	11124	700	0	0	X St.Dahlstrom or Weister. wires sparking at neighbors hse wherenew pole was put on Beaser Ave
WHR021	20011124	11124	905	GING	0	0	100	0	11124	905	0	0	
WHR021	20011124	11124	1900	GING	0	0	100	0	11124	1900	0	0	was out this morning and now out again/ the whole road is out
WHR021	20011124	11125	34	WHIT	0	0	100	0	11125	34	0	0	

Total Cust Ints = 689 Total Cust Mins = 76,054

Total Cust Served on Feeder = 152

SAIFI = 4.53
CAIDI = 110.38
SAIDI = 500.36

Pri Cause	Description
AC	ACCIDENTAL OUTAGE
AN	ANIMAL CONTACT
AR	LIGHTNING ARRESTER FAILURE
BF	BREAKER FAILURE
BI	BUSHING FAILURE
CB	CAPACITOR BANK FAILURE
CC	CONDUCTOR CONTACT
CF	CONDUCTOR FATIGUE
CN	CONNECTOR FAILURE
CO	CUSTOMER OWNED EQUIPMENT
CP	PRIMARY CABLE FAILURE
CS	SECONDARY CABLE
DB	DEBRIS IN LINE
EB	ELBOW TERMINATOR FAILURE
FC	FUSED CUTOUT FAILURE
FI	FLASH ON INSULATOR
FL	FUSE LINK BROKEN (NOT BLOWN OR MELTED)
FT	FEEDERS TIED TOGETHER
GS	GROUND SETTLING
GU	GUY WIRE/ANCHOR MECH FAILURE
IF	ICE FALLING
II	IMPROPER INSTALLATION
IN	INSULATOR FAILURE
IT	INTENTIONAL OUTAGE
LH	LINE HARDWARE
LI	LIGHTNING
ME	METERING OR ASSOCIATED EQUIPMENT
NP	NETWORK PROTECTOR FAILURE
OL	OVERLOAD
OT	OTHER (NO CODE EXISTS)
OU	OTHER UTILITY
PD	PUBLIC DAMAGE (NON XCEL ENERGY)
PH	POTHEAD FAILURE
PO	POLE (MECHANICAL FAILURE)
RC	RECLOSER FAILURE
RE	REACTOR FAILURE
RL	RELAY FAILURE
SO	OVERHEAD SWITCH FAILURE
ST	SECTIONALIZER FAILURE
SU	UNDERGROUND SWITCH OR LOAD CTR
TR	TREE CONTACT
TX	TRANSFORMER FAILURE
UN	CAUSE UNKNOWN
UP	UG PRIMARY SPLICE FAILURE
US	UG SECONDARY SPLICE FAILURE
VR	VOLTAGE REGULATOR
WI	WIND
WL	WIND & LIGHTNING
XA	CROSSARM OR BRACE

Pri Cause	Sec Cause	Description
AC	CE	COORDINATION ERROR
AC	DG	DIG IN BY XCEL ENERGY GAS
AC	DI	DIG IN BY XCEL ENERGY ELECTRIC
AC	DL	DIG IN - INCORRECT LOCATES
AC	ME	MAINT. ERROR - ELECT. UTILITY
AC	OH	OH LINE CONTACT BY XCEL ENERGY
AC	OT	OTHER/UNKNOWN
AC	PM	PROTECTION MISOPERATION
AC	PR	INADEQUATE PROCESS OR DESIGN
AC	SE	SWITCHING ERROR BY XCEL ENERGY
AC	TT	XCEL ENERGY TREE TRIMMER
AN	OS	OVERHEAD SWITCH
AN	OT	OTHER/UNKNOWN
AN	OX	OVERHEAD TRANSFORMER
AN	TP	TERMINAL POLE
AN	UE	UNDERGROUND EQUIPMENT
AR	EB	ELBOW ARRESTER
AR	PD	PORCELAIN
AR	SC	SWITCH GEAR ARRESTER
AR	TL	TRANSMISSION LEVEL ARRESTER
AR	ZD	POLYMER
BI	IB	INTEGRAL BUSHING FAILURE
BI	IW	INSERT OR WELL FAILURE
CC	FC	FLOATING CONDUCTOR
CC	GP	GALLOPING CONDUCTOR
CC	PS	POORLY SAGGED
CF	AL	ALUMINUM
CF	CU	COPPER
CN	AS	AUTOMATIC SPLICE
CN	CB	BOLTED
CN	CC	CRIMPED/COMPRESSION
CN	CH	HOT LINE CLAMP
CN	CM	COMPRESSION SLEEVE
CN	SI	STIRRUP
CN	SO	SHOOT ON
CN	SP	SPADE
CN	SS	SET SCREW TYPE
CN	WS	WRONG SIZE
CO	PI	PRIMARY EQUIPMENT
CO	SE	SECONDARY EQUIPMENT
CP	JD	JACKETED CABLE
CP	LC	LC CABLE

Pri Cause	Sec Cause	Description
CP	OL	SUSTAINED OVERLOAD
CP	PL	PAPER AND LEAD
CP	RF	PRIMARY UG OUTAGE - REFER
CP	UD	UNJACKETED CABLE
CS	RF	SECONDARY UG OUTAGE - REFER
GS	PI	PRIMARY EQUIPMENT
GS	SE	SECONDARY EQUIPMENT
GU	AP	ANCHOR PULLED OUT
GU	BG	BROKEN GUY
II	BI	BUSHING
II	CN	CONNECTOR
II	CP	PRIMARY CABLE
II	CS	SECONDARY CABLE FAILURE
II	EB	ELBOW TERMINATOR
II	GU	GUY/ANCHOR
II	OT	OTHER
IN	PD	GLASS OR PORCELAIN DEADEND
IN	PL	GLASS OR PORCELAIN LINE INSULATOR
IN	ZD	POLYMER DEADEND
IN	ZL	POLYMER LINE INSULATOR
IT	CC	CLEAR CIRCUIT FOR CONSTRUCTION
IT	CT	CLEAR CIRCUIT FOR TROUBLE/EMERGENCY
IT	IG	TO INSTALL SQUIRREL GUARD
IT	OL	DROP LOAD DUE TO OVERLOADING
IT	PF	FOR POLE FIRE
IT	TT	CLEAR CIRCUIT FOR TREE TRIMMER
LH	OT	OTHER
OL	FU	FUSE
OL	RC	RECLOSER/SECTIONALIZER
OL	TR	TRANSFORMER
PD	BP	BROKEN POLE/VEHICLE HIT POLE
PD	DI	DIG IN
PD	DL	DELIBERATE (VANDALISM)
PD	FI	FIRE
PD	GU	GUY WIRE BROKEN
PD	OH	OVERHEAD LINE CONTACT
PD	OT	OTHER/UNKNOWN
PD	PE	PADMNT EQUIP DAMAGE BY VEHICLE
PD	TT	TREE TRIMMER (NON XCEL ENERGY)
PH	PL	PAPER & LEAD
PH	PO	PORCELAIN
PH	ZO	POLYMER

Pri Cause	Sec Cause	Description
PO	BP	BROKEN POLE
PO	PF	POLE FIRE
PO	RP	ROTTEN POLE
PO	TW	STEEL TOWER
SO	GI	GANG OPERATED
SO	MO	MOTOR OPERATED/AUTOMATED
SO	SB	SINGLE BLADE DISCONNECT
SU	FA	FAILURE
TR	NR	TRIMMING NOT REQUIRED
TR	RQ	TRIMMING REQUIRED
TX	LT	LTC FAILURE
TX	SP	CSP TRANSFORMER
UN	ND	NOT DETERMINED
UN	UI	UNDER INVESTIGATION
UP	HS	HEAT SHRINK
UP	HT	HAND TAPED
UP	PL	PAPER & LEAD
UP	PM	PREMOLDED
XA	BA	BROKEN CROSSARM
XA	BB	BROKEN CROSSARM BRACE

Weather Code	Description
CD	COLD
CL	CLOUDY
FA	FAIR
FG	FOG
HE	HEAT
IC	ICE
LI	LIGHTNING
NA	NOT AVAILABLE
RA	RAIN
SL	SLEET
SN	SNOW
WI	WIND
WL	WIND & LIGHTNING

Note: I have place these codes in their order from Highest to Lowest.

Level	Description
TL	TRANSMISSION LINE/SYSTEM
SB	SUBSTATION DIST.BUS/TRANSF.
FD	FEEDER
OP	OH PRIMARY
UP	UG PRIMARY
OT	OH TRANSFORMER
UT	UG TRANSFORMER
OS	OH SECONDARY
US	UG SECONDARY
SO	SERVICE - OH
SU	SERVICE - UG
PO	PART OUT
CU	CUST SERV CALL

Minnesota Divisions

Division	Description	Region	State
13	ST. PAUL	Metro East	Minnesota
16	WHITE BEAR	Metro East	Minnesota
27	NEWPORT	Metro East	Minnesota
9	MINNEAPOLIS	Metro West	Minnesota
10	MINNETONKA	Metro West	Minnesota
17	EDINA	Metro West	Minnesota
18	BROOKLYN CENTER	Metro West	Minnesota
24	NORTHWEST-ST CLOUD	Northwest	Minnesota
8	MANKATO-FARIBAULT	Southeast	Minnesota
23	RED WING-WINONA	Southeast	Minnesota

Non-Minnesota Divisions

Division	Description	Region	State
5	FARGO	North Dakota	North Dakota
7	GRAND FORKS	North Dakota	North Dakota
11	MINOT	North Dakota	North Dakota
14	SIOUX FALLS	South Dakota	South Dakota
60	INDIANHEAD-AMERY	Wisconsin North	Wisconsin
61	LAKES-RICE LAKE	Wisconsin North	Wisconsin
62	LAKE SUPERIOR ASH	Wisconsin North	Wisconsin
63	RANGE-IRONWOOD	Wisconsin North	Wisconsin
64	CENTRAL EAST	Wisconsin Central	Wisconsin
65	CENTRAL METRO	Wisconsin Central	Wisconsin
66	CENTRAL WEST	Wisconsin Central	Wisconsin
67	BLAIR-SPARTA	Wisconsin South	Wisconsin
68	LACROSSE	Wisconsin South	Wisconsin

City Code	Div	Community
ABBT	64	ABBOTSFORD
ADAT	67	ADAMS (TOWN - JACKSON)
AGEN	62	AGENDA
ALBA	66	ALBANY (TOWNSHIP-PEPIN CO)
ALBN	65	ALBION (TOWNSHIP-TREMPEALEAU)
ALCV	67	ALMA CENTER
ALDT	60	ALDEN
ALET	60	ALMENA (TOWN - BARRON CO)
ALIT	67	ALBION (TOWNSHIP -JACKSON CO)
ALMA	66	ALMA (CITY)
ALMB	66	ALMA (TOWNSHIP-BUFFALO COUNTY)
ALMJ	67	ALMA (TOWNSHIP-JACKSON COUNTY)
ALMV	60	ALMENA (VILLAGE - BARRON)
ALTO	65	ALTOONA
AMER	60	AMERY
ANDR	63	ANDERSON
ANGT	67	ANGELO
ANSO	65	ANSON
ANUT	61	ANGUS (TOWN - BARRON)
APPL	60	APPLE RIVER
ARKA	66	ARKANSAW
ARLA	60	ARLAND (TOWN)
ARPI	64	ARPIN (CITY)
ARPN	64	ARPIN (TOWN)
ARTH	65	ARTHUR (GRANT)
ARTR	65	ARTHUR (CHIPPEWA)
ASHL	62	ASHLAND (CITY)
ASHT	62	ASHLAND (TOWN)
ATHE	64	ATHENS
ATLA	61	ATLANTA
AUBN	61	AUBURN (FON DU LAC)
AUBU	61	AUBURN (CHIPPEWA)
AUGU	65	AUGUSTA
BALD	60	BALDWIN (VILLAGE)
BALS	60	BALSAM LAKE
BANG	67	BANGOR (VILLAGE)
BANT	67	BANGOR (TOWN)
BARK	62	BARKSDALE
BARM	67	BARRE MILLS
BARO	61	BARRON (CITY)
BARR	67	BARRE
BART	61	BARRON (TOWN)
BASH	61	BASHAW
BASL	61	BASS LAKE (TOWN-SAYWER CO)
BASW	61	BASS LAKE (WASHBURN CO)
BAYC	60	BAY CITY
BAYF	62	BAYFIELD (TOWN)
BAYI	62	BAYFIELD (CITY)
BAYV	62	BAYVIEW

City Code	Div	Community
BDGE	65	BRIDGE CREEK
BEAR	61	BEAR LAKE
BEAV	64	BEAVER (CLARK CO)
BEBR	61	BEAVER BROOK
BELI	66	BELVIDERE (TOWN - BUFFALO)
BELL	62	BELL
BERN	64	BERN
BESE	63	BESSEMER (CITY)
BESS	63	BESSEMER (TOWN)
BEVE	60	BEAVER (POLK CO.)
BIGB	61	BIG BEND
BIGF	61	BIG FALLS
BIRC	67	BIRCH CREEK
BIRH	61	BIRCHWOOD (TOWN-WASHBURN)
BIWO	61	BIRCHWOOD (VILLAGE-WASHBURN)
BLAC	60	BLACK BROOK
BLAI	67	BLAIR
BLDT	60	BALDWIN (TOWN)
BLOO	65	BLOOMER (CITY)
BLOT	61	BLOOMER (TOWN)
BLRV	67	BLACK RIVER FALLS
BLUF	67	BLUFF SIDING
BNSI	67	BURNSIDE
BOAR	60	BOARDMAN
BONE	60	BONE LAKE
BOUL	63	BOULDER JUNCTION
BOYC	66	BOYCEVILLE
BOYD	64	BOYD
BRGE	68	BERGEN (VERNON)
BRGL	63	BERGLAND
BRIG	64	BRIGHTON (MARATHON)
BRIL	61	BRILL
BRNS	67	BURNS (LA CROSSE)
BRNT	62	BRANTWOOD
BROC	67	BROCKWAY (JACKSON)
BRRO	61	BARRONETT (WASHBURN CO.)
BRUC	61	BRUCE
BRUN	65	BRUNSWICK
BRWN	62	BROWNING
BUFA	67	BUFFALO (TOWN)
BUFF	66	BUFFALO CITY
BURK	60	BURKHARDT
BURR	67	BURR OAK
BUTN	62	BUTTERNUT
CABL	61	CABLE (TOWN)
CADO	65	CADOTT
CADY	66	CADY
CALE	67	CALEDONIA
CAME	61	CAMELOT ACRES

City Code	Div	Community
CAMI	61	CAMPIA (TOWN-RICE LAKE)
CAMP	68	CAMPBELL
CAMR	61	CAMERON (VILLAGE - BARRON)
CAMT	64	CAMERON (TOWN-WOOD CO)
CARE	63	CAREY
CARS	64	CARSON
CASH	67	CASHTON
CATB	62	CATAWBA (VILLAGE)
CATW	62	CATAWBA (TOWN)
CBLE	61	CABLE (VILLAGE-BAYFIELD CO)
CEDA	66	CEDAR FALLS
CEDL	61	CEDAR LAKE
CERA	62	CEDAR RAPIDS
CHEL	62	CHELSEA
CHET	61	CHETEK (CITY)
CHIP	65	CHIPPEWA FALLS (CITY-CHIPPEWA)
CHRI	67	CHRISTIANA
CHRS	64	CHRISTIE
CHSE	67	CHASEBURG
CILI	64	CHILI
CIPP	62	CHIPPEWA
CLAT	60	CLAYTON (TOWN - POLK)
CLAY	60	CLAYTON (VILLAGE - POLK)
CLCR	65	CLEAR CREEK
CLEA	60	CLEAR LAKE (VILLAGE-POLK CO)
CLET	60	CLEAR LAKE (TOWN-POLK CO.)
CLEV	67	CLEVELAND (CHIPPEWA CO.)
CLFT	66	COLFAX (TOWN)
CLIF	60	CLIFTON (PIERCE)
CLIN	60	CLINTON (BARRON)
CLOV	62	CLOVER
CLVE	64	CLEVELAND (JACKSON CO.)
CNTO	61	CANTON (BARRON CO)
CNTV	67	CENTERVILLE (ST CROIX)
COCH	66	COCHRANE
COLB	64	COLBY (CITY - CLARK/MARATHON)
COLF	66	COLFAX (VILLAGE)
COLT	64	COLBY (TOWN IN CLARK COUNTY)
COMS	60	COMSTOCK (BARRON)
CONR	61	CONRATH
COOK	61	COOKS VALLEY
COOT	67	COON (TOWN)
CORA	67	CORAL CITY
CORN	65	CORNELL
COUD	61	COUDERAY
COVL	67	COON VALLEY
CREA	66	CREAM
CRNU	62	CORNUCOPIA
CRYT	60	CRYSTAL LAKE

City Code	Div	Community
CTEK	61	CHETEK (TOWN)
CTON	66	CANTON (BUFFALO CO.)
CUMB	60	CUMBERLAND
CURA	67	CURRAN
CURT	64	CURTISS
CYLO	60	CYLON
CYST	61	CRYSTAL (TOWN-WASHBURN CO)
DALL	61	DALLAS (VILLAGE)
DALT	61	DALLAS (TOWN)
DECR	62	DEER CREEK
DEER	60	DEER PARK
DELM	64	DELMAR
DERO	60	DERONDA
DESO	68	DE SOTO
DEWE	61	DEWEY
DEWH	64	DEWHURST
DIAM	60	DIAMOND BLUFF
DODG	67	DODGE
DORC	64	DORCHESTER
DOVR	61	DOVRE
DOWN	60	DOWNING
DOWS	66	DOWNSVILLE
DOYL	61	DOYLE
DRAM	65	DRAMMEN
DRES	60	DRESSER
DRUM	61	DRUMMOND
DUNN	66	DUNN
DURA	66	DURAND (CITY)
DURT	66	DURAND (TOWN)
EAGL	65	EAGLE POINT
EARL	61	EARL
EAST	60	EAST FARMINGTON
EATO	64	EATON
EAUG	66	EAU GALLE (DUNN CO.)
ECEC	65	EAU CLAIRE
EDGA	64	EDGAR
EDGR	68	EDGERTON (ROCK CNTY)
EDGW	61	EDGEWATER
EDSO	64	EDSON
EGAL	60	EAU GALLE (ST. CROIX CO.)
EGLE	65	EAGLETON
EILE	62	EILEEN
EISE	62	EISENSTEIN
ELEV	65	ELEVA
ELK	62	ELK
ELKM	65	ELK MOUND (VILLAGE)
ELKT	65	ELK MOUND (TOWN)
ELLS	60	ELLSWORTH (VILLAGE)
ELLT	60	ELLSWORTH (TOWN)

City Code	Div	Community
ELMW	66	ELMWOOD (VILLAGE - PIERCE)
ELPA	66	EL PASO
EMEY	62	EMERY (PRICE)
EMRA	60	EMERALD
ERWI	63	ERWIN
ESTE	67	ESTELLA
ETTI	67	ETTRICK (TOWN)
ETTR	67	ETTRICK (VILLAGE)
EURE	60	EUREKA
EVER	61	EVERGREEN
EWEN	63	EWEN
EXIL	66	EXILE
FAIR	64	FAIRCHILD (VILLAGE)
FAIT	64	FAIRCHILD (TOWN)
FALL	65	FALL CREEK
FIFI	62	FIFIELD
FLAM	63	LAC DU FLAMBEAU
FLMB	61	FLAMBEAU (RUSK)
FLMP	62	FLAMBEAU (PRICE)
FORD	64	FORD
FORS	60	FOREST (TOWN)
FOSE	65	FOSTER (TOWN-CLEAR CREEK)
FOST	64	FOSTER (CLARK CO.)
FOUN	67	FOUNTAIN CITY
FRAF	64	FRANKFORT (TOWN)
FRAL	67	FRANKLIN (JACKSON CO)
FRED	60	FREDERIC
FREM	64	FREMONT
FREN	68	FRENCH ISLAND
FRMA	68	FREEMAN
FRMG	60	FARMINGTON (POLK CO WISC)
FRMI	67	FARMINGTON (LA CROSSE CO.)
FROG	62	FROG CREEK
GALE	67	GALE
GALV	67	GALESVILLE
GANT	61	GRANT (RUSK)
GARD	67	GARDEN VALLEY
GARF	60	GARFIELD
GENO	68	GENOA (VILLAGE)
GENT	68	GENOA (TOWN)
GEOR	62	GEORGETOWN (TOWN)
GILM	66	GILMAN (PIERCE CO.)
GING	62	GINGLES
GLCO	66	GLENCOE (BUFFALO)
GLEN	60	GLENWOOD CITY
GLEW	60	GLENWOOD (TOWN)
GLFL	61	GLEN FLORA
GLID	62	GLIDDEN
GLMI	64	GILMAN (TAYLOR CO.)

City Code	Div	Community
GOET	64	GOETZ
GORD	62	GORDON (TOWN)
GRAD	62	GRANDVIEW
GRAN	67	GRANT (MONROE CO.)
GRAT	64	GRANT (CLARK CO.)
GREE	67	GREENFIELD (LACROSSE)
GREG	64	GREEN GROVE
GREN	62	GREENWOOD (TAYLOR CO.)
GREW	64	GREENWOOD (CITY IN CLARK CO)
GRNT	66	GRANT (DUNN CO.)
GROW	61	GROW
GRTO	64	GRANTON
GURN	63	GURNEY
HACK	62	HACKETT
HAGE	60	HAGER CITY
HALL	65	HALLIE
HALS	64	HALSEY
HALW	67	HALE (TREMPEALEAU CO.)
HAMI	67	HAMILTON
HAMM	60	HAMMOND (VILLAGE)
HAMT	60	HAMMOND (TOWN)
HAMU	67	HAMBURG (VERNON CO.)
HARM	67	HARMONY (VERNON CO.)
HART	60	HARTLAND (PIERCE)
HATI	67	HATFIELD (JACKSON CO)
HAUG	61	HAUGEN
HAWI	61	HAWKINS (VILLAGE)
HAWK	61	HAWKINS (TOWN)
HAYA	61	HAYWARD (TOWN)
HAYR	66	HAY RIVER
HAYW	61	HAYWARD (CITY)
HEND	64	HENDREN
HERB	62	HERBSTER
HERO	66	HEROLD
HERS	66	HERSEY
HEWE	64	HEWETT
HILL	61	HILLSDALE (TOWN - BARRON)
HIXO	64	HIXON
HIXT	67	HIXTON (VILLAGE-JACKSON CO)
HLLL	62	HILL
HOLA	68	HOLLAND (TOWN-LACROSSE CO)
HOLM	68	HOLMEN
HOLT	64	HOLTON
HORD	64	HOARD
HOUL	60	HOULTON
HOWA	65	HOWARD (CHIPPEWA)
HRMY	62	HARMONY (TOWN)
HUDS	60	HUDSON (CITY)
HUDT	60	HUDSON (TOWN)

City Code	Div	Community
HUGH	62	HUGHES
HULL	64	HULL
HUMB	67	HUMBIRD
HUNT	60	HUNTINGDON
HURL	63	HURLEY
HUTR	61	HUNTER (SAWYER CO)
HXTO	67	HIXTON (TOWN-JACKSON)
IBLT	63	IRON BELT
INDE	67	INDEPENDENCE (CITY- TREMP CO)
INGR	61	INGRAM
IRIV	62	IRON RIVER
IRON	63	IRONWOOD (CITY)
IROW	63	IRONWOOD (TOWN)
IRVI	67	IRVING (JACKSON)
ISAB	60	ISABELLE
JACO	62	JACOBS
JEFE	68	JEFFERSON (VERNON CO.)
JEFF	67	JEFFERSON (MONROE CO.)
JIMF	65	JIM FALLS
JOEL	60	JOEL
JOHN	64	JOHNSON
JOHT	60	JOHNSTOWN
KAIS	62	KAISER
KELL	62	KELLY
KENA	62	KENNAN (VILLAGE - PRICE)
KENN	62	KENNAN (TOWN - PRICE)
KEYS	62	KEYSTONE (BAYFIELD/CHIPPEWA)
KIMB	63	KIMBALL (IRON)
KINN	60	KINNICKINNIC
KNAP	66	KNAPP
KNIG	63	KNIGHT
KNOX	62	KNOX
KOME	67	KOMENSKY
KRGO	65	KRAGERO
LACR	68	LA CROSSE
LADY	61	LADYSMITH
LAFA	65	LAFAYETTE (CHIPPEWA CO)
LAFY	67	LAFAYETTE (MONROE)
LAKT	62	LAKE (TOWN-PRICE CO.)
LALA	61	LAKELAND (BARRON)
LAPO	62	LA POINTE
LAWR	61	LAWRENCE
LCLN	66	LINCOLN (BUFFALO CO.)
LCOL	62	LINCOLN (TOWN -BAYFIELD CO.)
LENR	61	LENROOT
LEON	67	LEON (MONROE)
LEVI	64	LEVIS
LFAL	60	LITTLE FALLS (POLK)
LGOG	63	LAKE GOGEBIC

City Code	Div	Community
LHOL	65	LAKE HOLCOMBE
LIMA	66	LIMA
LINC	65	LINCOLN (TOWN -E C COUNTY)
LINL	67	LINCOLN (TREMPEALEAU CO.)
LINW	64	LINWOOD (PORTAGE)
LITB	64	LITTLE BLACK
LITT	67	LITTLE FALLS (MONROE CO.)
LNCL	64	LINCOLN (WOOD)
LNCO	60	LINCOLN (POLK CO.)
LONL	61	LONG LAKE (WASHBURN CO.)
LONW	64	LONGWOOD
LORA	60	LORAINE
LOYA	64	LOYAL (CITY)
LOYT	64	LOYAL (TOWN)
LTOW	60	LAKETOWN (POLK)
LUBL	64	LUBLIN
LUCA	66	LUCAS (DUNN)
LUCK	60	LUCK (VILLAGE)
LUCT	60	LUCK (TOWN)
LUDI	66	LUDINGTON
LYNE	62	LYNNE
LYNN	64	LYNN (CLARK)
MAID	66	MAIDEN ROCK (VILLAGE)
MAIT	66	MAIDEN ROCK (TOWN)
MANC	67	MANCHESTER (JACKSON)
MANI	63	MANITOWISH WATERS
MAPG	61	MAPLE GROVE (BARRON)
MAPP	61	MAPLE PLAIN (BARRON CO)
MARE	62	MARENGO
MARS	61	MARSHALL (RUSK)
MART	66	MARTELL
MASN	62	MASON (VILLAGE - BAYFIELD)
MASO	62	MASON (TOWN-BAYFIELD CO.)
MATC	63	MATCHWOOD
MAYV	64	MAYVILLE (CLARK)
MCKI	60	MCKINLEY
MCMI	63	MCMILLAN
MEDA	68	MEDARY
MEDF	62	MEDFORD (CITY)
MELL	62	MELLEN
MELR	67	MELROSE (VILLAGE)
MELT	67	MELROSE (TOWN)
MELV	67	MELVINA
MENO	66	MENOMONIE (CITY)
MENT	66	MENOMONIE (TOWN)
MERC	63	MERCER
MERR	63	MERRIWEATHER
MFRD	62	MEDFORD (TOWN)
MIDW	68	MIDWAY

City Code	Div	Community
MIKA	61	MIKANA
MILA	64	MILAN
MILT	66	MILTON (BUFFALO)
MIND	67	MINDORO
MNDT	65	MONDOVI (TOWN)
MNTR	67	MENTOR
MODE	66	MODENA
MOND	65	MONDOVI (CITY)
MORS	62	MORSE
MOTA	66	MONTANA
MPLA	60	MAPLE PLAIN (INDIANHEAD DIV)
MREN	63	MARENISCO
MTRL	63	MONTREAL
MURR	62	MURRY
NAME	61	NAMEKAGON
NAPL	65	NAPLES
NEIL	64	NEILLSVILLE
NELS	66	NELSON (VILLAGE)
NELT	66	NELSON (TOWNSHIP -BUFFALO CO)
NEWA	61	NEW AUBURN (VILLAGE)
NEWH	60	NEW HAVEN (DUNN)
NEWR	60	NEW RICHMOND
NORF	67	NORTHFIELD (JACKSON CO)
NORH	60	NORTH HUDSON
NORT	67	NORTH BEND
NREW	60	NORTH RED WING
NWAL	67	NORWALK
NWLY	67	NEW LYME
NYE	60	NYE
OAKG	61	OAK GROVE (BARRON)
ODAN	62	ODANAH
OGEM	62	OGEMA
OKGR	60	OAK GROVE (PIERCE)
OLIV	66	OLIVET
OMA	63	OMA
ONAL	68	ONALASKA (CITY)
ONAT	68	ONALASKA (TOWN)
ORIE	62	ORIENTA
OSCE	60	OSCEOLA (VILLAGE)
OSCT	60	OSCEOLA (TOWN)
OSSE	65	OSSEO (CITY-TREMPEALEAU CO)
OTTE	66	OTTER CREEK (DUNN CO.)
OTTR	65	OTTER CREEK (EAU CLAIRE CO.)
OULU	62	OULU
OWEN	64	OWEN
PARK	62	PARK FALLS
PEEK	62	PEEKSVILLE
PENC	63	PENCE
PEPI	66	PEPIN (VILLAGE)

City Code	Div	Community
PEPT	66	PEPIN (TOWN)
PERU	66	PERU
PHIL	62	PHILLIPS
PICR	67	PINE CREEK
PIGE	67	PIGEON
PIGF	67	PIGEON FALLS
PILS	62	PILSEN
PINE	64	PINE VALLEY
PLEA	60	PLEASANT VALLEY (ST CROIX)
PLES	65	PLEASANT VALLEY (EAU CLAIRE)
PLSN	67	PLEASANT VALLEY (VERNON)
PLUM	66	PLUM CITY
POPP	65	POPPLE LAKE
PORT	67	PORTLAND (MONROE)
POSK	60	POSKIN
PRAI	61	PRAIRIE FARM (VILLAGE)
PRAL	61	PRAIRIE LAKE
PRAT	61	PRAIRIE FARM (TOWN)
PREN	62	PRENTICE (TOWN)
PRES	60	PRESCOTT (PIERCE)
PRNT	62	PRENTICE (VILLAGE)
PRSQ	63	PRESQUE ISLE
PRST	67	PRESTON
PRTW	62	PORT WING
RADI	61	RADISSON
RAMA	63	RAMSAY
RANG	60	RANGE
RCHL	61	RICHLAND (RUSK CO.)
RCHM	60	RICHMOND (ST CROIX)
RDCL	62	RED CLIFF
RDGE	67	RIDGEVILLE
RECL	61	RED CEDAR LAKE
REDC	66	RED CEDAR
REEV	60	REEVE
RESE	64	RESEBURG
RIBL	62	RIB LAKE (TOWN)
RICA	60	RICHARDSON
RICE	61	RICE LAKE (TOWN)
RICF	64	RICHFIELD (WOOD)
RICL	61	RICE LAKE (CITY)
RIDG	61	RIDGELAND
RIET	64	RIETBROCK
RIPL	64	RIPLINGER
RIVR	60	RIVER FALLS
RLAK	62	RIB LAKE (VILLAGE)
ROBE	60	ROBERTS
ROCC	66	ROCK CREEK
ROCE	66	ROCK ELM
ROCL	67	ROCKLAND

City Code	Div	Community
ROOS	64	ROOSEVELT
ROUN	61	ROUND LAKE
RUBY	61	RUBY
RUDO	64	RUDOLPH
RUSH	60	RUSH RIVER
RUSK	66	RUSK
RUSS	62	RUSSELL
SALA	61	SAND LAKE (SAYWER)
SALM	66	SALEM (TOWN - PIERCE)
SANB	62	SANBORN
SAND	61	SAND CREEK (DUNN)
SANL	61	SAND LAKE (BURNETT)
SARO	61	SARONA
SAXO	63	SAXON
SECH	67	SECHLERVILLE
SEEL	61	SEELEYS
SEYM	65	SEYMOUR
SHAN	62	SHANAGOLDEN
SHED	67	SHELDON (MONROE)
SHEL	68	SHELBY (LA CROSSE)
SHLD	61	SHELDON (VILLAGE - RUSK)
SHLL	61	SHELL LAKE
SHRA	63	SHERMAN (IRON)
SHRI	61	SHERIDAN
SHRM	64	SHERMAN (CLARK)
SHRY	64	SHERRY
SICR	61	SIOUX CREEK
SIGA	65	SIGEL
SILB	61	SILVER BAY
SJOE	67	SAINT JOSEPH (LA CROSSE)
SJSH	60	SAINT JOSEPH (ST. CROIX)
SOME	60	SOMERSET (VILLAGE)
SOMO	62	SOMO
SOMT	60	SOMERSET (TOWN)
SOUT	62	SOUTH FORK
SPAR	67	SPARTA (CITY - MONROE)
SPEN	64	SPENCER (VILLAGE)
SPET	64	SPENCER (TOWN)
SPOO	61	SPOONER (CITY - WHOLESALE)
SPOT	61	SPOONER (TOWN)
SPRB	61	SPRINGBROOK (WASHBURN)
SPRF	67	SPRINGFIELD (JACKSON)
SPRI	66	SPRING BROOK (DUNN CO.)
SPRL	60	SPRING LAKE (PIERCE)
SPRV	66	SPRING VALLEY (PIERCE)
SPTT	67	SPARTA (TOWN - MONROE)
SRFI	66	SPRINGFIELD (ST. CROIX)
SRMA	66	SHERMAN (DUNN)
STAF	61	STANFOLD

City Code	Div	Community
STAL	61	STANLEY (TOWN-BARRON CO)
STAN	64	STANLEY (CITY IN CHIPPEWA CO)
STAP	60	STAR PRAIRIE (ST. CROIX CO.)
STAR	60	STAR PRAIRIE (VILLAGE-ST.CRX.)
STCF	60	SAINT CROIX FALLS (CITY)
STCT	60	SAINT CROIX FALLS (TOWN)
STER	67	STERLING (VERNON)
STET	64	STETSONVILLE
STEV	67	STEVENSTOWN
STIN	61	STINNETT
STLA	61	STONE LAKE
STOC	66	STOCKHOLM (VILLAGE - PEPIN)
STOD	68	STODDARD
STON	60	STANTON (ST CROIX)
STOT	66	STOCKHOLM (TOWN - PEPIN)
STRA	64	STRATFORD
STRI	61	STRICKLAND
STRU	65	STRUM
STTN	66	STANTON (DUNN CO)
STUB	61	STUBBS
STVP	67	STEVENS POINT
SUME	65	SUMNER (TREMPEALEAU)
SUMN	61	SUMNER (BARRON)
SWIS	60	SWISS
TAFT	64	TAFT
TAIN	66	TAINTER
TARR	66	TARRANT
TAYL	67	TAYLOR
THON	61	THORNAPPLE
THOR	64	THORP (CITY)
THOT	64	THORP (TOWN)
TIFF	66	TIFFANY
TILD	65	TILDEN
TONY	61	TONY
TREG	61	TREGO
TREM	67	TREMPEALEAU (VILLAGE-WHLSALE)
TREN	60	TRENTON
TREP	67	TREMPEALEAU (TOWN)
TRIM	60	TRIMBELLE
TRIP	62	TRIPP
TROY	60	TROY (ST CROIX)
TRPL	62	TRIPOLI
TURL	60	TURTLE LAKE (TOWN)
TURT	60	TURTLE LAKE (VILL.- BARRON CO)
UBET	60	UBET
UITY	64	UNITY (TOWN IN CLARK CO.)
UNIN	66	UNION (PIERCE CO.)
UNIO	65	UNION (EAU CLAIRE CO.)
UNIY	65	UNITY (TREMPEALEAU CO.)

City Code	Div	Community
UNTY	64	UNITY (VILLAGE-CLARK/MARATHON)
UPSN	63	UPSON
VANC	60	VANCE CREEK
VIRO	67	VIROQUA (CITY)
VIRQ	67	VIROQUA (TOWN)
WAHB	62	WASHBURN (CITY)
WAKE	63	WAKEFIELD (TOWN - GOGEBIC)
WAKF	63	WAKEFIELD (CITY - GOGEBIC)
WAND	60	WANDEROOS
WARN	64	WARNER
WARR	60	WARREN
WASI	65	WASHINGTON (TOWN-EAU CLAIRE)
WATE	66	WATERVILLE (PEPIN)
WAUB	66	WAUBEEK
WAUM	66	WAUMANDEE
WBOR	62	WESTBORO
WEIR	62	WEIRGOR
WELL	67	WELLS (MONROE)
WESO	64	WESTON (CLARK CO.)
WEST	67	WESTBY
WEYE	61	WEYERHAEUSER
WHEA	68	WHEATLAND (VERNON)
WHEE	66	WHEELER
WHIT	62	WHITE RIVER
WHTH	67	WHITEHALL
WHTO	65	WHEATON
WIEN	64	WIEN
WILO	65	WILSON (EAU CLAIRE CO.)
WILS	61	WILSON (DUNN CO.)
WINC	63	WINCHESTER (VILAS)
WITH	64	WITHEE (VILLAGE)
WITT	64	WITHEE (TOWN)
WLLA	61	WILLARD
WLSO	61	WILSON (RUSK CO.)
WNTE	61	WINTER (SAYWER CO.)
WODM	65	WOODMOHR
WOOV	60	WOODVILLE (VILLAGE - ST CROIX)
WORC	62	WORCHESTER
WORD	64	WORDEN
WSHB	62	WASHBURN (TOWN)
WSHI	67	WASHINGTON (LA CROSSE CO.)
WSHT	62	WASHINGTON (RUSK CO.)
WSON	66	WILSON (ST. CROIX CO.)
WSSL	67	WEST SALEM
WSTN	66	WESTON (DUNN CO.)
YORJ	67	YORK (JACKSON CO.)
YORK	64	YORK (CLARK CO.)
TRUE	61	TRUE

PSCW Reliability Information Request of Northern States Power – Wisconsin d/b/a Xcel Energy

PSCW Question #3

Wis. Adm. Code § PSC 113.0604(3)(a) requires NSPW to submit to the Commission an annual report listing the miles of electric distribution line reconstructed during the year, including separate lists for single- and three-phase circuits.

a. Provide a description of how miles of distribution line reconstructed is obtained, recorded, and compiled.
b. Include samples of completed reporting forms, if appropriate.
c. If the data is compiled in electronic form, describe how, when, and by whom the data is entered into that system, and provide a sample of the data in electronic form.

NSPW Response #3

a. Each reconstruction project was entered into our former mainframe design system program (PMS) at the time of design with a project code "ER"- electric reconstruction. The length of conductor installed on the job was entered into the PMS system when each job was designed and adjustments were made when the job was closed to reflect any as-built changes. The actual miles of line reconstructed was not a specific field entered into PMS.

   Since the actual miles of reconstructed line are not explicitly entered into PMS, an estimated number of miles of reconstruction was calculated. In doing so, a query of PMS was performed on conductor lengths for all jobs entered into PMS with project code "ER". The amount of single-phase and three-phase line installed was approximated from these conductor lengths.

b. Attached are copies of two documents that support the calculation including a list of the footages by conductor calculation **(Exhibit 3.b.1)** and a scanned copy of a PMS electric reconstruction design job **(Exhibit 3.b.2)**.

c. The Service Designer enters the information at the time the job is performed and the information is reconciled by the job closer when the job was closed. Information Technology support queries the PMS data for the annual reporting process required by PSC 113.0604(3)(a). Distribution engineering performs the calculations to determine the estimated route miles.

   Since the actual miles of electric distribution line reconstructed is a calculated number, a sample electronic format from PMS does not exist. See the response to 3.b for paper copies of the supporting documentation used in the calculation. Electronic copies of **Exhibit 3.b.1**, and **Exhibit 3.b.2** are included on the attached CD.

Response #3 By: Robert Molde

Title: Principle Specialty Engineer

Response Dated: March 31, 2003

Estimated route miles of reconstructed line in 2001.
Based upon lengths of conductor installed.

Conductor	Stock#	Length-ft	1ph miles	3ph miles
Overhead				
2ACSR	30502	514241	48.70	
*2ACSR-Neutral	30502	-44561	-4.22	
1/0ACSR	30492	1451	0.14	
2/0ACSR	30488	649669		30.76
336ACSR	30466	91479		5.67
336AL	30260	42204		2.66
	Total Overhead		45	39
Undgerground				
#1AL-1PH	34316	63114	11.95	
#1AL-3PH	34318	102118		6.45
	Total Underground		12	6

2ACSR & 1/0ACSR conductor assumed 1ph; length divided by 2
* 44561 feet assumed neutral for 336 ACSR/AL circuits
2/0 ACSR length divided by 4. 336 ACSR & 336AL lengths divided by 3.
#1AL-PH lengths divided by 3

Estimated by Bob Molde

REPORT: P067 PROJECT MANAGEMENT SYSTEM PAGE: 001
PROGRAM: PF110 PROJECT FACER SHEET RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HQ DESC: CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

HDQRTS: 6505 STORE: 6505 DIV/DEPT: 65160 IR: 17046

SRV ADD LAFFAYETTE DR CITY CHIPPEWA FALLS ST WI ZIP 54729

NAME NSP-RURAL LINE REBUILD PHONE - -
MAIL ADD LAFFAYETTE DR CITY CHIPPEWA FALLS ST WI ZIP 54729

(PH) / RURAL LINE REBUILD ALONG SINGLE PHASE LINE LOCATED ON LAFAYETTE DR

D&E PH ZONE D PRIORITY 2 NET A2 MAP 28-8W-13 SYS MAP TAX DISTRICT 88280
TYPE DOX ASSOCIATED PROJECT NONE ENV IMPACT
AMPS PHASE WIRE VOLTAGE DEMAND MFR CODE

ACCTG	EST.	NET	COMPONENTS	EST.	ACT.	ACTUAL-DATES FIRST	LAST
CONST $	12499	12499	LABOR $	7204			
REM $	2362	2362	MATL $	4343			
CSALV $	-1697	-1697	PSALV $	-1697			
CNET $	13164	13164	TRANP $	2537			
MAINT $	111	111	LBRIND $				
OPER $	1108	1108	OH"S $	1996			
TPROJ $	14384	14384	TPROJ $	14383			
MEMO $	506	506	MEMO $	506			
SVCS $			CIA/INT $				
TCOST $	14890	14890	TCOST $	14889			
BAREHRS	96.14		MANHRS	152.24	.00		

MAIN CREW # TYPE LC2 FOREMAN
SET-UP 02/21/00 MATL REQ 03/01/00 LAST C/U 02/23/00 FULL RE-EST 02/23/00
D&E APP __/__/__ 33'S __/__/__ #00 COMPL __/__/__ K-DATE __/__/__

ESTIMATED ANNUAL REVENUE $ 0 EST PLANT RETIREMENT $ 0
BILL 0 AGREEMENT $ 0 AGREEMENT CODE

-----RECOMMENDED/NOTED---------+----LEVEL---------APPROVAL----------DATE--
_____ + 2 _____ __/__/__
_____ +
_____ + _____ __/__/__
_____ +
_____ + _____ __/__/__
CREW COMP CLOSER COMP
_____ __/__/__ _____ __/__/__

REPORT: P068 PROJECT MANAGEMENT SYSTEM PAGE: 001
PROGRAM: PF110 COMPATIBLE UNIT SUMMARY RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG S

DESCRIPTION	ACCOUNT#	PRU	C/U	INST QTY	REMV QTY	$ AMOUNT
ANCHOR-16M POWER SCREW	41.16.09		A16MPSP	2		202.82
BRACKT-1PH.TERM.C.O.ARR.	41.16.09		BFCAP1	2		126.16
10M DOWN GUY-PRIMARY	41.16.09		GD10MF	2		213.64
RACK-1PT.CLEVIS, 3"INSUL	41.16.09		IC3	11		278.53
35" FBRGL STRAIN INSUL	41.16.09		IFG35L	1		27.77
POLE TOP PIN-18" SINGLE	41.16.09		PTP18	11		489.03
POLE YELLOW PINE 35' CL5	41.16.09	035	PY355	7		2,594.74
POLE YELLOW PINE 40' CL4	41.16.09	040	PY404	1		509.12
SPLIT-BOLT ASSEM. 12"ROD	41.16.09		SPLBLT	11		234.29
TRANSF. POLE MOUNT-SMALL	41.16.09		XIPMS	2		30.59
CONDUCTOR,#2/0 ACSR BARE	41.16.11	395	CDSBB	5610		4,013.93
DEADEND CLMP CU #6-1/0	41.16.11		CLPC1/0	1		31.37
DEADEND CLMP AL #4-2/0	41.16.11		CLP2/0	2		39.76
SEC/SERV CONN. SPECIFY	41.16.11		CONN	6		83.93
CUTOUT-100AMP.4 TO 25KV	41.16.11	742	CO151DU	2		297.26
DEADEND ASMBY-UP TO #2/0	41.16.11		DAASC	5		139.77
25KV 1PC DEADEND-POLE	41.16.11		DE25P	5		418.38
GROUND ASSEMBLY-#4 CU.B.	41.16.11		GRM4	11		895.19
INSULATOR-25KV PIN TYPE	41.16.11		IP555	11		234.03
I & R HOISTS OR ROLLERS	41.16.11		IRHR	22		450.93
ARRESTER-15KV TANK MOUNT	41.16.11	743	LA10T	2		163.73
PRI JUMPER,1 HLC,1 CONN	41.16.11		RSRJP2	3		269.63
STIRRUP-#2/0 AL/ACSR	41.16.11		ST2/0	4		90.62
PREF.SGL.TOPTIE-2/0ACS-F	41.16.11		TP5716	11		166.92
SPOOL TIE FOR 2WP ACSR	41.16.11		TP5809	11		92.37
TRANSF.SEC.LEAD-1/0CU.WP	41.16.11		XRSLA	6		273.31
EYENUT ASSMBLY.-5/8"GALV	41.16.41		EYENUT	1		19.97
SERVICE DROP-#2 TRIPLEX	41.16.41	870	SDT2	75		111.21
			TOTAL CONSTRUCTION			12,499.00
REMOVE ANCHOR & ROD	41.16.09		ANCHR		1-	16.23
REMOVE GUY	41.16.09		GUY		1-	19.27
FILL POLE HOLE WITH DIRT	41.16.09		PRFHD		8-	405.20
REMOVE ANY POLE TOP PIN	41.16.09		PTP		11-	33.58
POLE YELLOW PINE 35' CL5	41.16.09	035	PY355		1-	84.10
30FT CLASS 5 POLE	41.16.09	030	P305		6-	504.53
35FT CLASS 5 POLE	41.16.09	035	P355		1-	62.24
RACK REMOVAL-THRU 4POINT	41.16.09		RACK		13-	22.12
CONDUCTOR-#6 COPPERWELD	41.16.11	465	CDA6		5610-	886.49-
REMOVE ANY FUSED CUTOUT	41.16.11	742	COFUSE		2-	14.21
REMVL 15KV D.E. PORC INS	41.16.11		DE2		3-	40.33
REMOVE ANY DRIVEN GROUND	41.16.11		GRM		8-	32.54
PIN TYPE INSULATOR	41.16.11		INSPIN		11-	55.87
REMOVE ANY ARRESTER	41.16.11	743	LARR		2-	14.21
HAND TIE CONDUCTOR	41.16.11		THAND		22-	89.45
REMOVE TRANSF.SEC.LEAD	41.16.11		XRSR		6-	144.46
REMOVE ANY OH SERVICE	41.16.41	870	SERVICE		1-	13.19
			TOTAL REMOVAL EXP.			665.04
TRANSFER PRIMARY CONDUCT	91.42.18		CD1TRH	1		65.85

REPORT: P068 PROJECT MANAGEMENT SYSTEM PAGE: 002
PROGRAM: PF110 COMPATIBLE UNIT SUMMARY RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG S

DESCRIPTION	ACCOUNT#	PRU	C/U	INST QTY	REMV QTY	$ AMOUNT
TRANSFER UP TO 600V COND	91.42.18		CD1TR6	1		25.33
ADJUST GUY	91.42.18		GLOS	1		19.62
			TOTAL MAINTENANCE			110.80
10KVA 7200-120/240V-1B C	91.41.16		X0309	2		101.32
1PH TEMPORARY BRACKET	91.41.19		BTFR1P	11		668.70
INST&REM LINE COVERS	91.41.19		GRDLC	26		237.08
3 7200-120/240V-CNV	91.41.16		X0255		1-	50.67
10KVA 7200-120/240V-1B C	91.41.16		X0309		1-	50.67
			TOTAL OPERATING			1,108.44
10KVA 7200-120/240V-1B C	41.16.31		X0309	2		1,174.62
3 7200-120/240V-CNV	41.16.31		X0255		1-	86.54-
10KVA 7200-120/240V-1B C	41.16.31		X0309		1-	581.85-
			TOTAL MEMO			506.23
			TOTAL COST			14,889.51

REPORT: P071 PROJECT MANAGEMENT SYSTEM PAGE: 001
PROGRAM: PF110 FIELD RECORD RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U		INIT
01	00		8828JJ25							
			REMVL 15KV D.E. PORC INS		0001			DE2		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			25KV 1PC DEADEND-POLE	0001				DE25P		___
			PRI JUMPER,1 HLC,1 CONN	0001				RSRJP2		___
			DEADEND CLMP AL #4-2/0	0001				CLP2/0		___
			DEADEND ASMBY-UP TO #2/0	0001				DAASC		___
			35" FBRGL STRAIN INSUL	0001				IFG35L		___
			ADJUST GUY	0001				GLOS		___
			INST&REM LINE COVERS	0003				GRDLC		___
02	01		8828PP1-1							
			35FT CLASS 5 POLE		0001			P355	*	___
			REMOVE ANY DRIVEN GROUND		0001			GRM		___
		0140	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			FILL POLE HOLE WITH DIRT		0001			PRFHD		___
			POLE YELLOW PINE 40' CL4	0001				PY404	*	___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
		0140	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			INST&REM LINE COVERS	0002				GRDLC		___
03	02		8828PP1							
		0140	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			REMVL 15KV D.E. PORC INS		0001			DE2		___
			REMOVE ANY ARRESTER		C			LARR	*	___

REPORT: P071 PROJECT MANAGEMENT SYSTEM PAGE: 002
PROGRAM: PF110 FIELD RECORD RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U		INIT
			REMOVE ANY FUSED CUTOUT		C			COFUSE	*	___
			10KVA 7200-120/240V-1B C		C			X0309		___
			REMOVE TRANSF.SEC.LEAD		0003			XRSR		___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		___
		0140	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
			BRACKT-1PH.TERM.C.O.ARR.	0001				BFCAP1		___
			SEC/SERV CONN. SPECIFY	0001				CONN		___
			CUTOUT-100AMP.4 TO 25KV	C				CO151DU	*	___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		___
			ARRESTER-15KV TANK MOUNT	C				LA10T	*	___
			CONN 4 CU-CU SPLIT BOLT	0001				036248		___
			CONN-HOT TAP #6-2/0 CU	0001				036404		___
			1/0 CU GROUNDING LUG	0001				100430		___
			10KVA 7200-120/240V-1B C	C				X0309		___
			LINK 26 T 3A BH PRI FUSE	0001				090614		___
			STIRRUP-#2/0 AL/ACSR	0002				ST2/0		___
			TRANSF. POLE MOUNT-SMALL	0001				XIPMS		___
			TRANSF.SEC.LEAD-1/0CU.WP	0003				XRSLA		___
			CONN-HOT TAP #6-2/0 CU	0001				036404		___
			SEC/SERV CONN. SPECIFY	0002				CONN		___
			DEADEND ASMBY-UP TO #2/0	0001				DAASC		___
			25KV 1PC DEADEND-POLE	0001				DE25P		___
			PRI JUMPER,1 HLC,1 CONN	0001				RSRJP2		___
			D.E.CLAMP, #6 CU.-#1/0CU	0001				035520		___
			INST&REM LINE COVERS	0002				GRDLC		___

*SERIAL NUMBER FOR REMOVAL X0309 = 1798057

*SERIAL NUMBER FOR INSTALL X0309 = _____

REPORT: P071 PROJECT MANAGEMENT SYSTEM PAGE: 003
PROGRAM: PF110 FIELD RECORD RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U		INIT
04	03		8828PP2							
		0300	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	____
			POLE YELLOW PINE 35' CL5		0001			PY355	*	____
			REMOVE ANY DRIVEN GROUND		0001			GRM		____
			REMOVE ANY ARRESTER		C			LARR	*	____
			REMOVE ANY FUSED CUTOUT		C			COFUSE	*	____
			3 7200-120/240V-CNV		C			X0255		____
			REMOVE TRANSF.SEC.LEAD		0003			XRSR		____
			REMOVE ANY POLE TOP PIN		0001			PTP		____
			PIN TYPE INSULATOR		0001			INSPIN		____
			HAND TIE CONDUCTOR		0002			THAND		____
			RACK REMOVAL-THRU 4POINT		0001			RACK		____
			FILL POLE HOLE WITH DIRT		0001			PRFHD		____
			POLE YELLOW PINE 35' CL5	0001				PY355	*	____
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		____
			INSULATOR-25KV PIN TYPE	0001				IP555		____
			POLE TOP PIN-18" SINGLE	0001				PTP18		____
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		____
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		____
		0300	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	____
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		____
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		____
			I & R HOISTS OR ROLLERS	0002				IRHR		____
			1PH TEMPORARY BRACKET	0001				BTFR1P		____
			BRACKT-1PH.TERM.C.O.ARR.	0001				BFCAP1		____
			SEC/SERV CONN. SPECIFY	0001				CONN		____
			CUTOUT-100AMP.4 TO 25KV	C				CO151DU	*	____
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		____
			ARRESTER-15KV TANK MOUNT	C				LA10T	*	____
			CONN 4 CU-CU SPLIT BOLT	0001				036248		____
			CONN-HOT TAP #6-2/0 CU	0001				036404		____
			1/0 CU GROUNDING LUG	0001				100430		____
			10KVA 7200-120/240V-1B C	C				X0309		____
			LINK 26 T 3A BH PRI FUSE	0001				090614		____
			STIRRUP-#2/0 AL/ACSR	0001				ST2/0		____
			TRANSF. POLE MOUNT-SMALL	0001				XIPMS		____
			TRANSF.SEC.LEAD-1/0CU.WP	0003				XRSLA		____
			INST&REM LINE COVERS	0002				GRDLC		____

*SERIAL NUMBER FOR REMOVAL X0255 = 8745510

*SERIAL NUMBER FOR INSTALL X0309 = _____

REPORT: P071 PROJECT MANAGEMENT SYSTEM PAGE: 004
PROGRAM: PF110 FIELD RECORD RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U		INIT
04	9000		8828PP2							
			REMOVE ANY OH SERVICE		0001			SERVICE	*	___
		0075	SERVICE DROP-#2 TRIPLEX	0001				SDT2	*	___
			EYENUT ASSMBLY.-5/8"GALV	0001				EYENUT		___
05	04		8828PP3							
		0300	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY DRIVEN GROUND		0001			GRM		___
			30FT CLASS 5 POLE		0001			P305	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			FILL POLE HOLE WITH DIRT		0001			PRFHD		___
			POLE YELLOW PINE 35' CL5	0001				PY355	*	___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
		0300	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			INST&REM LINE COVERS	0002				GRDLC		___

REPORT: P071 PROJECT MANAGEMENT SYSTEM PAGE: 005
PROGRAM: PF110 FIELD RECORD RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U		INIT
06	05		8828PP4							
		0300	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY DRIVEN GROUND		0001			GRM		___
			30FT CLASS 5 POLE		0001			P305	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			FILL POLE HOLE WITH DIRT		0001			PRFHD		___
			POLE YELLOW PINE 35' CL5	0001				PY355	*	___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
		0300	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			INST&REM LINE COVERS	0002				GRDLC		___
07	06		8828PP5							
		0300	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
		0300	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			INST&REM LINE COVERS	0002				GRDLC		___

REPORT: P071 PROJECT MANAGEMENT SYSTEM PAGE: 006
PROGRAM: PF110 FIELD RECORD RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U		INIT
08	07		8828PP6							
		0300	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY DRIVEN GROUND		0001			GRM		___
			30FT CLASS 5 POLE		0001			P305	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			FILL POLE HOLE WITH DIRT		0001			PRFHD		___
			POLE YELLOW PINE 35' CL5	0001				PY355	*	___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
		0300	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			INST&REM LINE COVERS	0002				GRDLC		___
09	08		8828PP7							
		0315	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
		0315	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			INST&REM LINE COVERS	0002				GRDLC		___

REPORT: P071 PROJECT MANAGEMENT SYSTEM PAGE: 007
PROGRAM: PF110 FIELD RECORD RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U		INIT
10	09		8828PP8							
		0310	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY DRIVEN GROUND		0001			GRM		___
			30FT CLASS 5 POLE		0001			P305	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			REMOVE GUY		0001			GUY		___
			REMOVE ANCHOR & ROD		0001			ANCHR		___
			FILL POLE HOLE WITH DIRT		0001			PRFHD		___
			REMVL 15KV D.E. PORC INS		0001			DE2		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			POLE YELLOW PINE 35' CL5	0001				PY355	*	___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
		0310	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			CONN-HOT TAP #6-2/0 CU	0001				036404		___
			SEC/SERV CONN. SPECIFY	0002				CONN		___
			DEADEND ASMBY-UP TO #2/0	0001				DAASC		___
			25KV 1PC DEADEND-POLE	0001				DE25P		___
			PRI JUMPER,1 HLC,1 CONN	0001				RSRJP2		___
			D.E.CLAMP-#4ACSR-2/0ACSR	0001				035437		___
			STIRRUP-#2/0 AL/ACSR	0001				ST2/0		___
			TRANSFER PRIMARY CONDUCT	0001				CD1TRH		___
			TRANSFER UP TO 600V COND	0001				CD1TR6		___
			CONDUCTOR-#4CU.B.SOL.SD*	0010				031249		___
			10M DOWN GUY-PRIMARY	0001				GD10MF		___
			ANCHOR-16M POWER SCREW	0001				A16MPSP		___
			INST&REM LINE COVERS	0003				GRDLC		___

REPORT: P071 PROJECT MANAGEMENT SYSTEM PAGE: 008
PROGRAM: PF110 FIELD RECORD RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U		INIT
11	10		8828PP9							
		0200	CONDUCTOR-#6 COPPERWELD		CN			CDA6	*	___
			REMOVE ANY DRIVEN GROUND		0001			GRM		___
			30FT CLASS 5 POLE		0001			P305	*	___
			REMOVE ANY POLE TOP PIN		0001			PTP		___
			PIN TYPE INSULATOR		0001			INSPIN		___
			HAND TIE CONDUCTOR		0002			THAND		___
			RACK REMOVAL-THRU 4POINT		0001			RACK		___
			FILL POLE HOLE WITH DIRT		0001			PRFHD		___
			POLE YELLOW PINE 35' CL5	0001				PY355	*	___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3		___
			INSULATOR-25KV PIN TYPE	0001				IP555		___
			POLE TOP PIN-18" SINGLE	0001				PTP18		___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT		___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4		___
			I & R HOISTS OR ROLLERS	0002				IRHR		___
			1PH TEMPORARY BRACKET	0001				BTFR1P		___
		0200	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	*	___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716		___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809		___
			INST&REM LINE COVERS	0002				GRDLC		___

REPORT: P071
PROGRAM: PF110

PROJECT MANAGEMENT SYSTEM
FIELD RECORD

PAGE: 009
RUN DATE: 02/22/00

FOR WISC: PLANT ACCOUNTING HDQT: 6505 CHIPPEWA FLS FILE: 474093

PROJECT: WIB0 030 AAV PROJECT CODE: ER - ELEC RECONSTRUCTION (EF,EG,EJ,EK,EL)

SHORT DESC: (PH) / RURAL LINE REBUILD ALONG SINGLE P TAX DIST: 88280

CREW NUMBER: _____ FOREMAN: _____ COMPLETION DATE: __/__/__

POI	TO	DIST	C/U DESCRIPTION	INST	REMV	ATLS	FUNCT	C/U	INIT
12	11		8828PP10						
		0200	CONDUCTOR-#6 COPPERWELD		CN			CDA6	* ___
			REMOVE ANY DRIVEN GROUND		0001			GRM	___
			30FT CLASS 5 POLE		0001			P305	* ___
			REMOVE ANY POLE TOP PIN		0001			PTP	___
			PIN TYPE INSULATOR		0001			INSPIN	___
			HAND TIE CONDUCTOR		0002			THAND	___
			RACK REMOVAL-THRU 4POINT		0001			RACK	___
			FILL POLE HOLE WITH DIRT		0001			PRFHD	___
			POLE YELLOW PINE 35' CL5	0001				PY355	* ___
			RACK-1PT.CLEVIS, 3"INSUL	0001				IC3	___
			INSULATOR-25KV PIN TYPE	0001				IP555	___
			POLE TOP PIN-18" SINGLE	0001				PTP18	___
			SPLIT-BOLT ASSEM. 12"ROD	0001				SPLBLT	___
			GROUND ASSEMBLY-#4 CU.B.	0001				GRM4	___
			I & R HOISTS OR ROLLERS	0002				IRHR	___
			1PH TEMPORARY BRACKET	0001				BTFR1P	___
		0200	CONDUCTOR,#2/0 ACSR BARE	CN				CDSBB	* ___
			PREF.SGL.TOPTIE-2/0ACS-F	0001				TP5716	___
			SPOOL TIE FOR 2WP ACSR	0001				TP5809	___
			25KV 1PC DEADEND-POLE	0002				DE25P	___
			DEADEND ASMBY-UP TO #2/0	0002				DAASC	___
			DEADEND CLMP AL #4-2/0	0001				CLP2/0	___
			DEADEND CLMP CU #6-1/0	0001				CLPC1/0	___
			10M DOWN GUY-PRIMARY	0001				GD10MF	___
			ANCHOR-16M POWER SCREW	0001				A16MPSP	___
			CONDUCTOR-#4CU.B.SOL.SD*	0010				031249	___
			INST&REM LINE COVERS	0002				GRDLC	___

PSCW Reliability Information Request of Northern States Power – Wisconsin d/b/a Xcel Energy

PSCW Question #4

Wis. Adm. Code § PSC 113.0604(3)(b) requires NSPW to submit to the Commission an annual report listing total route miles of electric distribution line in service at year's end, segregated by voltage level.

a. Provide a description of how route miles of electric distribution line is obtained, recorded, and compiled.

NSPW Response #4

a. The total route miles by service voltage of electric distribution lines in service at year's end are estimated numbers. The total distribution miles from our FERC Form 1 filing is segregated into the estimated number of miles by voltage by the engineering department using maps and engineering judgement.

Response #4 By: Robert Molde

Title: Principle Specialty Engineer

Response Dated: March 31, 2003

PSCW Reliability Information Request of Northern States Power – Wisconsin d/b/a Xcel Energy

PSCW Question #5

Wis. Adm. Code § PSC 113.0604(3)(c) requires NSPW to submit to the Commission an annual report listing the average speed of answer, as defined in s. PSC 113.0503(1)(b), for telephone calls received regarding emergencies, outages and customer billing problems.

a. Provide a description of how average speed of answer data is obtained, recorded, and compiled.
b. Include samples of completed reporting forms, if appropriate.
c. If the data is compiled in electronic form, describe how, when, and by whom the data is entered into that system, and provide a sample of the data in electronic form.

NSPW Response #5

a. Average Speed of Answer (ASA) data is obtained from the Avaya phone switch using the reporting tool Avaya CentreVu. Wisconsin callers are recognized by the phone switch and are recorded as a certain call type via a Vector Directional Number (VDN). Call volume reports are generated daily in Avaya CentreVu based on these VDNs and are recorded in a MS Excel spreadsheet. Daily ASA data is weighted by handled call volume and monthly/annual ASA is obtained. An Analyst from Customer Care Resource Management compiles this data Monday-Friday mornings for the previous day. On Monday mornings, the data for Friday through Sunday is reported.

b. A sample of the spreadsheet of the calls handled in January 2003 is attached as **Exhibit 5.b.1.**

c. See above responses to 5a and 5b. An electronic sample of **Exhibit 5.b.1** is found on the attached CD as file **Exhibit 5.b.1.**

Response #5 By: Adam Burnoski

Title: Manager, Resource Management Customer Call Center

Response Dated: March 31, 2003

Xcel Energy
January 2003 Wisconsin Average Speed of Answer

		Wisconsin					
		Centre Pointe Call Center		Sky Park Call Center		Combined Call Centers	
Day	Date	Handled	ASA	Handled	ASA	Handled	ASA
Wednesday	1/1/2003	0		103	106	103	106
Thursday	1/2/2003	0		927	110	927	110
Friday	1/3/2003	0		899	43	899	43
Saturday	1/4/2003	1	565	289	46	290	48
Sunday	1/5/2003	0		141	28	141	28
Monday	1/6/2003	0		1095	48	1095	48
Tuesday	1/7/2003	0		813	19	813	19
Wednesday	1/8/2003	0		882	15	882	15
Thursday	1/9/2003	0		856	26	856	26
Friday	1/10/2003	0		906	40	906	40
Saturday	1/11/2003	0		244	67	244	67
Sunday	1/12/2003	0		149	102	149	102
Monday	1/13/2003	0		1193	13	1193	13
Tuesday	1/14/2003	0		880	13	880	13
Wednesday	1/15/2003	0		875	23	875	23
Thursday	1/16/2003	0		919	13	919	13
Friday	1/17/2003	0		917	24	917	24
Saturday	1/18/2003	1	0	247	7	248	7
Sunday	1/19/2003	0		149	10	149	10
Monday	1/20/2003	0		1032	4	1032	4
Tuesday	1/21/2003	0		898	41	898	41
Wednesday	1/22/2003	0		983	40	983	40
Thursday	1/23/2003	0		937	18	937	18
Friday	1/24/2003	0		824	50	824	50
Saturday	1/25/2003	0		297	25	297	25
Sunday	1/26/2003	0		154	35	154	35
Monday	1/27/2003	0		1153	18	1153	18
Tuesday	1/28/2003	1	131	927	17	928	17
Wednesday	1/29/2003	0		880	19	880	19
Thursday	1/30/2003	0		953	24	953	24
Friday	1/31/2003	0		1036	60	1036	60
Month Sum		**3**		**22558**		**22561**	**32**

VDNs:

SP WI 0095;0114;0200;0667;39048;59065;59069;59070;39049;59066;59067;59068;0771;39050;39057;39080;39086;39074

CP WI 68065;68069;68070;68081;69043;68066;68067;68068;69044;69045;69057

PSCW Reliability Information Request of
Northern States Power – Wisconsin
d/b/a Xcel Energy

PSCW Question #6

Wis. Adm. Code § PSC 113.0604(3)(d) requires NSPW to submit to the Commission an annual report of the average number of calendar days required to install and energize service to a customer site once it is ready to receive service.

a. Provide a description of how this data is obtained, recorded, and compiled.
b. Include samples of completed reporting forms, if appropriate.
c. If the data is compiled in electronic form, describe how, when, and by whom the data is entered into that system, and provide a sample of the data in electronic form.

NSPW Response #6

a. The measurement and tracking of the average number of calendar days required to energize a service is calculated based on the difference between two critical dates: the customer "ready date", which is the mutually agreed to installation date between the customer and the designer assuming all electrical inspections, payments and on-site grading is complete, and the date the Xcel Energy crew installs and energizes service.

While there have been a couple of system and new service connection process changes the past couple of years, the overall process described below reflects how the data is obtained, recorded and compiled.

The process originates by a customer/contractor calling the Builders Call Line (BCL) and requesting new service. A Service Connection Associate receives the request (via phone, fax or email) and takes the necessary information from the customer and enters the information into the service connection system. Once the data is collected and entered into the system, the information is transferred electronically to a service designer (Service Connection Coordinator) who designs the service, estimates labor, materials, costs, etc.. During the design process, the Service Connection Coordinator contacts the customer who requested service verifying information and updating the "ready date" that customer will have the site ready and available to receive service. Locates are scheduled when all required steps are complete, including affidavits and site grading, and the request for service is then "converted" into a work order and scheduled for installation. The Service Connection Coordinator then assembles a job packet including application, maps material list, and permits, and sends service packet with work order to the construction crews for installation. The construction crews then install the service and return the completed paperwork from the service packet to the Service Connection Coordinator, who enters the data into the work management system, including actual footage installed, date installed, meter information etc…

In determining the average days to energize service, a query is then run on the customer ready date versus the actual installation date for all new services.

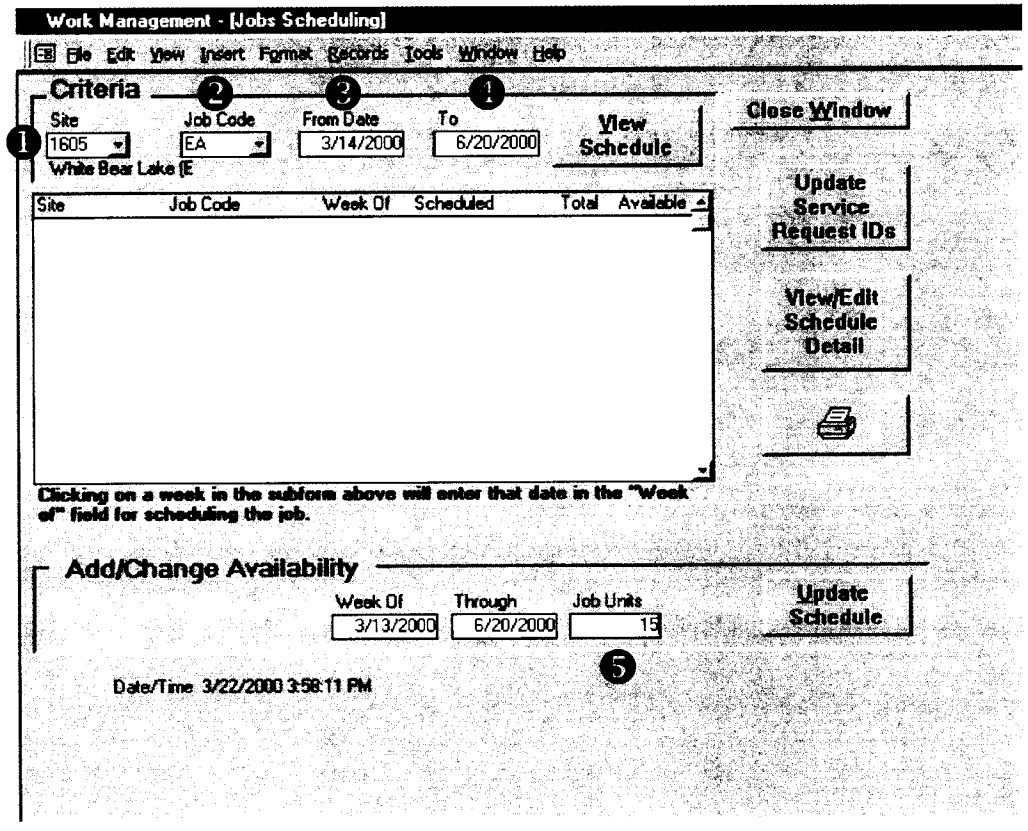
b. Attached as **Exhibit 6.b.1** is a copy of 5 print screens of the Work Management System (Job Scheduling). **Exhibit 6.b.2** contains a summary by month of the 2001 average days to energize service.

c. See the above response to 6a for the process of how, when an by whom the data is entered into the system. As an electronic example, **Exhibit 6.c.1** on the attached CD contains the information used to calculate the average number of calendar days required to install and energize service to a customer site once it is ready to receive service in 2000.

Response #6 By: Mary Jane Vaughn

Title: Manager, Distribution Service Connections

Response Dated: March 31, 2003



1. Enter the site to add availability to.
2. Enter Job Code: EA (elec. service) GA (gas service) ET (elec. joint trench srevice) GT (gas joint trench)
3. Enter From Date: the date you want to start adding availability to .
4. Enter To: the furthest date you want to add availability.
5. Enter the Job Units: the number of "Fast Path" service installations that can be complete within a week.

Note: You must add availability for each Job Code to be scheduled.

Process Detail - Adding Availability to Schedule

Work Management - [Jobs Scheduling]

File Edit View Insert Format Records Tools Window Help

Criteria

Site: 1605 — White Bear Lake (E

Job Code: EA

From Date: 3/14/2000

To: 6/20/2000

View Schedule

Close Window

Update Service Request IDs

View/Edit Schedule Detail

Site	Job Code	Week Of	Scheduled	Total	Available
1605	EA	3/20/2000		15.0	15.0
1605	EA	3/27/2000		15.0	15.0
1605	EA	4/3/2000		15.0	15.0
1605	EA	4/10/2000		15.0	15.0
1605	EA	4/17/2000		15.0	15.0
1605	EA	4/24/2000		15.0	15.0
1605	EA	5/1/2000		15.0	15.0
1605	EA	5/8/2000		15.0	15.0
1605	EA	5/15/2000		15.0	15.0
1605	EA	5/22/2000		15.0	15.0
1605	EA	5/29/2000		15.0	15.0

2

Clicking on a week in the subform above will enter that date in the "Week of" field for scheduling the job.

Add/Change Availability

Week Of:

Through: 3/20/2000

Job Units: 15.0

Update Schedule

1

Date/Time 3/22/2000 3:58:11 PM

1. Click on Update Schedule button.
2. Table will update with availability.

Process Detail - Adding Availability to Schedule

Work Management - [Jobs Scheduling]

File Edit View Insert Format Records Tools Window Help

Criteria

Site: 1605 — While Bear Lake (E

Job Code: EA

From Date: 3/27/2000

To: 4/15/2000

View Schedule

Close Window

Update Service Request IDs

View/Edit Schedule Detail

Site	Job Code	Week Of	Scheduled	Total	Available
1605	EA	3/27/2000		15.0	15.0
1605	EA	4/3/2000		15.0	15.0
1605	EA	4/10/2000		15.0	15.0

Clicking on a week in the subform above will enter that date in the "Week of" field for scheduling the job.

Schedule Job

Job Duration: Standard

Serv Req #:

Week Of: 3/27/2000

Update Schedule

Date/Time 3/22/2000 4:01:18 PM

1. Enter the Site to schedule installation from.
2. Enter the job code EA(elec. service) GA (gas service) ET (elec. joint trench) GT (gas joint trench)
3. Enter the From Date: the date you want to begin searching for availability.
4. Enter the To: the furthest date out you want to check for availability.
5. Click on View Schedule.
6. The table will display the availability.

Process Detail - Scheduling a Fast Path Service

Work Management - [Jobs Scheduling]

File Edit View Insert Format Records Tools Window Help

Criteria

Site	Job Code	From Date	To
1605	EA	3/27/2000	4/15/2000

White Bear Lake (E

View Schedule

Close Window

Site	Job Code	Week Of	Scheduled	Total	Available
1605	EA	3/27/2000		15.0	15.0
1605	EA	❶ 4/ 3/2000		15.0	15.0
1605	EA	4/10/2000		15.0	15.0

Update Service Request IDs

View/Edit Schedule Detail

Clicking on a week in the subform above will enter that date in the "Week of" field for scheduling the job.

Schedule Job

Job Duration	Serv Req #	Week Of ❷
Standard	~658	4/3/2000

❸

Date/Time 3/22/2000 4:01:18 PM

Update Schedule ❹

1. Click your cursor on the date of the week you want to schedule the service.
2. That date will appear below in the "week of" field.
3. In the Serv Req# field enter a ~ followed by the ServConn application number. Ex: ~658
4. Click update schedule.

Process Detail - Scheduling a Fast Path Service

Work Management - [Jobs Scheduling]

File Edit View Insert Format Records Tools Window Help

Criteria

Site: 1605 — White Bear Lake (E
Job Code: EA
From Date: 3/27/2000
To: 4/15/2000

View Schedule

Close Window

Site	Job Code	Week Of	Scheduled	Total	Available
1605	EA	3/27/2000		15.0	15.0
1605	EA	4/3/2000	1 1.0	15.0	14.0
1605	EA	4/10/2000		15.0	15.0

Update Service Request IDs

View/Edit Schedule Detail

Clicking on a week in the subform above will enter that date in the "Week of" field for scheduling the job.

Schedule Job

Job Duration: Standard
Serv Req #:
Week Of:

Update Schedule

Date/Time 3/22/2000 4:01:18 PM

1. The table updates with the scheduled job.

Wisconsin Services for 2001

Energize Date	Serv Connections	Days to Energize	Avg Days to Energize
1/2001	150	1,863	12.42
2/2001	73	1,190	16.30
3/2001	71	643	9.06
4/2001	80	527	6.59
5/2001	260	1,399	5.38
6/2001	268	1,193	4.45
7/2001	494	1,912	3.87
8/2001	335	1,653	4.93
9/2001	310	2,046	6.60
10/2001	404	2,180	5.40
11/2001	441	3,579	8.12
12/2001	471	2,579	5.48
	3,357	20,764	6.19

PSCW Reliability Information Request of Northern States Power – Wisconsin d/b/a Xcel Energy

PSCW Question #7

Wis. Adm. Code § PSC 113.0604(3)(e) requires NSPW to submit to the Commission an annual report listing the total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage and other areas, by month filed.

a. Provide a description of how this data is obtained, recorded, and compiled. Include samples of completed reporting forms, if appropriate.
b. If the data is compiled in electronic form, describe how, when, and by whom the data is entered into that system, and provide a sample of the data in electronic form.

NSPW Response #7

a. The process for resolving customer complaints originates from the Customer Advocacy Department within Xcel Energy receiving a phone call or email from the Public Service Commission of Wisconsin (PSCW) consumer complaint staff informing us of said complaint. The information provided is then entered into a database and is noted on the customer's account in CSS (Customer Service System) under contacts. The Advocacy Staff at Xcel Energy prioritizes "incoming" complaints and contacts the customer and the necessary departments within Xcel Energy, i.e. credit and collections, engineering, daily operations, etc., to understand the issue and help determine a course of action. Once the necessary action items are determined, the customer is notified of the course of action and a response is sent via email to PSCW for documentation and to "close" complaint.

   Attached as **Exhibit 7.a.1** and **Exhibit 7.a.2** are examples of two complete complaints - from notification from the PSCW to Xcel Energy, to "complaint closing" notification from Xcel Energy to the PSCW.

b. See above response to 7a for the process explanation of how, when and whom enters the data into the Access database and **Exhibit 7.a.1** and **Exhibit 7.a.2** for examples. File **Exhibit 7.c.1** on the attached CD contains an electronic copy of the database for calendar year 2001.

Response #7 By:	Mary Heimstead
Title:	Manager, Organizational Information
Response Dated:	March 23, 2003

4220-6151

Exh. 7.a.1 ~ 7 pages

Mary Louise Manny
9742 Highway Q
Chippewa Falls, WI, 54729 - 6105
(715) 723-5511

RECEIVED
AUG 07 2002
DIV. OF WATER, COMPLIANCE AND CONSUMER AFFAIRS

August 1 2001

Xcel Energy
P.O. Box 9477
Mpls. Mn. 55484-9477

Dear Sirs:

I believe your agency should be investigated for it's business practices and you're billing. In April, May, I paid my bill. In June I also paid what you requested. July comes around and I pay my bill. In July my bill is $82.50 I send a check for to you for $150.00 on 7/5/02 check number 3992 which leaves a credit of $67.50.
But what do I receive in the mail on 8/6/02 from you I receive a disconnection notice date due 8/7/02 of $222.85. With no explanation you threaten to disconnect. I call and am told you made a mistake. I have seen no evidence of a mistake.
You have the nerve to make these threats with no explanation for this. If you made a mistake it is yours and not mines.
You are tyrants in this industry and should be investigated by the proper authority's you believe you can do anything you please with no answering to anybody this must be stopped.
People should ban together and file a mass lawsuit against business like you.

Mary Louise Manny

Mary Louise Manny

Jaede, Wendy L

From: Jaede, Wendy L
Sent: Tuesday, August 27, 2002 1:29 PM
To: 'joyce.rosenkranz@psc.state.wi.us'
Subject: FW: MARY LOUISE MANNY COMPLAINT -

-----Original Message-----
From: Rosenkranz, Joyce PSC [mailto:Joyce.Rosenkranz@psc.state.wi.us]
Sent: Thursday, August 15, 2002 10:07 AM
To: Jaede, Wendy L
Subject: MARY LOUISE MANNY COMPLAINT - PSCW

COMPLAINT NUMBER: 61516

Utility: (4220) NORTHERN STATES POWER COMPANY (WIS)

RESIDENTIAL CUSTOMER

MS MARY LOUISE MANNY

MAILING ADDRESS:
9742 CTY HWY Q
CHIPPEWA FALLS, WI 547296105

PRIMARY PHONE: (715) 723-5511

NARRATIVE:

8/14/2002 HAKES, BUCK

Written complaint received (see PDF).

8/15/2002 ROSENKRANZ, JOYCE

Please investigate and respond, Thanks

UPDATE - 8/19/02

- Called customer 8/15 - left message with adult to return my call.
- Called customer 8/16 - tried calling twice in the afternoon. There was no answer and no voicemail message was left.

- Sent contact letter to customer on 8/19 and gave them 1 week to respond (asked customer to contact me by Monday, August 26, 2002).
- I've attached a copy of the letter & itemized statement that was sent to the customer.
- Problem occurred when a payment of $302.64 had posted to this customer's account, in error. Once Xcel Energy was aware of this error, the account was debited and credited to the correct account.
- Customer's billing and account balance does not match what she has in her letter.
- Will wait for the customer's response.

Wendy Jaede

UPDATE - 8/27/02

- Sent letter/itemized statement & asked cust to respond by 8/26 - no response.
- Payment of $302.64 posted to this cust acct in error.
- I apologized for the confusion & not being given an explanation for mis-posted payment.
- Disc notice due to cust balance owing on acct.
- Closed, due to no response to my letter of 8/19/02.

Closed, pending your approval.

Wendy Jaede
Customer Advocate
Xcel Energy

Xcel Energy Customer Complaint Information

ID 19281

Received By	Source	Contact	Contact ID	Analyzed By
Wendy Jaede	Commission	Joyce Rosenkranz	81516	Wendy Jaede

Customer Information

First Name	Last Name	Account ID	Phone Number
Mary Louise	Manny	2442447825	(715) 723-5511

Address: 9742 County Highway Q

City	State	Zip	Division	Service Type	Customer Type
Chippewa Falls	WI	54729	05	Electric	Residential

Relevant Information

Resolved

Received	8/15/2002
First Contacted	8/15/2002
14 Day Contact	
Completed	8/26/2002
Response Time	11

MN Action:

CO Noncompliance: ☐

Complaint Details

Inquiry Code and Complaint Type: S. O. Notice-Argmts. Requested/Refused

Did customer contact company before filing complaint? Not Justified

Source Information: Details of Original Complaint

Billing & payment posting concerns

10 Day Response

Misc Remarks or Other Information About Complaint

Concern w/mis-posted payment of $302.64 & balance on acct.

8/15 - called customer & message to return my call. 8/16 - called twice & unable to leave vm message. 8/19 - sent contact letter/itemized statement to customer & asked cust to respond by 8/26. In the letter, explained mis-posted payment & itemized statement showing acct balance. Cust

Action Taken to Resolve Complaint

Sent letter/itemized statement & asked cust to respond by 8/26 - no response. Payment of $302.64 posted to this cust acct in error. I apologized for the confusion & not being given an explanation for mis-posted payment. Disc notice due to cust balance owing on acct

Amount Adjusted

Account [244244/825] - View Customer Detail

File Help

Contact Type: General Contact

Subtype: Customer Advocate

Genl Contact Rsn: Billing

Description: Customer Advocate/PSC

Source: Customer

Media Type: Telephone

Credit Contact

☐ Suspend Credit Scoring

☐ Suspend LNP Activity

Update Date: __/__/__

Updated By:

Date: 08/27/02

User ID: HRNE03

Remarks Entry:

Remarks:

Cust Adv/PSC Complaint - disc notice. Called Mary Louise on 8/16 & left message to return my call. 8/16 - called twice but unable to leave vm message. 8/19 - sent contact ltr & itemized statement. Expind payment of $302.64 posted to cust acct in error. Once error w/found, it was debited from this acct & credited to the correct acct. I apologized for the confusion/not being given an

Process Cancel

03/14/2003 13:22:53

MANNY,PATRICK.J

9742 COUNTY HIGHWAY Q

CHIPPEWA FLS, WI 54729-6105

Xcel Energy℠

3115 Centre Pointe Drive
Saint Paul, Minnesota 55113-1132

August 19, 2002

Mary Louise Manny
9742 County Highway Q
Chippewa Falls, WI 54729

Re: Disconnection Notice/Payment Posting Concerns

Dear Mr. Amos:

The Public Service Commission of Wisconsin (PSCW) has referred your concern, regarding the disconnection notice you received after a payment had mis-posted to your account, to me for investigation and response.

I would like to provide you with the assistance needed to resolve your concerns but have not been able to contact you by telephone.

I have enclosed an itemized statement of your account, for your review, starting in December 12, 2001. A payment of $302.64 had posted to your account, in error. Once this error was found, we properly credited the correct account and debited your account. I apologize that you were not given an explanation for the mis-posted payment and for the confusion this matter caused.

Please call be by Monday, August 26, 2002, at the number listed below. If I do not hear from you by that date, the PSCW will be notified so they may close your file.

Sincerely,

Wendy Jaede

Wendy Jaede
Customer Operations Analyst
Xcel Energy
1-800-895-4999, X639-4513

cc: Public Service Commission of Wisconsin

CUSTOMER Patrick Manny
ADDRESS: 9742 County Highway Q
ACCOUNT: 2442447825
Disputed Charges:

DATE	GAS/ELEC CHARGES	OTHER CHARGES	PAYMENTS	CANCELED BILLS	BALANCE	
12/12/2001					($40.91)	
12/18/2001	$234.12				$193.21	
1/8/2002			$150.00		$43.21	
1/21/2002		$0.43			$43.64	Late Payment Charge
1/23/2002	$358.71				$402.35	
2/5/2002			$150.00		$252.35	
2/21/2002		$2.52			$254.87	Late Payment Charge
2/21/2002	$272.55				$527.42	
3/6/2002			$150.00		$377.42	
3/22/2002		$3.77			$381.19	Late Payment Charge
3/22/2002	$297.86				$679.05	
4/15/2002			$200.00		$479.05	
4/24/2002	$232.47				$711.52	
5/2/2002			$200.00		$511.52	
5/2/2002			$200.00		$311.52	
5/2/2002			$302.64		$8.88	
5/16/2002			$200.00		($191.12)	
5/24/2002	$196.58				$5.46	
6/13/2002			$100.00		($94.54)	
6/26/2002	$164.75				$70.21	
7/5/2002		$302.64			$372.85	Transfer Misposted Payment
7/11/2002			$150.00		$222.85	
7/26/2002		$2.22			$225.07	
7/29/2002	$148.53				$373.60	
8/12/2002			$100.00		$273.60	

Jaede, Wendy L

From: Midelfort, Tracy PSC [Tracy.Midelfort@psc.state.wi.us]
Sent: Monday, May 20, 2002 5:03 PM
To: Jaede, Wendy L
Subject: STEVEN HOVELL COMPLAINT - PSCW

COMPLAINT NUMBER: 59120

Utility: (4220) NORTHERN STATES POWER COMPANY (WIS)

RESIDENTIAL CUSTOMER

MR STEVEN HOVELL SR

MAILING ADDRESS:
20133 W RIDGE AVE
GALESVILLE, WI 54630

PRIMARY PHONE: (608) 582-2633
SECONDARY/WORK PHONE: (608) 797-4595

NARRATIVE:

5/20/2002 MIDELFORT, TRACY

Customer called regarding dc notice for $215.98 due by 5/22. Customer stated he made 2 payments during the heating season. Customer stated he can pay the entire amount of $215.98 on 5/23 but was told if full payment is not made by 5/22 service will be dc. Customer is asking for a one day extension on the entire balance.

5/20/2002 MIDELFORT, TRACY

Xcel: Was a dpa offered? Is a one day extension possible? Please investigate and respond to the customer and to me.

Jaede, Wendy L

To: Midelfort, Tracy PSC
Subject: RE: STEVEN HOVELL COMPLAINT - PSCW

5/21/02

I reviewed the account and then called Mr. Hovell.

Since 1998, Mr. Hovell has had 9 disconnect notices, 4 broken pay arrangements and made only 2 payments in 2002, 3 payments in 2001, 4 payments in 2000 and 7 payments in 1998. Mr. Hovell was sent a disconnect notice on 5/9 for $215.98, which was his March & April bills. Credit didn't offer him a payment arrangement based on his credit history.

I did speak with Mr. Hovell and asked why he needed the extra 2 day extension and he said it was due to payroll timing. He offered to call in on 5/23/02 and do a cbp payment of $215.98, which I agreed to. I explained I will set up the arrangement as long as he pays the bill on the 23rd AND if he agrees to pay his May bill, which is due on 5/30/02, which he agreed to do.

Closed, pending your approval.

Wendy Jaede
Customer Advocate
Xcel Energy

Xcel Energy Customer Complaint Information

ID: 18239

Received By	Source	Contact	Contact ID	Analyzed By
Wendy Jaede	Commission	Tracy Midelfort	49120	Wendy Jaede

Customer Information

First Name	Last Name	Account ID	Phone Number
Steve	Hovell	1031162009	(608) 797-4595

Address: 20133 West Ridge Ave

City	State	Zip	Division	Service Type	Customer Type
Galesville	WI	54630	07	Electric	Residential

Relevant Information

Received	5/21/2002
First Contacted	
14 Day Contact	
Completed	5/21/2002
Response Time	0

Resolved

MN Action:

CO Noncompliance: ☐

Complaint Details

Inquiry Code and Complaint Type: S. O. Notice-Argmts. Requested/Refused

Did customer contact company before filing complaint?:

Source Information: Details of Original Complaint

Disc notice rec'd for $215.98 & extension refused

10 Day Response

Misc Remarks or Other Information About Complaint

Spk w/customer re disc notice for $215.98. I asked him why he needs extension until 5/23 & he said payroll timing. Said he will pay $215.98 on 5/23 (will call in & do cbp) & remaining balance of $98.49 by 5/30. Informed Steven Credit was being as strict as it was due to the history on the account (payment history, number of disc notices sent & broken pay arrangements) but will offer him this extension until 5/23 but he needs to understand he needs to keep this arrangement.

Action Taken to Resolve Complaint

Cust to pay $215.98 on 5/23 (cbp) & remaining balance (current bill due 5/30) of $98.49.

Amount Adjusted:

Account [1031162003] View Customer Detail

File Help

Contact Type: General Contact

Subtype: Customer Advocate

Genl Contact Rsn: Billing

Description: Customer Advocate

Source: Customer

Media Type: Telephone

Credit Contact

☐ Suspend Credit Scoring

☐ Suspend LNP activity

Update Date. __/__/__

Updated By.

Date: 06/05/02

User ID: HRNE03

Remarks Entry:

Remarks:

Spk w/Steve on 6/4 & he said wife sent in payment either 6/3 or 6/4. - WENDY L JAEDE 651 639-4513 06/05/2002 07:31:25.

Process Cancel

03/14/2003 13:33:57

HOVELL,STEVEN.L.SR

20133 W RIDGE AVE

GALESVILLE, WI 54630-8035

PSCW Reliability Information Request of Northern States Power – Wisconsin d/b/a Xcel Energy

PSCW Question #8

Wis. Adm. Code § PSC 113.0604(3)(f) requires NSPW to submit to the Commission an annual report of total annual tree trimming budget and actual expenses.

a. Provide a description of how this cost data is accumulated, recorded, and compiled.
b. Whether the cost data is accumulated in NSPW's work order or other cost accounting system.
c. Describe how the data is designated as and distinguished from other non-tree trimming related costs.

NSPW Response #8

a. An overview of the process for accumulating, recording, and compiling tree trimming cost data is found below:

- Contract crews kept track of labor and equipment hours on field time sheets.
- Contract foremen entered weekly labor and equipment data into Vegetation Management's information system called FLICS, or Forestry and Line Clearance System.
- Contractor prepares weekly invoice from field time sheets.
- Vegetation Management verifies invoices against data in FLICS
- Vegetation Management processes payments in Accounts Payable module of Xcel Energy's business processes software (Orcom in 2000 and Passport since 2001). Accounting codes are included on invoices to charge to a Wisconsin department number and split between distribution line expenses and transmission line expenses.
- Xcel Energy's general ledger, JD Edwards, accumulates and reports charges monthly, year-to-date, and annually.

b. See the last two bullets in Response #8a. Also, attached as **Exhibit 8.b.1, Exhibit 8.b.2, and Exhibit 8.b.3,** are three documents that help explain the tree trimming process, accounting, and example forms used.

- **Exhibit 8.b.1** is an overview of how our contractor labor & equipment tracking software works.
- **Exhibit 8.b.2** is the field timesheet contractors used to capture the labor, equipment, and work activities, which are entered into FLICS.
- **Exhibit 8.b.3** is the listing of work categories the contractors collected on the timesheets. Please note Work Type 60 is for miles. The contractor entered this work type and the number of miles completed for each week.

c. All costs related to tree trimming are distinguished from non-tree trimming costs by being incurred by or processed through the Vegetation Management department - whose sole purpose is to oversee tree trimming.

Response #8 By: Randy Davis

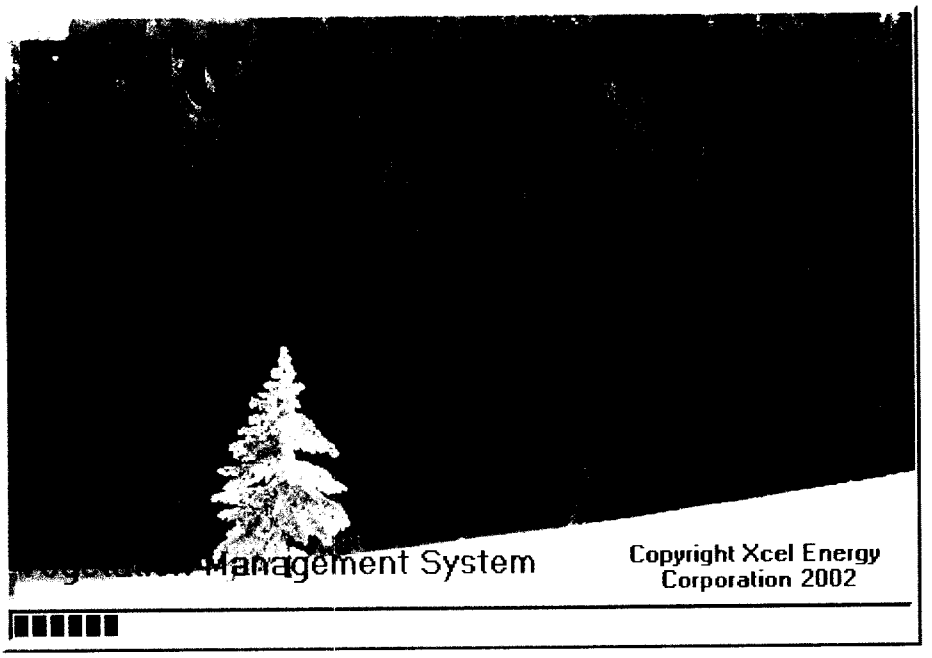
Title: Supervisor, Vegetation Management

Response Dated: March 31, 2003

Forestry and Line Clearance System Presentation

Newport, MN

January 15th, 2002



Business Overview:

The FLICS application is utilized in a variety of ways, as provides services for many tasks. FLICS encompasses the management and organization of all the Vegetation Management (north) customer requests, circuit history and trimming information, as well as contractor time entry. FLICS can assign work orders, manage resources, run scorecards and reports, and plan for trim cycles.

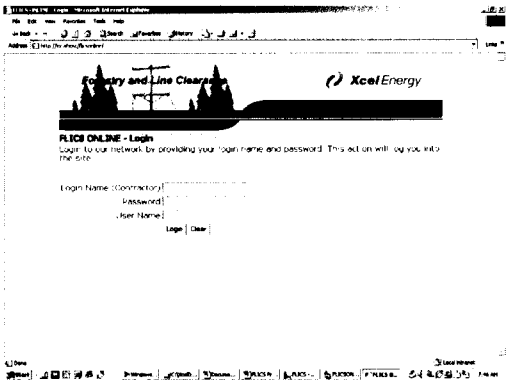
This application was initially developed to meet the needs of tree trimming department for three main reasons.

1. The then-present MS Access database was too small to hold the desired customer request information.
2. The then-present IVR time reporting system did not work as expected, as it was difficult to use and summary reporting was limited.
3. The department had the desire to have all their needs met by one tool that could make master reports which reference multiple tables across a variety of work topics.

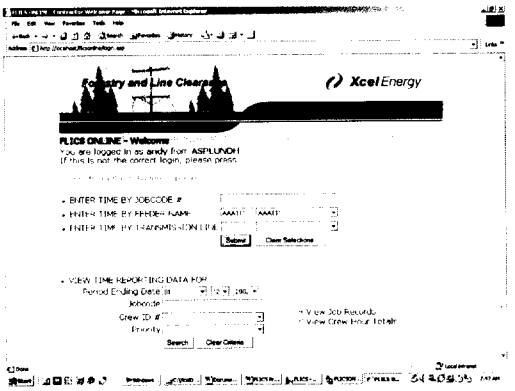
Technical Overview:

FLICS is a Client-Server application developed entirely under the Microsoft Visual Basic 6.0 platform. It utilizes Microsoft SQL Server 7.0 as it data source and Microsoft Active Data Object Library (ADO) as it data access library via ODBC. The application consists of a single executable file (FLICS.EXE), an Active X DLL (DataExtractionWizard.DLL), and requires a number of support files in the way of an INI file, and XML file, and the OCX files for the one third party control utilized by the application. It's located on multiple servers with over 50 users across XCEL North. The database contains 53 tables, 50+ Views, and a similar number of stored procedures.

FLICS ONLINE TIME REPORTING

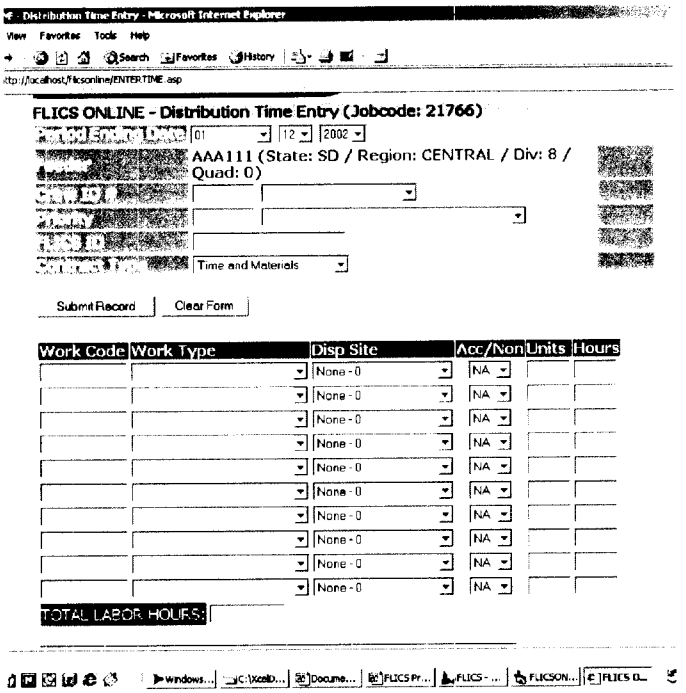


This is the initial login page for FLICS ONLINE.



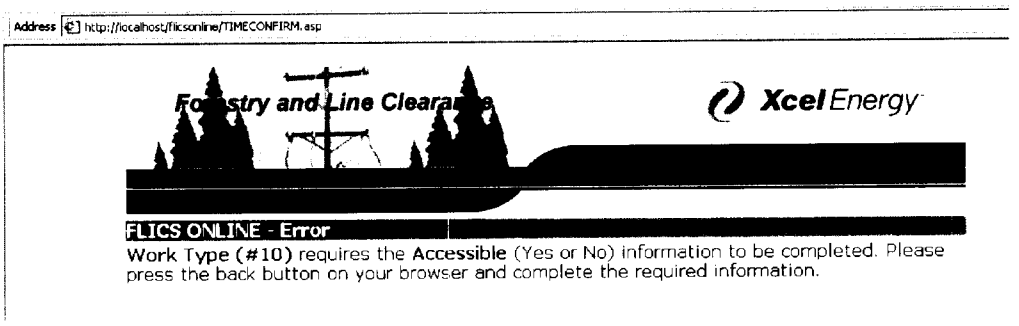
After a successful login the contractor has the option to either VIEW TIME REPORTING DATA based on Period End Date, Job Code, Crew ID, or Priority.

In addition, this is where the contractor will enter time reporting data. We will look at this first.



Here is a typical screen shot for distribution time entry. Once the contractor fills out the proper fields they will submit this record. Some validation will be made. If it fails the contractor will see a screen similar to the following which reports the problem. The contractor can then hit the back button on the browser to correct the wrong data.

Typical error screen.



Below is the Data Confirmation screen. The contractor can review their entries before committing this to the FLICS database.

FLICS ONLINE - Data Confirmation

UNIQUE CALL ID: 2002011475128I
PERIOD ENDING DATE: 01/12/2002
DATE ENTERED: 01/14/2002
JOB CODE: 21766
CREW ID: 62171
PRIORITY: 101
CONTRACT TYPE: T
FLICS ID: 0

Work Type	Disp Site	Acc/Non	Units	Hours	Begin Struct	End Struct	Density	Treatment	GSBT
10	0	1	1 (# of items)	1					

Employee Class	Std Time	Overtime	Doubletime
1	1		

Equipment	Equip Hours

If this data is correct press the Commit Button to Save it to the Database.
If it is not correct press the BACK Button on your browser and make the desired modifications.

Commit

Notice that besides entering time the user can view data from any period end data with some specific criteria. This is the second use of FLICS Online.

- VIEW TIME REPORTING DATA FOR:

Period Ending Date 01 12 2001
Jobcode
Crew ID # 65296 - Scott Dahl
Priority
Search Clear Criteria

View Job Records
View Crew Hour Totals

LOGOUT

Here are the results of a query for CREW ID 65296 with period end date of January 13th, 2001. The user can drill down further by clicking on the CALL ID hyperlink.

FLICS ONLINE - Job Code View - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites History

Address http://localhost/flicsonline/VIEWTIME.asp

FLICS ONLINE - JOB CODE VIEW

01/13/2001

65296

CallID	CrewID	JobCode	PriorityCode	ContractType	PeriodEndDate	CallDate	FLICSID	CrewID	Contract
	65296	21253	100	T	1/13/2001	1/17/2001 2:40:27 PM	0	65296	1
	65296	21522	103	T	1/13/2001	1/17/2001 2:41:58 PM	0	65296	1
	65296	21522	100	T	1/13/2001	1/17/2001 2:43:01 PM	0	65296	1
	65296	21253	100	T	1/13/2001	1/17/2001 2:43:43 PM	0	65296	1
	65296	20305	103	T	1/13/2001	1/17/2001 2:44:28 PM	0	65296	1
	65296	20929	103	T	1/13/2001	1/17/2001 2:45:06	0	65296	1

Local intranet

Start Windo... C:\Xce... Docum... FLICS ... FLICS ... FLICS... FLICS ... SQL S... 8:05 AM

This is the database where the mileage associated with a feeder is kept. It serves as the basis for tracking progress on feeders scheduled for trimming.

VMS - SQL 7.0 - [Add/Edit Feeders]

Dispatch
- New Dispatch Window
- Quick Search
- Search Jobs
- New External Request

Internal Functions
Trim Cycle
Reporting
Administration
- Feeders - Add/Edit
- Tran Lines - Add/Edit
- Maintain Tables
- Maintain Tables 2
- Crew Activity
- Personnel Maintenance
- City Maintenance
- Ad Hoc Database
- Security Access

Help

Dispatch - 1
Dispatch - 2
Maintain Tables
Maintain Tables 2
Add/Edit Feeders

Search for: mn in State | Search | Print... | Refresh | New Feeder | Save [F12]

Job Code	Feeder	State	Quad	Region	Div.	Main MI	Tap MI	Main Start Date	Main End Date
20045	ALK072	MN	1	ME	27	4.5	7.4		01/01/1995
20046	ALK073	MN	1	ME	27	1.2	1.3		01/01/1996
20050	ALT021	MN	0	SE	23	57	0	09/28/2002	
20054	ANN021	MN	0	NW	24	41	0		08/05/2000
20055	APA061	MN	1	ME	16	2.3	7.6		04/11/1997
20056	APA064	MN	1	MW	9	2.3	10.3	02/25/2002	04/11/2002
20057	APA065	MN	1	ME	13	2.4	2.5	02/19/2002	05/18/2002
20058	APA067	MN	1	MW	9	3.5	14.8	04/27/2002	06/22/2002
20059	APA068	MN	1	MW	9	2.6	11.3	01/28/2002	02/01/2002
20060	APA069	MN	1	MW	9	2.2	13	03/25/2002	05/18/2002
20061	APA071	MN	1	ME	9	2	9.4	04/01/2002	07/20/2002
20062	APA072	MN	1	MW	9	2.3	8.8	05/20/2002	08/31/2002
20063	APA073	MN	1	MW	9	2.6	9.5	04/01/2002	05/11/2002
20064	APA074	MN	1	ME	9	2.6	1.8	05/13/2002	06/01/2002
20065	APA076	MN	1	ME	16	1.9	10.1		07/30/1999
20066	APA077	MN	1	MW	9	3.5	11.3	09/21/2002	12/07/2002
20067	APA078	MN	1	ME	13	1.3	4.4	08/24/2002	09/28/2002
20070	ATW001	MN	0	NW	24	21.6	0		07/22/2000
20071	ATW002	MN	0	NW	24	9.8	0		01/01/1994
20074	AVN021	MN	0	NW	24	69.6	0		01/01/1996
20080	BCH311	MN	1	ME	16	1.2	1.4	02/06/2002	02/08/2002
20081	BCK061	MN	1	ME	13	0	0		
20082	BCK062	MN	1	ME	13	0	0		
20083	BCK071	MN	1	ME	13	0	0		
20084	BCK072	MN	1	ME	13	1.3	0.5		03/06/2001
20085	BCK073	MN	1	ME	13	1.2	0.5		02/02/2001
20086	BCK074	MN	1	ME	13	0	0		
20087	BCR061	MN	1	MW	18	2.7	4.3		11/17/1999
20088	BCR062	MN	1	MW	18	6	19.3		02/01/1999
20089	BCR063	MN	1	MW	17	3.8	18.6		11/05/1999
20090	BDGAUX	MN	1	MW	17	0	0		
20093	BEG001	MN	0	NW	24	7.2	0		01/01/1992
20094	BEK021	MN	0	NW	24	18.5	0		01/01/1997
20095	BEK311	MN	0	NW	24	8.3	0		01/01/1986
20096	BEL061	MN	1	MW	17	22.1	90.7		05/12/2001
20099	BFL001	MN	0	NW	24	9.3	0		01/01/1995

FEEDER DATA
Job Code: 20056 Feeder: APA064 Active: Yes No
Substation: APA Customers: 1701 State: MN
Operating Company:
Region: MW Division: 9
Main Miles: 2.3 Tap Miles: 10.3 Feeder Miles: 12.6
Map Updated: Date
Comments: Total map remeasure 2/11/02. Old tap Mi=9.5 and Old Main Mi=2.8. DF

TRIM CYCLE DATA
All Underground: Yes No
LCA: Yes No
Year: 2003 Priority: 0 Qtr: 0
Trim Cycle Length: years
Cycle Plan Status:
Main Start Date: 02/25/2002 Date
Main End Date: 04/11/2002 Date
Archive
Tap Start Date: 02/25/2002 Date
Tap End Date: 05/04/2002 Date
Archive
Last Inspect Date: Date
Cust. Notif. Date: 02/11/2002 Date

HISTORICAL CYCLE DATA
Mainline | Tap

Start Date	End Date
06/05/1997	06/05/1997

Xcel Energy **Time Entry Form** Week Ending ____/____/____

651-282-1004
1-888-225-5677

Feeder	
Crew #	
Job Code	
Priority	
FLCS ID #	

BID	'(1)	T&M	'(2)	
Work Type	Disp. Site	A N/A	Units	Labor Hours
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		

Empl. Class	ST	OT/DT	Total Hours

Equipment	Total Hours

Feeder	
Crew #	
Job Code	
Priority	
FLCS ID #	

BID	'(1)	T&M	'(2)	
Work Type	Disp. Site	A N/A	Units	Labor Hours
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		

Empl. Class	ST	OT/DT	Total Hours

Equipment	Total Hours

Feeder	
Crew #	
Job Code	
Priority	
FLCS ID #	

BID	'(1)	T&M	'(2)	
Work Type	Disp. Site	A N/A	Units	Labor Hours
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		

Empl. Class	ST	OT/DT	Total Hours

Equipment	Total Hours

Feeder	
Crew #	
Job Code	
Priority	
FLCS ID #	

BID	'(1)	T&M	'(2)	
Work Type	Disp. Site	A N/A	Units	Labor Hours
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		

Empl. Class	ST	OT/DT	Total Hours

Equipment	Total Hours

Feeder	
Crew #	
Job Code	
Priority	
FLCS ID #	

BID	'(1)	T&M	'(2)	
Work Type	Disp. Site	A N/A	Units	Labor Hours
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		
		A		
		N		

Empl. Class	ST	OT/DT	Total Hours

Equipment	Total Hours

Exh. 8.b.2 ~ 1 page

Hotspotting Jobcodes

MN Metro	40395	WI North	40394
Northwest	40398	WI Central	40379
Southeast	40399	WI South	40380
North Dakota	40393		
South Dakota	40396		

Color Code Key

- = Trimming and Removal Activities
- = Travel and Debris Disposal Activities
- = Items *Not Included* in Total Hours/Costs on Scorecard/Budget
- = Hot Spot Work

Priority Code	Description	Work Category
100	Cycle trim/main	Metro Main
101	Non-compliance trimming/main	Non-compliance
102	Oak skip/main	Metro Main
103	Cycle trim/taps	Metro Taps
104	Non-compliance trimming/taps	Non-compliance
105	Oak skip/taps	Metro Taps
106	Cycle trim/non-metro distribution	Distribution
107	Non-compliance trimming/non-metro distribution	Non-compliance
108	Oak skip/non-metro distribution	Distribution
112	Cycle trim/transmission	Transmission
113	Non-compliance trimming/transmission	Non-compliance
114	Oak skip/transmission	Transmission
115	Cycle trim/shared services	Transmission
116	Cycle trim brush pick up	Wood Collection
200	Broken limb pole to pole	Customer Requests
201	Broken limb pole to house	Customer Requests
202	Requested tree removal pole to pole	Customer Requests
203	Trim for clearance pole to pole	Customer Requests
204	LCA	LCA
205	Pick up brush	Wood Collection
206	Customer complaint/refusal	Customer Requests
207	Customer Request Prechecking	Customer Requests
208	Tree Trust Work	Tree Trust
209	Trouble department request	Customer Requests
210	Transmission line right-of-way/hotspot	Customer Requests Trans.
212	Hotspot mainline & taps	Worst 50
213	Hotspot work resulting from feeder patrol	Reliability Asset Inventory
300	REMS	REMS
400	Construction/scheduled outages/distribution	Distribution Construction
401	Construction/scheduled outages/transmission	Transmission Construction
500	Revenue/commercial distribution	Revenue
501	Revenue/transmission	Revenue
502	Revenue/residential distribution	Revenue
600	Storm distribution	Distribution Storm
601	Storm transmission	Transmission Storm
700	Sub Mtce - Clear vegetation around equip/fences	Substation Maintenance

Work Type	Description	Category
4	Service	Trim
10	Removal	Clear
15	Danger Tree	Hazard
20	Flagging	Flag
30	Trim	Trim
31	Jaraffe	Trim
39	Trimming Brush Manual	Trim
40	Hauling Brush	Wood Transport **
41	Reclear Brush Cut Manual	Clear
42	Reclear Brush Cut Mechanical	Clear
43	High Volume Foliage	Herbicide
45	Low Volume Foliage	Herbicide
46	Stubble	Herbicide
47	Pellets or Granular	Herbicide
48	Cut Stump	Herbicide
49	Low Volume basal	Herbicide
50	TGR	Herbicide
51	Travel	Travel
52	Location travel	Travel
53	Hauling Chips	Wood Transport **
54	Minor Maintenance	Equip Mtce
55	Safety	Safety
56	Permitting	Supervision
57	Supervision	Supervision
58	Chipping brush	Wood Disposal
59	Mechanical brush dragging	Wood Transport
60	Miles	Miles
61	Miles Herbicide	Miles
80	Burning Brush	Wood Disposal
90	Raintime	Rain
92	Line Survey	Supervision
96	Landscaping	Landscaping
98	Snowplowing	Snowplowing
99	Storm	Storm

** Wood Transport requires disposal site (company or non-company owned

PSCW Reliability Information Request of Northern States Power – Wisconsin d/b/a Xcel Energy

PSCW Question #9

Wis. Adm. Code § PSC 113.0604(3)(g) requires NSPW to submit to the Commission an annual report listing the projected and actual miles of electric distribution line tree trimmed.

a. Provide a description of how miles of distribution line tree trimmed is obtained, recorded, and compiled.
b. Include samples of completed reporting forms, if appropriate.
c. If the data is compiled in electronic form, describe how, when, and by whom the data is entered into that system, and provide a sample of the data in electronic form.

NSPW Response #9

a. Each circuit has historical mileage data established from plant records. An average number of spans per mile was established by counting the number of spans in a measured mile of line. A set of maintenance maps is issued to the contractor for each scheduled circuit at the beginning of each year showing the circuit location. On a weekly basis, the contract foreman counts the spans completed on each circuit and compares that to what is shown on the maps. The maps are updated as necessary to add or delete spans as found in the field. The contract foreman then calculates the number of miles of trees trimmed by multiplying the number of spans trimmed by the average number of spans per mile to determine the number of miles of trees trimmed. The number of miles of trees trimmed is then entered weekly into our Vegetation Management System (FLICS) and the updated maintenance maps are filed for use on the next tree trim cycle.

b. Please see **Exhibit 8.b.1, Exhibit 8.b.2** and **Exhibit 8.b.3** for copies of the documents and forms that further explain the tree trimming process.

c. Please see the response to PSCW Questions 8a and 9a for a description of how, when and whom enters the data. Electronic copies of the data and forms provided in response to PSCW Questions 8b and 9b are included on the CD provided, as **Exhibit 8.b.1, Exhibit 8.b.2, and Exhibit 8.b.3.**

Response #9 By: Randy Davis

Title: Supervisor, Vegetation Management

Response Dated: March 31, 2003

PSCW Reliability Information Request of
Northern States Power – Wisconsin
d/b/a Xcel Energy

PSCW Question #10

On March 5, 2001, NSPW filed with the Commission a preventative maintenance plan as required by Wis. Adm. Code § PSC 113.0607(2)(b)5. The purpose of the plan is to ensure high quality, safe and reliable service. Each plan shall include, among other things, appropriate inspection, maintenance, and replacement cycles where applicable for overhead and underground distribution plant, transmission, generation and substation plant. Other required elements of the plan, as listed in Wis. Adm. Code § PSC 113.0607(2), include inspection, condition rating of plant components, corrective action schedules, and appropriate record keeping

Wis. Adm. Code § PSC 113.0607(2)(b)6 requires NSPW to submit to the Commission a periodic report showing compliance with its preventative maintenance plan. The frequency of the reports filed under this section shall be at least once every two years.

a. Provide a comprehensive report demonstrating NSPW's compliance with sections of its preventative maintenance plan applicable to overhead and underground distribution plant, transmission, and substation plant (a report on generation plant will be requested under separate cover).
b. Provide a description of how the required operational data is obtained, recorded, and compiled.
c. Include samples of completed reporting forms, if appropriate.
d. If the data is compiled in electronic form, describe how, when, and by whom the data is entered into that system, and provide a sample of the data in electronic form.
e. Provide information regarding the frequency of inspection, and what corrective actions have been taken as a result of the preventative maintenance plan.

NSPW Response #10

a. When the Company's Preventive Maintenance Plan was filed in early 2001, our maintenance was primarily on a *time-based system*; that is, maintenance was performed based on the time since the last maintenance. During the 2001-2002 timeframe, Xcel Energy initiated a change in maintenance philosophy. A transition is being made to a *condition-based system* which incorporates regular assessments of equipment/facility condition (condition assessments). Corrective maintenance is then initiated on an as-needed basis.

   This change has led to internal adjustments/deviations to the original Preventive Maintenance Plan as filed in February 2001. For example, assessments were made of all 48 transmission substation transformer LTCs (load tap changers) to establish a baseline for the new program. Also a Transformer Condition Assessment task was added which replaced the former Transformer Electrical Test task. The footnotes contained in the following inspection schedules highlight the transition to a condition-based maintenance system.

   Based on this maintenance plan philosophy change from a time-based maintenance system incorporated into our 2001 Preventive Maintenance Plan that was filed and approved by the PSCW, to the condition-based system, our approved" maintenance plan is currently under

review and is being update to reflect this philosophy change. We anticipate re-filing a modified maintenance plan that we will follow in 2003. Additionally, efforts are underway internally to review our overall maintenance plans and philosophy and develop a "best practices" condition based maintenance plan to be utilized in all of Xcel Energy's service territory. Once that plan is finalized, possibly in late 2003 or 2004, the Company would file that plan for Commission approval in compliance with Wis. Adm. Code § PSC 113.0707(2)(b)5.

The following eight tables list our 'compliance' activities for 2001 and 2002 based on the estimated number of tasks we anticipated performing using the time-based maintenance approach and as filed in our February 2001 filing.

Distribution Substation Maintenance Activities

# of Tasks	Activities	Intervals	Completed Activities 2001	Completed Activities 2002
68-85	Battery Condition Assessment	Completed in the spring, yearly	85	37
68-85	Battery Inspection	Completed in the fall, yearly	See Note [1]	See Note [1]
24-31	Transformer Condition Assessment (1/6 of total of 182 transformers in WI)	Once every six years	See Note [2]	99
124-155	Transformer oil testing - oil testing for all transformers not receiving the condition assessment	Completed yearly	186	122
4	LTC Inspections (1/6 of total LTCs in WI)	Once every 6 years	4	See Note [3]
45-56	Breaker Condition Assessments (1/6 of total of 420 in WI)	Once every 6 years	18	47
150-187	Regulator Condition Assessments (1/6 of total of 560 in WI)	Once every 3 years	171	207
144-180	Substation Condition Assessments	Completed yearly	180	130
144-180	Substation Infrared Condition Assessments	Completed yearly	180	265

Table 1

[1] The Battery Inspection Activity was combined with Battery Condition Assessment

[2] The Transformer Condition Assessment Activity was a new process in 2002. The equipment became available in February of 2002.

[3] Transformer Condition Assessments replaced this activity in 2002

Distribution Line Maintenance Activities

# of Tasks	Activities	Intervals	Completed Activities 2001	Completed Activities 2002
2	Auto-transfer switchgear maintenance	completed yearly	1	1
42-58	Field regulator condition assessment	once every 3 years	51	25
37-46	3 phase field recloser maintenance	once every 9 years	5	18
10	1 phase field reclosers maintenance	1/9 of total reclosers with greater than 100 customers	21	3
2	Infrared inspection of normal overload feeders	Yearly for feeders with normal overloads	0 (5)[4] 38[5]	1 (5)[4] 20[6]
1	Infrared inspection of 1st contingency feeder with 150% overload	yearly for feeders at risk	None existed.	1 (2)[4]

Table 2

[4] First number indicates tasks completed. Number in parentheses indicates total normally or first contingency overloaded feeders.

[5] Additional feeders inspected in 2001 served Large Critical Accounts.

[6] Additional feeders inspected in 2002 based on circuit reliability performance

Transmission Substation Maintenance Activities

# of Tasks	Transmission Substation Activities for WI for 2001	Intervals for Inspections	2001 Activities Completed	2002 Activities Completed
77-96	Battery - Condition assessment testing in Spring and Inspection in Fall - 2X per yr.	twice a year – Spring is condition assessment and fall is general condition	50	72
47-59	Breaker condition assessments (1/6 from a total of 540 in WI)	1\6 or once every six years	61	100
44-55	Infrared condition assessments of 55 substations	Annually for all substations	7	66
3	LTC condition assessments (48 total number of transformers on a 6 yr. cycle)	Six year cycle	1	48[7]
1	LTC Upgrade (30 LTC transformers)	As needed by the manufacturer	None done[8]	2[8]
16	Relay and Carrier system testing for 16 (or 32 ends and 1/2 of bulk system) transmission lines	One half of the bulk transmission system or every other year	22	35
44-55	Substation condition assessment	Annually for all substations	55	74
15	Transformer Electric Test (6 year cycle – total 89)	1\6 annually or once every six years	3	See Note [9]
200-260	Transformer oil testing for 260 Tests	Annually	64	196
15	Transformer Relay Test (6 year cycle - total 89)	1\6 annually or once every six years	8	3
-	Transformer Condition[10] Assessment		See Note [10]	16

Table 3

[7] Condition Assessments were performed on all 48 transformers in 2002 to establish a baseline for condition-based maintenance system.

[8] The number of LTC Upgrades needed is determined by the Condition Assessment process

[9] In 2002 the Transformer Electric Test was replaced by the Transformer Condition Assessment Task

[10] The Transformer Condition Assessment task was created in 2002 as part of Xcel Energy's change in maintenance philosophy to a condition-based system.

Transmission Line Maintenance Activities

Estimated # of Activities	Wisconsin Transmission Line Maintenance Plan	Intervals for Inspections	2001 Activities Completed	2002 Activities Completed
	Patrols of Transmission lines (four patrols annually)			
2,069 pole miles	1. Air Patrol helicopter inspections (pole miles @ 85% of total)	Annually	1,723 miles	1,723 miles
2,069 pole miles	2. Ground inspections (pole miles @ 85% of total)	Annually	208 miles[11]	218 miles[11]
4,138 pole miles	3. Patrols (3 and 4) of system by either helicopter patrol, fixed wing, and or ground patrol	Annually	18,784 miles	18,784 miles

Table 4

b. The data for 2001 was almost exclusively recorded on paper forms by field technicians and maintained in paper format. There are two exceptions where data was collected electronically:

Battery Inspections: Field technicians use laptops (running the Alber software) connected to test equipment, which is connected to the battery to run the tests and capture test data. In 2001, the data resided in the laptop. Unfortunately, in order to view a sample of the electronic data, the user needs the associated software. A copy of sample battery test reports produced by the Alber software are attached as **Exhibit 10.b.1 and Exhibit 10.b.2.**

Transformer Relay Test and the Relay and Carrier system testing for transmission lines: Relay specialists performed the tests with Doble ProTest software running on laptops which ran the Doble relay test set (testing equipment) with the resulting test data electronically stored on the CAPE database. Prior to running the test, the relay specialist would download the correct settings from CAPE database to the laptop. Again, in order to view an electronic sample of this data, the user needs the associated software. Copies of the Transmission Line Relay Test Report and Transformer Relay Test Report list as produced by the CAPE database are attached as **Exhibit 10.b.3** and **Exhibit 10.b.4.**

[11] The original language and mileage for ground inspections in the February 2001 filing was stated improperly. This section was referring to pole testing, which was to be 1/12th of the system yearly rather than 85% of total miles. 1/12th of system is approximately 200 pole miles.

For 2001 activities, compilation of data for total tasks completed was done manually. Note, that while most records were in paper format, information on a piece of equipments' last inspection date and when it was due for future maintenance and inspection along a description of the task was maintained in a legacy computer system, MP2. However, MP2 did not capture any info collected about the equipment or the test results.

In 2002 Xcel Energy began using the Indus software Passport tool for Work Management and Planning of maintenance activities. This will lead to better tracking and access to maintenance activity records in the future. Also beginning in 2002, field technicians used laptops to record test data, thus significantly reducing if not eliminating paper records.

Attached as **Exhibit 10.b.5** is an example of Passport report titled: Maintenance & Test Report (for circuit breaker condition analysis) that was used in 2002.

Below is a summary of the data collection methods, which were used in 2002:

Distribution Substation Maintenance

Activities	2002 Data Collection / Compilation
Battery Condition Assessment	Substation Battery Technician used laptops to record test data electronically on Alber software. New in 2002: data was loaded from laptop to a central file server.
Battery Inspection	Substation Battery Technician used laptops to record test data electronically on Alber software. New in 2002: data was loaded from laptop to a central file server.
Transformer Condition Assessment (1/6 of total of 182 transformers in WI)	Substation Electricians test apparatus and record/store data electronically on the Xcel shared drive.
Transformer oil testing - oil testing for all transformers not receiving the condition assessment	Substation Electricians send oil test to Xcel Energy test lab. Results are stored electronically and hard copy files.
LTC Inspections (1/6 of total LTCs in WI)	Substation Electricians test apparatus and record/store date electronically.
Breaker Condition Assessments (1/6 of total of 420 in WI)	Substation Electricians test apparatus and record/store date electronically.
Regulator Condition Assessments (1/6 of total of 560 in WI)	Substation Electricians test apparatus and record/store date electronically.
Substation Condition Assessments	Substation Electricians inspect the stations annually, record and store the data hard copy.
Substation Infrared Condition Assessments	Substation Electricians test apparatus and record/store date electronically

Table 5

Distribution Line Maintenance

Activities	2002 Data Collection / Compilation
Auto-transfer switchgear maintenance	No documents
Field regulator condition assessment	Substation Electricians inspect the apparatus annually, record and store the data hard copy and electronically
3 phase field recloser maintenance	Substation Electricians inspect the apparatus and record and store the data hard copy and electronically.
1 phase field reclosers maintenance	Substation Electricians inspect the apparatus and record and store the data hard copy and electronically.
Infrared inspection of normal overload feeders	The contractor that conducted the inspections provided a completed list in paper format.
Infrared inspection of 1st contingency feeder with 150% overload	The contractor that conducted the inspections provided a completed list in paper format.

Table 6

Transmission Substation Equipment Maintenance

Activities	2002 Data Collection / Compilation
Battery - Condition assessment testing	Substation Battery Technician records test data electronically on Alber software for record.
Breaker condition assessments	Substation Electricians test apparatus and record/store data electronically
Infrared condition assessments	Substation Electricians test apparatus and record/store data electronically
LTC condition assessments	Substation Electricians test apparatus and record/store data electronically
LTC Upgrade	Substation Electricians test/repair apparatus and store data electronically and hard copy.
Relay and Carrier system testing for transmission lines	Relay Specialist test the carrier and relay system with Doble ProTest software and store data electronically on CAPE database
Substation condition assessment	Substation Electricians inspect the stations annually, record and store the data hard copy
Transformer Electric Test	Substation Electricians test apparatus and record/store data electronically
Transformer oil testing	Substation Electricians send oil test to Xcel Energy test lab. Results are stored electronically and hard copy files
Transformer Relay Test	Relay Specialists test relay systems with Doble ProTest software and store data electronically on CAPE database.
Transformer Condition Assessment	Substation Electricians test apparatus and record/store data electronically on the Xcel shared drive

Table 7

Inspection for Transmission Lines

Activities	2002 Data Collection / Compilation
Air Patrol helicopter inspections	Contractor performing Fixed wing patrols faxes information /problems are entered into Maintenance database for prioritization, tracking, and assignment.
Ground inspections	Contractor performing ground line or pole testing sends hard copy information / problems are entered into Maintenance database for prioritization, tracking, and assignment.
Total Patrols of system by either helicopter patrol, fixed wing, and or ground patrol	Helicopter or Foot patrol information comes from inspector by hand written notations / problems are entered into Maintenance database for prioritization, tracking, and assignment.

Table 8

c. Include samples of completed reporting forms, if appropriate.

Attached, please find the following samples of completed reporting forms for 2001 maintenance activities:

- Battery Tests (via Alber Software) (note, these samples are dated 2003, but the same reports were also used in 2001)
    - Cell Detail Report **-Exhibit 10.b.1**
    - Threshold Deviation Report - **Exhibit 10.b.2**

- Transmission Line Relay Test Report (includes a summary page and info on the primary, secondary & breaker, this sample has various dates but is the same as the reports generated in 2001) - **Exhibit 10.b.3**

- Transformer Relay Test Report (includes a summary page and info on the primary, secondary & breaker, this sample has various dates but is the same as the reports generated in 2001) - **Exhibit 10.b.4**

- Circuit Breaker Maintenance & Test Report, Sept 2001 (2 pages) - **Exhibit 10.c.1**

- Recloser Maintenance & Test Report Form, 2001 - **Exhibit 10.c.2**

- Single Phase Regulator Maintenance Report, 2001 (3 one page reports since there were three regulators on the feeder) - **Exhibit 10.c.3**

- Substation Infrared test reports from contractor, 2001 - **Exhibit 10.c.4**

- LTC Maintenance Report and Test Results, 2001 (5 pages) - **Exhibit 10.c.5**

- Three Phase Recloser Test Report, 2001 - **Exhibit 10.c.6**

- Detailed Substation Inspection checklist, 2002 (note, these samples are dated 2003 but the same checklist was also used in 2001) - **Exhibit 10.c.7**

d. Please see Response #10b above regarding how, when, and by whom the data is compiled and entered translated to electronic form.

e. In regards to frequency of inspections, please see Response #10a for the frequency information (intervals) for each task.

In regards to corrective actions, the 2001 maintenance activities were primarily part of a time-based maintenance program where crews where sent out to check on specified equipment and perform corrective actions, as needed, immediately as explained in Response #10a. Some of the forms provided in Response #10c were used to document the corrective actions taken during maintenance activities. Major overhauls were performed on nine LTCs and one regulator in 2001.

Items identified during transmission line inspections were entered into a maintenance database by transmission line maintenance staff. This database contains date, location of problem, who reported the problem and a problem description. This database is used to prioritize, track and assign maintenance & repair tasks throughout the year. The report of problems reported and problems completed in 2001 and 2002 is voluminous. Therefore, copies of the reports have been included on the CD as **Exhibits 10.c.8** through **Exhibit 10.c.11**, but hard copies have not provided. **Exhibit 10.c.8** and **Exhibit 10.c.9** contain the items *reported* during the 2001 transmission line inspections and the items *completed*, respectively. **Exhibit 10.c.10** and **Exhibit 10.c.11** contain the items *reported* during the 2002 transmission line inspections and the items *completed*, respectively

Other examples of corrective actions:

- For batteries, tests were run to determine the types of maintenance needed. After taking any corrective actions, a second test was run to verify that actions taken had addressed the problem. As batteries were due for testing, the associate corrective actions would be done as a follow-up.

Completed sub-station inspection checklists drove the types of maintenance actions that needed to be taken at each sub-station.

Response #10 By: Various Employees

Title:

Response Dated: April 7, 2003

Cell Detail Report

B0255 **Exide 3CC-9** **Eagle Point**

Summary of readings taken on 03/14/2003 Install Date: 07/01/1995

Cell	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
1	2.244	888	1	0	0	0	64.0	1.229
2	2.249	904	1	0	0	0	64.0	1.229
3	2.195	891	75	0	0	0	63.0	1.233
4	2.234	1018	1	0	0	0	63.0	1.227
5	2.240	1064	1	0	0	0	63.0	1.226
6	2.257	954	74	0	0	0	63.0	1.227
7	2.223	1329	1	0	0	0	63.0	1.230
8	2.265	1120	1	0	0	0	63.0	1.232
9	2.251	951	73	0	0	0	63.0	1.229
10	2.248	1021	1	0	0	0	63.0	1.224
11	2.240	1081	1	0	0	0	63.0	1.225
12	2.272	950	72	0	0	0	63.0	1.229
13	2.208	1167	1	0	0	0	63.0	1.225
14	2.226	1096	1	0	0	0	63.0	1.225
15	2.195	912	77	0	0	0	63.0	1.226
16	2.267	1105	1	0	0	0	63.0	1.227
17	2.251	1036	1	0	0	0	63.0	1.225
18	2.244	924	78	0	0	0	63.0	1.229
19	2.239	1034	1	0	0	0	63.0	1.231
20	2.245	1106	1	0	0	0	63.0	1.224
21	2.230	910	70	0	0	0	63.0	1.230
22	2.251	1108	1	0	0	0	63.0	1.226
23	2.237	1185	1	0	0	0	63.0	1.222
24	2.239	924	76	0	0	0	62.0	1.226
25	2.258	1083	1	0	0	0	62.0	1.227
26	2.248	1110	1	0	0	0	62.0	1.226
27	2.247	952	90	0	0	0	62.0	1.225
28	2.187	918	1	0	0	0	62.0	1.238
29	2.195	936	449	0	0	0	62.0	1.239
30	2.273	936	1	0	0	0	57.0	1.230
31	2.270	947	1	0	0	0	57.0	1.233
32	2.273	1022	72	0	0	0	56.0	1.213
33	2.279	915	1	0	0	0	57.0	1.231
34	2.248	950	1	0	0	0	57.0	1.229
35	2.267	970	72	0	0	0	57.0	1.225
36	2.301	1102	1	0	0	0	57.0	1.230
37	2.280	1047	1	0	0	0	57.0	1.229
38	2.275	961	75	0	0	0	57.0	1.223
39	2.247	923	1	0	0	0	57.0	1.225
40	2.253	948	1	0	0	0	57.0	1.226
41	2.271	961	71	0	0	0	57.0	1.228
42	2.273	972	1	0	0	0	57.0	1.228

Cell Detail Report

B0255 **Exide 3CC-9** **Eagle Point**

Summary of readings taken on 03/14/2003

Install Date: 07/01/1995

Cell	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
43	2.269	942	1	0	0	0	57.0	1.229
44	2.319	987	72	0	0	0	57.0	1.228
45	2.264	1153	1	0	0	0	57.0	1.231
46	2.332	1153	1	0	0	0	57.0	1.230
47	2.283	972	70	0	0	0	57.0	1.228
48	2.266	912	1	0	0	0	57.0	1.227
49	2.251	954	1	0	0	0	57.0	1.231
50	2.249	942	72	0	0	0	57.0	1.229
51	2.279	1090	1	0	0	0	57.0	1.231
52	2.266	1136	1	0	0	0	57.0	1.229
53	2.271	954	70	0	0	0	57.0	1.228
54	2.255	1108	1	0	0	0	57.0	1.226
55	2.264	1153	1	0	0	0	57.0	1.230
56	2.253	979	73	0	0	0	57.0	1.229
57	2.206	1134	1	0	0	0	57.0	1.230
58	2.209	1108	1	0	0	0	57.0	1.225

End of Report

B0255

Threshold Deviation Report

B0255 **Exide 3CC-9** **Eagle Point**

Threshold Values

Threshold	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
High	2.330	1180.000	0.000	0.000	0.000	0.000	82.000	1.220
Low	2.170	860.000	0.000	0.000	0.000	0.000	72.000	1.205

Readings taken 03/14/2003

Cell	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
1							64.0	1.229
2							64.0	1.229
3							63.0	1.233
4							63.0	1.227
5							63.0	1.226
6							63.0	1.227
7		1329					63.0	1.230
8							63.0	1.232
9							63.0	1.229
10							63.0	1.224
11							63.0	1.225
12							63.0	1.229
13							63.0	1.225
14							63.0	1.225
15							63.0	1.226
16							63.0	1.227
17							63.0	1.225
18							63.0	1.229
19							63.0	1.231
20							63.0	1.224
21							63.0	1.230
22							63.0	1.226
23		1185					63.0	1.222
24							62.0	1.226
25							62.0	1.227
26							62.0	1.226
27							62.0	1.225
28							62.0	1.238
29							62.0	1.239
30							57.0	1.230
31							57.0	1.233
32							56.0	
33							57.0	1.231

This report was generated on: 03/17/2003 10:55:25 AM

Threshold Deviation Report

Threshold Values

Threshold	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
High	2.330	1180.000	0.000	0.000	0.000	0.000	82.000	1.220
Low	2.170	860.000	0.000	0.000	0.000	0.000	72.000	1.205

Readings taken 03/14/2003

Cell	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
34							57.0	1.229
35							57.0	1.225
36							57.0	1.230
37							57.0	1.229
38							57.0	1.223
39							57.0	1.225
40							57.0	1.226
41							57.0	1.228
42							57.0	1.228
43							57.0	1.229
44							57.0	1.228
45							57.0	1.231
46	2.332						57.0	1.230
47							57.0	1.228
48							57.0	1.227
49							57.0	1.231
50							57.0	1.229
51							57.0	1.231
52							57.0	1.229
53							57.0	1.228
54							57.0	1.226
55							57.0	1.230
56							57.0	1.229
57							57.0	1.230
58							57.0	1.225

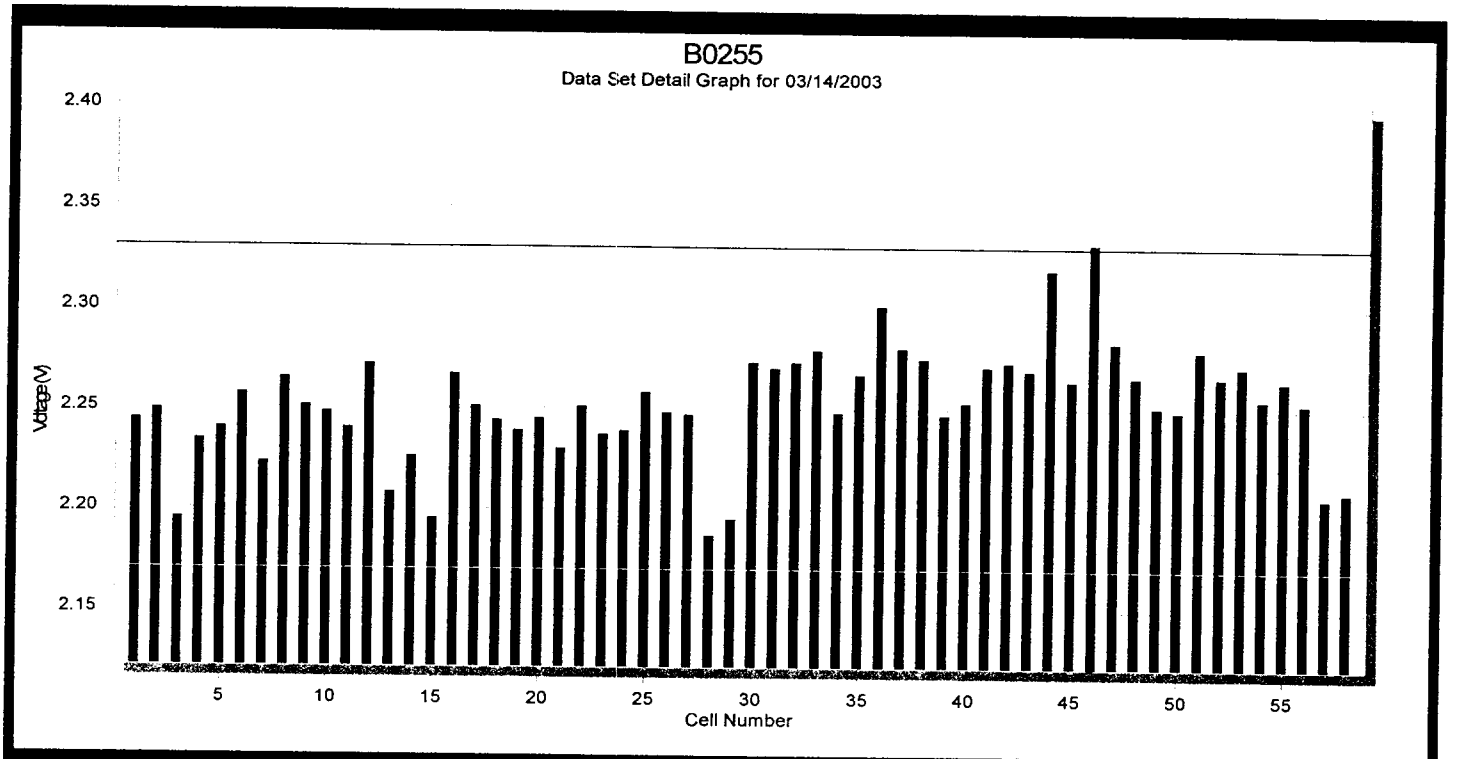
58 cells out of a total of 58 selected contained at least one threshold deviation in this dataset.

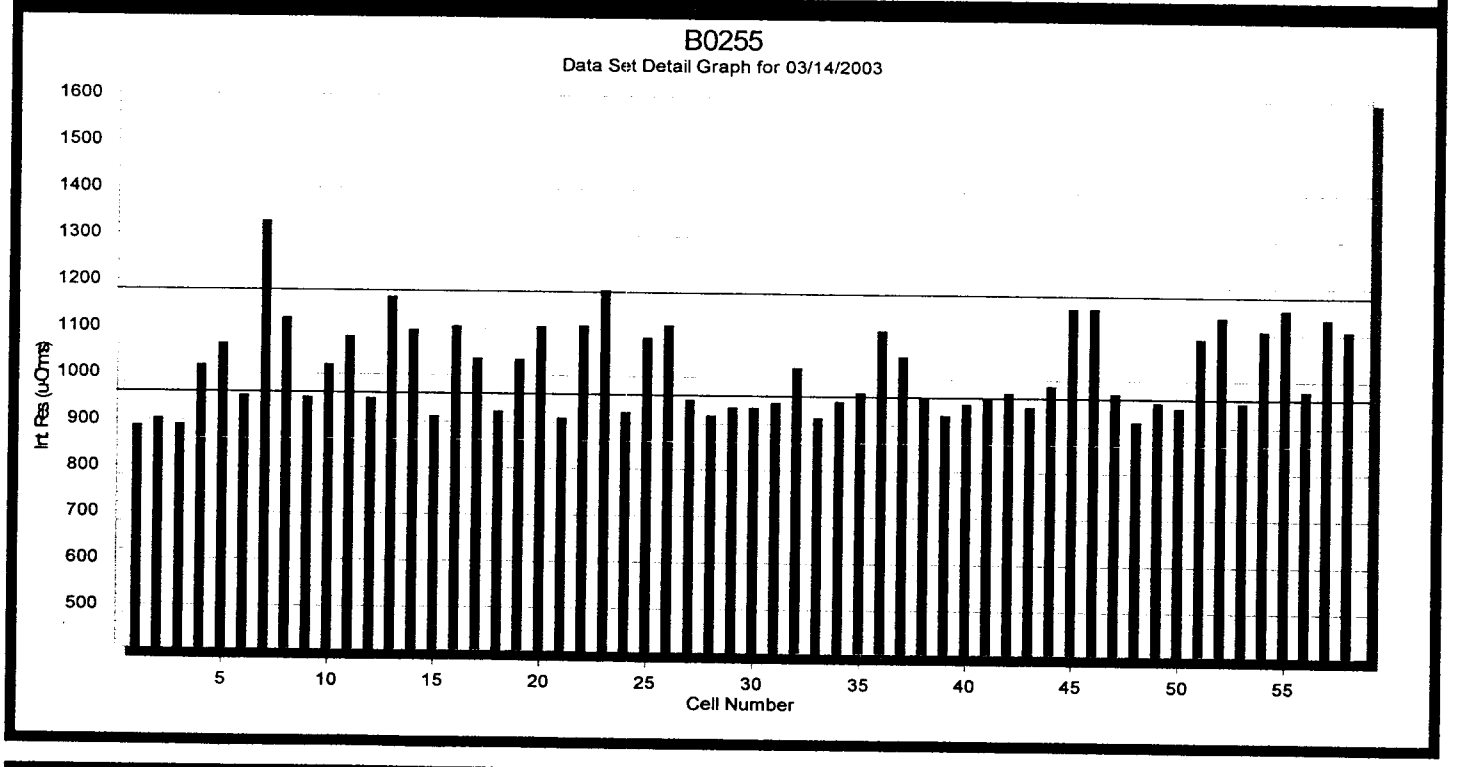
Threshold Deviation Report

B0255 **Exide 3CC-9** **Eagle Point**

Threshold Values

Threshold	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
High	2.330	1180.000	0.000	0.000	0.000	0.000	82.000	1.220
Low	2.170	860.000	0.000	0.000	0.000	0.000	72.000	1.205



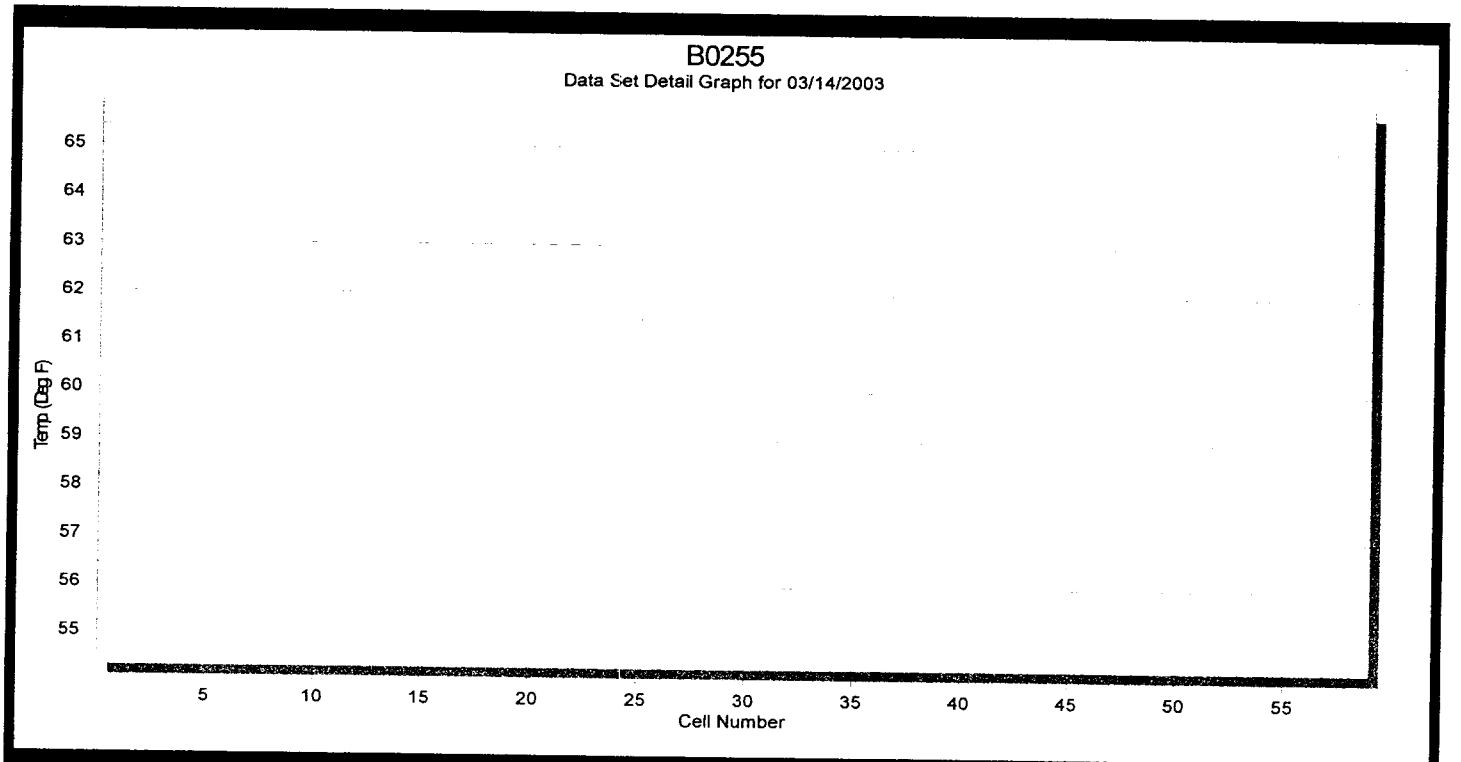


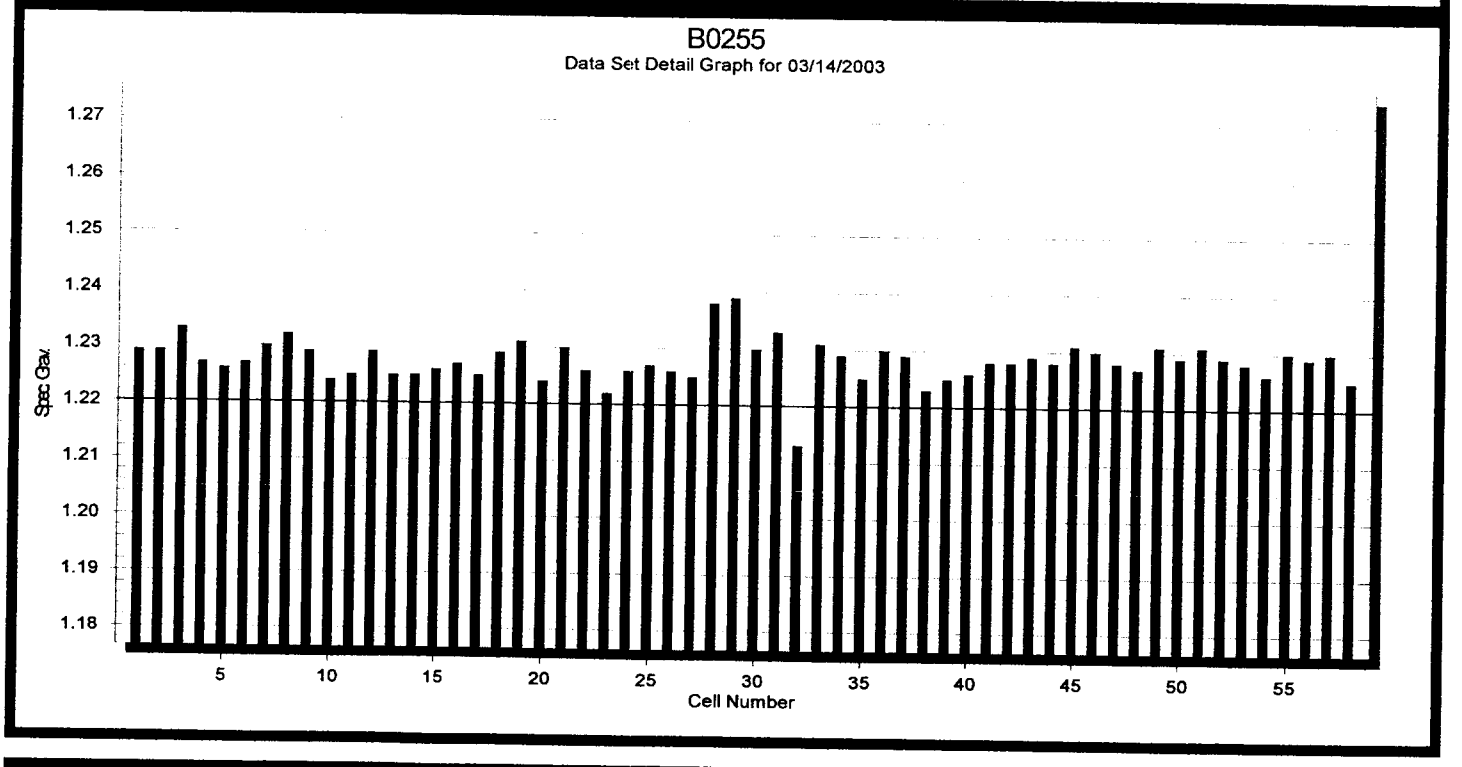
Threshold Deviation Report

B0255 **Exide 3CC-9** **Eagle Point**

Threshold Values

Threshold	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
High	2.330	1180.000	0.000	0.000	0.000	0.000	82.000	1.220
Low	2.170	860.000	0.000	0.000	0.000	0.000	72.000	1.205





Threshold Deviation Report

Threshold Values

Threshold	Voltage	Internal Res.	Intercell R1	Intercell R2	Intercell R3	Intercell R4	Temp. (F)	S.G.
High	2.330	1180.000	0.000	0.000	0.000	0.000	82.000	1.220
Low	2.170	860.000	0.000	0.000	0.000	0.000	72.000	1.205

End of B0255 Report

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **SPL_TCN_69kV** Scheme: **BREAKER** Sheet 1 of 1
Circuit Breakers Tripped: **4E24** Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

1.0 4E24_50BF KC-4 KC-4#293B004A13 NSP Ser.#: **4816**

Inst Top, Mid 2-8 Tap: **2.00** Primary PU: **160.0** Amps
Overall CT Ratio: 400/5

Inst Bottom 0.5-2 Tap: **0.50** Primary PU: **40.0** Amps
Overall CT Ratio: 400/5

Date Last Tested: 5-Feb-1996

2.0 4E24_62BF TD-5 TD-5#293B301A24B NSP Ser.#: **3024**

Timer Unit **1** 0.05-1.00 Seconds Set at **18.0** Cycles
Supv. Element Data: Relay Name: 4E24_50BF NSP Ser.#: 4816

Date Last Tested: 6-Feb-1996

13.0 4E24_25 IJS 12IJS51A3A NSP Ser.#: **497**

Overall CT Ratio: /1 VT Ratio: /1

TAP NAME	TAP SETTING
CLOSING ANGLE	20.000
TIME DIAL	0.000
VOLTS (TEST)	0.000

Date Last Tested: 13-Feb-1996

14.0 4E24_79 RC RC#1876173 NSP Ser.#: **502**

Overall CT Ratio: /1 VT Ratio: /1

TAP NAME	TAP SETTING
Reset	60.000
1st Reclose	0.000
2nd Reclose	0.000
3rd Reclose	0.000
4th Reclose	0.000
1st Reclose INST	YES

Date Last Tested: 7-Feb-1996

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **SPL_TCN_69kV** Scheme: **PRIMARY** Sheet 1 of 2
Circuit Breakers Tripped: **4E24** Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

3.0 SPL_21P1 KD KD#289B142A09 NSP Ser.#: 511

Zone 1 0.75-20.5 **9.9 Ohms at 72.0 Deg**
Overall CT Ratio: 400/5 VT Ratio: 600/1

Field to remove "W" from NSP stock number.

Date Last Tested: 6-Feb-1996

85% TO SPOKESVILLE

4.0 SPL_21P2 KD KD#289B142A09 NSP Ser.#: 512

Zone 2 0.75-20.5 **14.7 Ohms at 72.0 Deg**
Overall CT Ratio: 400/5 VT Ratio: 600/1
Field to remove or verify removal of "W" from NSP stock number.

Date Last Tested: 6-Feb-1996

125% OF SPOKESVILLE

5.0 SPL_21P3 KD-1 KD-1#289B142A15 NSP Ser.#: 513

Zone 3 0.75-20.5 **16.0 Ohms at 72.0 Deg**
Overall CT Ratio: 400/5 VT Ratio: 600/1
Field to remove or verify removal of "W" from NSP stock number.

Date Last Tested: 1-Feb-1996

135% OF SPOKESVILLE

6.0 SPL_2P TD-4 TD-4#290B349A09 NSP Ser.#: 500

Timer Unit 1 0.10-1.00 Seconds Set at **30.0** Cycles
Supv. Element Data: Relay Name: SPL_21P2 NSP Ser.#: 512
Field to remove "W" from NSP stock number.

Timer Unit 2 0.50-3.00 Seconds Set at **30.0** Cycles
Supv. Element Data: Relay Name: SPL_21P3 NSP Ser.#: 513

Date Last Tested: 6-Feb-1996

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **SPL_TCN_69kV** Scheme: **PRIMARY** Sheet 2 of 2
Circuit Breakers Tripped: **4E24** Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

7.0 SPL_67GTP **IRD-9** IRD-9#289B449A11A NSP Ser.#: **6672**

Time 0.5-2.5 Tap: **2.0** Primary PU: **160.0** Amps
Test Point **14.7** Amps @ **30.0** Cycles T.D. **3.0**
Overall CT Ratio: 400/5

Inst 10-40 Tap: **21.00** Primary PU: **1680.0** Amps
Overall CT Ratio: 400/5

Dir 2.0 Vpol*Iop Setting: **1.0** Volts,____ * **2.0** Amps,____
0.25 Ipol*Iop Setting: **0.5** Amps,____ * **0.5** Amps,____
Overall CT Ratio: 400/5 Direction: Forward

Date Last Tested: 7-May-2002

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **SPL_TCN_69kV** Scheme: **SECONDARY** Sheet 1 of 2
Circuit Breakers Tripped: **4E24** Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

8.0 SPL_50S **KC-4** KC-4#293B004A11 NSP Ser.#: **3029**

Inst Top, Mid 2-8 Tap: **2.00** Primary PU: **160.0** Amps
Overall CT Ratio: 400/5

Inst Bottom 2-8 Tap: **2.00** Primary PU: **160.0** Amps
Overall CT Ratio: 400/5

Date Last Tested: 5-Feb-1996

9.0 SPL_21S1 **KD-4** KD-4#292B335A15 NSP Ser.#: **3026**

Zone 1 0.74-21.2 **10.0 Ohms at 72.0 Deg**
Overall CT Ratio: 400/5 VT Ratio: 600/1

Date Last Tested: 7-Feb-1996

79% OF SPOKESVILLE

10.0 SPL_67GTS **IRD-9** IRD-9#289B449A10 NSP Ser.#: **3027**

Time 0.5-2.5 Tap: **2.0** Primary PU: **160.0** Amps
Test Point **14.7** Amps @ **30.0** Cycles T.D. **3.0**
Overall CT Ratio: 400/5

Inst 4-16 Tap: **16.00** Primary PU: **1280.0** Amps
Overall CT Ratio: 400/5
INSTANTANEOUS SET FOR 17 AMP PICK UP.

Dir 2.0 Vpol*Iop Setting: **1.0** Volts,____ * **2.0** Amps,____
0.25 Ipol*Iop Setting: **0.5** Amps,____ * **0.5** Amps,____
Overall CT Ratio: 400/5 Direction: Forward

Date Last Tested: 1-Feb-1996

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **SPL_TCN_69kV** Scheme: **SECONDARY** Sheet 2 of 2
Circuit Breakers Tripped: **4E24** Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

11.0 SPL_21S2/67GTS SEL-2PG10 SEL-2PG10-00 NSP Ser.#: **9291**

Overall CT Ratio: 400/5 VT Ratio: 600/1

TAP NAME	TAP SETTING
S/N	94235013
FID#	SEL-PG10-R402-V656mprus2-D930830
ID	T-CORNERS 69KV SPOKESVILLE LINE - 4E24
R1	3.600
X1	11.230
R0	11.230
X0	44.690
LL	16.520
CTR	80.000
PTR	600.000
MTA	72.000
LOCAT	Y
Z%	125.000
PTMR	30.000
50L	320.000
67NP	160.000
67NTD	2.920
67NC	3
67NTC	Y
67NIP	1680.000
GTMR	0.000
32QE	Y
32VE	N
32IE	N
TIME1	5.000
TIME2	0.000
AUTO	3
RINGS	2.000
MT	16
MA1	00
MA2	00
MA3	00
MA4	00
MA5	00

Timer Unit 1 **67DT** 0.0-2000.0 Cycles Set at **0.0** Cycles

Timer Unit 1 **ZPT** 0.0-2000.0 Cycles Set at **30.0** Cycles

Date Last Tested: 8-Dec-1994

Reach = 125% of the Spokesville Line.

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **TRANSFORMER** Sheet 1 of 8
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

5.0 TR2_87T2_A **BDD15** 12BDD15B16A NSP Ser.#: **3064**

Overall CT Ratio: /1 VT Ratio: /1

TAP NAME	TAP SETTING
DC Control Volts	48.000
Slope %	15.000
Winding #1	2.900
Winding #2	2.900

Inst OPERATE 2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Inst RESTRAINT2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Inst RESTRAINT2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Date Last Tested: 19-Jan-2001

6.0 TR2_87T2_B **BDD15** 12BDD15B16A NSP Ser.#: **3065**

Overall CT Ratio: /1 VT Ratio: /1

TAP NAME	TAP SETTING
DC Control Volts	48.000
Slope %	15.000
Winding #1	2.900
Winding #2	2.900

Inst OPERATE 2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Inst RESTRAINT2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Inst RESTRAINT2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Date Last Tested: 22-Jan-2001

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **TRANSFORMER** Sheet 2 of 8
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

7.0 TR2_87T2_C **BDD15** 12BDD15B16A NSP Ser.#: **3066**

Overall CT Ratio: /1 VT Ratio: /1

TAP NAME	**TAP SETTING**
DC Control Volts	48.000
Slope %	15.000
Winding #1	2.900
Winding #2	2.900

Inst OPERATE 2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Inst RESTRAINT2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Inst RESTRAINT2.9-8.7 Tap: **0.00** Primary PU: **0.0** Amps
Overall CT Ratio: 400/5

Date Last Tested: 22-Jan-2001

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **TRANSFORMER** Sheet 3 of 8
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

11.0 TR2_51H-X SEL-501 SEL-501203X561XXB NSP Ser.#: **9693**

Overall CT Ratio: /1 VT Ratio: /1

TAP NAME	TAP SETTING
S/N	2002044004
FID#	SEL-501-2-R506-V65X1XXp2-D000105
ID	TCN-51H, TR2
CTR	46.200
DATC	OFF
IN	ET
50PP	OFF
50PD	0.000
50PTT	N
50PTC	Y
50H	OFF
50HT	N
50HC	Y
50QP	OFF
50QD	1.500
50QTT	N
50QTC	Y
50NP	OFF
50ND	0.000
50NTT	N
50NTC	Y
50NH	OFF
50NHT	N
50NHC	Y
51PP	8.000
51PC	U1
51PTD	4.300
51PRS	N
51PTT	1
51PTC	N
51QP	OFF
51QC	U1
51QTD	0.050
51QRS	Y
51QTT	N
51QTC	Y
51NP	OFF
51NC	U1
51NTD	0.050
51NRS	N
51NTT	1
51NTC	N
TRPU1	0.000
TDUR1	15.000

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **TRANSFORMER** Sheet 4 of 8
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

TAP NAME	**TAP SETTING**
TRPU2	0.000
TDUR2	15.000
ELTCH	N
PROTOCOL	SEL
SPEED	9600.000
DATA_BITS	8.000
PARITY	N
STOP	2.000
TIMEOUT	5.000
AUTO	N
RTS_CTS	Y
FAST_OP	N

Time 51NT 0.5-16 Tap: **0.5** Primary PU: ******** Amps
Time Characteristics:US_MOD_INVERSE_501,_____
Test Point **1.2** Amps @ **210.6** Cycles T.D. **6.0**
Overall CT Ratio: ******/5

Time 51PT 0.5-16 Tap: **8.0** Primary PU: **640.0** Amps
Time Characteristics:US_MOD_INVERSE_501,_____
Test Point **24.0** Amps @ **126.6** Cycles T.D. **4.3**
Overall CT Ratio: 400/5

Time 51QT 0.5-16 Tap: **0.5** Primary PU: **40.0** Amps
Time Characteristics:US_MOD_INVERSE_501,_____
Test Point **5.0** Amps @ **0.0** Cycles T.D. **0.5**
Overall CT Ratio: 400/5

Inst 50H 0.5-80 Tap: **0.50** Primary PU: **40.0** Amps
Overall CT Ratio: 400/5

Inst 50NH 0.5-80 Tap: **0.50** Primary PU: **40.0** Amps
Overall CT Ratio: 400/5

Inst 50NP 0.5-80 Tap: **0.50** Primary PU: **40.0** Amps
Overall CT Ratio: 400/5

Inst 50PP 0.5-80 Tap: **0.50** Primary PU: **40.0** Amps
Overall CT Ratio: 400/5

Inst 50QP 0.5-80 Tap: **0.50** Primary PU: **40.0** Amps
Overall CT Ratio: 400/5

Timer Unit **1 50ND** 0.0-16000.0 Cycles Set at **0.0** Cycles

Timer Unit **1 50PD** 0.0-16000.0 Cycles Set at **0.0** Cycles

Timer Unit **1 50QD** 0.0-16000.0 Cycles Set at **0.0** Cycles

Date Last Tested: 30-Apr-2002

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **TRANSFORMER** Sheet 5 of 8
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

11.0 TR2_51H-X **SEL-501** SEL-501203X561XXB NSP Ser.#: **9693**

Actual Model Number 501203X561XXB

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **TRANSFORMER** Sheet 6 of 8
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

12.0 TR2_51N-Y **SEL-501** SEL-501203X561XXB NSP Ser.#: **9693**

Overall CT Ratio: /1 VT Ratio: /1

TAP NAME	TAP SETTING
S/N	2002044004
FID#	SEL-501-2-R506-V65X1XXp2-D000105
ID	TCN-51N, TR2
CTR	30.000
DATC	OFF
IN	ET
50PP	OFF
50PD	0.000
50PTT	N
50PTC	Y
50H	OFF
50HT	N
50HC	Y
50QP	OFF
50QD	1.500
50QTT	N
50QTC	Y
50NP	OFF
50ND	0.000
50NTT	N
50NTC	Y
50NH	OFF
50NHT	N
50NHC	Y
51PP	OFF
51PC	U1
51PTD	0.050
51PRS	N
51PTT	1
51PTC	N
51QP	OFF
51QC	U1
51QTD	0.050
51QRS	Y
51QTT	N
51QTC	Y
51NP	8.000
51NC	U1
51NTD	6.000
51NRS	N
51NTT	1
51NTC	N
TRPU1	0.000
TDUR1	15.000

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **TRANSFORMER** Sheet 7 of 8
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

TAP NAME	TAP SETTING
TRPU2	0.000
TDUR2	15.000
ELTCH	N
PROTOCOL	SEL
SPEED	9600.000
DATA_BITS	8.000
PARITY	N
STOP	2.000
TIMEOUT	5.000
AUTO	N
RTS_CTS	Y
FAST_OP	N

Time 51NT 0.5-16 Tap: **8.0** Primary PU: **240.0** Amps
Time Characteristics:US_MOD_INVERSE_501,_____
Test Point **20.0** Amps @ **210.6** Cycles T.D. **6.0**
Overall CT Ratio: 150/5

Time 51PT 0.5-16 Tap: **0.5** Primary PU: **15.0** Amps
Time Characteristics:US_MOD_INVERSE_501,_____
Test Point **1.5** Amps @ **126.6** Cycles T.D. **4.3**
Overall CT Ratio: 150/5

Time 51QT 0.5-16 Tap: **0.5** Primary PU: **15.0** Amps
Time Characteristics:US_MOD_INVERSE_501,_____
Test Point **5.0** Amps @ **0.0** Cycles T.D. **0.5**
Overall CT Ratio: 150/5

Inst 50H 0.5-80 Tap: **0.50** Primary PU: **15.0** Amps
Overall CT Ratio: 150/5

Inst 50NH 0.5-80 Tap: **0.50** Primary PU: **15.0** Amps
Overall CT Ratio: 150/5

Inst 50NP 0.5-80 Tap: **0.50** Primary PU: **15.0** Amps
Overall CT Ratio: 150/5

Inst 50PP 0.5-80 Tap: **0.50** Primary PU: **15.0** Amps
Overall CT Ratio: 150/5

Inst 50QP 0.5-80 Tap: **0.50** Primary PU: **15.0** Amps
Overall CT Ratio: 150/5

Timer Unit 1 **50ND** 0.0-16000.0 Cycles Set at **0.0** Cycles

Timer Unit 1 **50PD** 0.0-16000.0 Cycles Set at **0.0** Cycles

Timer Unit 1 **50QD** 0.0-16000.0 Cycles Set at **0.0** Cycles

Date Last Tested: 30-Apr-2002

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **TRANSFORMER** Sheet 8 of 8
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

12.0 **TR2_51N-Y** **SEL-501** SEL-501203X561XXB NSP Ser.#: **9693**

Actual Model Number 501203X561XXB

T-CORNERS (NSPW) TCN
RELAY SUMMARY SHEET

Region: **NSPW** Issued by: Date: Checked by:
LZOP: **TCN_TR2** Scheme: **BREAKER** Sheet 1 of 1
Circuit Breakers Tripped: Bkr. Time: Cyc
Project:
Notes: **Sample Test Sheets**

8.0 4E21_50BF KC-4 KC-4#293B004A14 NSP Ser.#: **3070**

Inst Top, Mid 2-8 Tap: **2.00** Primary PU: **320.0** Amps
Overall CT Ratio: 800/5

Inst Bottom 1-4 Tap: **1.00** Primary PU: **160.0** Amps
Overall CT Ratio: 800/5

Date Last Tested: 31-Jan-2001

9.0 4E21_62BF TD-5 TD-5#293B301A24B NSP Ser.#: **3074**

Timer Unit **1** 0.05-1.00 Seconds Set at **18.0** Cycles

Date Last Tested: 3-Jan-2001

10.0 4E21_25/27 CVE-2 CVE-2#292B665A09 NSP Ser.#: **9621**

Overall CT Ratio: /1 VT Ratio: /1

TAP NAME	TAP SETTING
TIME DIAL	0.000
CLOSING ANGLE	40.000
CLOSE (TEST)	0.000
ANGLE (TEST)	0.000
VOLTS (TEST)	0.000
27B PU	0.000
27B DO	0.000
27L PU	0.000
27L DO	0.000
25X PU	0.000
25X DO	0.000
SX1 PU	0.000
SX1 RESET	0.000
SX2 PU	0.000
SX2 RESET	0.000

Date Last Tested: 31-Jan-2001

MAINTENANCE AND TEST REPORT

PASSPORT WO NO. 1026207701

DATE:11-5-02

STATION: RICE LAKE EQUIP. #: 4A17 COMPUTER#: CB0054 SERIAL #: 6348953-301

INITIAL ☐ MAJOR ☒ MINOR ☐ EMERGENCY ☐ SPECIAL:

REQUESTED BY: BILDERBACK ORDER#: 500565

EQUIPMENT: OCB

NAMEPLATE DATA

MANUFACTURER: GE TYPE: FK-339-1000 INST. BOOK: GEI-11388D

MECH. TYPE: MA-14 PHEUMATIC ☒ SPRING ☒ SOLENOID ☐ HYDRAULIC ☐ INST. BOOK: GEI-17383D

VOLTAGE: 69KV CURRENT: 600 MVA: GAL. OF OIL: 990

MISC.:

COUNTER READING – AS FOUND: 1969 AS LEFT:

FACTUAL DATA AND MISCELLANEOUS INFORMATION

COMPRESSOR BELT 48-440

WORK DONE (EXPLAIN IN DETAIL)

RECOMMENDATIONS ☐ MATERIAL USED ☐

MAN IN CHARGE: BILDERBACK CREW MEMBERS: LUEHMAN REPORT NOTED BY:

TEST RESULTS

PRES. SW. SETTINGS	OPEN	CLOSE	OPERATION TESTS			
			NORMAL TRIP	☐		
GOV.			CO	☐	OC	☐
ALARM			HALF VOLTAGE	☐		
C.O.			PUSH-OUT	☐		
PRECHARGE			OTHERS:			

COIL VALUES (OHMS)

TC1	2.1	CC	X	324.4
TC2	3.8		Y	19.4

OTHERS CLOSE COIL = 1-2 9.5, 3-4 1467, 5-6 .6, 9-10 .7

MEASUREMENTS	AØ	BØ	CØ	OIL	AØ	BØ	CØ
PENETRATION	11/16"	11/16"	11/16"	DIELECTRIC			

STOP CLEARENCE	1/16"	1/16"	1/16"	COLOR	DARK AMBER	
LIFTROD TRAVEL	15 13/16"			CARBON	HEAVY	
BELL CRANK				FILTERED	☒	CHANGED ☐
OTHERS				OTHER INFO		

CONTACT INSP.

MAINS GOOD

ARCS HEAVY PITTING

MISC.

CONTACT RESISTANCE

PHASE	MV METER SCALE	READ	R_c MICHOHMS	I RATED	$(1/1000)^2 R_c$	WATTS LOST
AS FOUND						
A	1	350	350	600		
B	1	383	383	600		
C	1	407	407	600		
AS LEFT						
A	1			600		
B	1			600		
C	1			600		

MAINTENANCE AND TEST R ORT CB0795 DATE 10 September 2001

STATION Mayfair Sub EQUIP. NO. MAF071 SERIAL 86C103 ESVA DIV. ____ BUS. ____

INITIAL ☐ MAJOR ☒ MINOR ☐ EMERGENCY ☐ SPECIAL ____

REQUESTED BY Maint Program DATE 6/2001 ORDER NO. ____

EQUIPMENT Three Phase Vacuum Circuit Reclosure

NAMEPLATE DATA

MANUFACTURER Westinghouse TYPE ESVA INST. BOOK 38-781-4

MECH. TYPE ____ PNEUMATIC ☐ SPRING ☒ SOLENOID ☐ HYDRAULIC ☐ INST. BOOK Same

VOLTAGE 15.5 KV max CURRENT 600 MVA ____ GAL. OF OIL N/A

MISC. Date of Mfgr - 3-8-86

COUNTER READING – AS FOUND 203 AS LEFT 206

FACTUAL DATA AND MISCELLANEOUS INFORMATION

WORK DONE (EXPLAIN IN DETAIL)

We came to do a major inspection of this VCR. We performed the following tasks to the Breaker:

1) Hi Pot the Vacuum Bottles in the Open Position
2) Contact Resistance the Breaker in the Closed Position
3) Time the open & close operation of the Breaker
4) take readings of all control solenoids
5) electrically + mechanically test operate the Unit.

We did all with the Exception of #2 (unit broken). the Hi-pot test results are slightly higher than normal due to Rain + Humid air. the operation of the VCR was good, and clean-up was minimal (not much dust). the Breaker is in great shape.

(CONTINUED ON BACK)

RECOMMENDATIONS ☐ MATERIALS USED ☐

MAN IN CHARGE HAUKE CREW MEMBERS VIGNESS

TIME ____ CREW HOURS ____ REPORT NOTED BY MS

WORK DONE – (Continued) Hi pot 5 minutes at 30KV, 1 ms Hold
AØ - 69μA drain Current BØ-46μA drain Current CØ-36μA drain Current

MAF071 CC	MAF071 TC
0054.0MS	0048.5MS
03.240CV	02.910CV
0054.0MS	0048.4MS
03.240CV	02.904CV
0054.2MS	0048.5MS
03.252CV	02.910CV
F HAB=0000.0MS	F HAB=0000.0MS

TEST RESULTS

PRES. SW. SETTINGS

	OPEN	CLOSE
GOV.		
ALARM	N/A	
C.O.		
PRECHARGE		

CYCLE COUNT

POLE	1	2	3
CLOSE			
TRIP #1			
TRIP #2			
DEADTIME			

COIL VALUES (OHMS)

TC1 2.8 CC 8.1 X 8910
TC2 7.8 Y 8680
OTHERS K-1736 / AR 8730 / LR1-4020
LR2-3930

OPERATION TESTS

NORMAL TRIP ☒
CO ☐ OC ☐
HALF VOLTAGE ☐
PUSH-OUT ☐
OTHERS

MEASUREMENTS	AØ	BØ	CØ
PENETRATION	.404	.371	.392
STOP CLEARANCE			
LIFTROD OVER TRAVEL	.156	.148	.146
BELL CRANK			
OTHERS			

OIL	AØ	BØ	CØ
DIELECTRIC			
COLOR	N/A		
CARBON			
FILTERED ☐ CHANGED ☐			
OTHER INFO.			

CONTACT INSP.

MAINS N/A
ARCS
MISC.

CONTACT RESISTANCE

PHASE	MV METER Scale	MV METER Read	Rc MICROHMS	I RATED	$(\frac{I}{1000})^2 R_c$	WATTS LOSS
AS FOUND						
AS LEFT						

MAINTENANCE AND TEST REPORT

DATE 25 MAY 01

STATION LA Crosse EQUIP. NO. _____ SERIAL 80515 DIV. _____ BUS. _____

INITIAL ☐ MAJOR ☐ MINOR ☒ EMERGENCY ☐ SPECIAL _____

REQUESTED BY Jim King DATE May 01 ORDER NO. _____

EQUIPMENT 1 Ø oil circuit Recloser

NAMEPLATE DATA

MANUFACTURER KYLE TYPE E F-2 INST. BOOK _____

MECH. TYPE _____ PNEUMATIC ☐ SPRING ☒ SOLENOID ☒ HYDRAULIC ☐ INST. BOOK _____

VOLTAGE 27 CURRENT 70 Amp MVA _____ GAL. OF OIL _____

MISC. Tripping curve 1 A 3B

COUNTER READING – AS FOUND 96 AS LEFT _____

FACTUAL DATA AND MISCELLANEOUS INFORMATION

WORK DONE (EXPLAIN IN DETAIL)

we Electrically Timed This OCR and following are the Results. We didn't Do anything else.

	1	2	3	4
Cycle Count 332	.069	.719	.730	.726

Min Pick-up 139.5 amps
Min Trip .38 secs 2.51 secs on B curve
one shot is
4 shot is

(CONTINUED ON BACK)

RECOMMENDATIONS ☐ MATERIALS USED ☐

MAN IN CHARGE _____ CREW MEMBERS _____

TIME _____ CREW HOURS REPORT NOTED BY _____

SINGLE PHASE REGULATOR MAINTENANCE REPORT

LOCATION Hay River MAKE Siemans S/N 05142-3 DESIGN B

'E JFR KVA 288 KV 13.8 AMP 200 MEGGER 1 GΩ

FEEDER Hay 81 CAPACITOR VALUE 6.5 uf GAL. OIL 171 COUNTER 118560

HEIGHT (to live part) 7'0" WEIGHT 4069 BASE HOLE CENTERS 25½" x 25½" COMP # REG 975

TTR RESULTS

	16	1.114
	15	1.106
	14	1.099
	13	1.091
	12	1.083
	11	1.076
	10	1.068
	9	1.061
	8	1.054
	7	1.047
	6	1.040
	5	1.033
	4	1.027
	3	1.020
	2	1.013
	1	1.006
..utral		1.000
	1	.994
	2	.987
	3	.981
	4	.975
	5	.968
	6	.962
	7	.957
	8	.951
	9	.946
	10	.940
	11	.935
	12	.929
	13	.923
	14	.918
	15	.913
	16	.907

MAINTENANCE SCHEDULE

**** *DATE COMPLETED* ****

REG-1YCNTL 2-27-01

REG-3YROIL 2-27-01

REG-9YRMJ 2-27-01

OIL ANALYSIS

TL# 14337 PPM 2

COLOR: CLEAR ____ LIGHT AMBER ✓ MEDIUM AMBER ____

SAMPLE CARBON: NONE ✓ STREAKS ____

ACID TEST PRESENT ____ NOT PRESENT ✓

DIELECTRIC VALUE 51 kv

TESTED BY: K.H.

TASKS PERFORMED

1. UNTANKED ✓
2. FILTERED OIL ✓
3. REPLACED OIL ____
4. INSPECTED MECH ✓
5. EXTERNAL CAPACITOR ✓
6. INTERNAL CAPACITOR ____
7. EXTENDED CONTROL CABINET ____
8. NEUTRAL LIGHT OPERATION ✓
9. COUNTER OPERATION ✓
10. LIMIT SWITCH OPERATION ✓
11. DRAG HAND OPERATION ✓
12. PAINTED EXTERIOR ____

COMMENTS:

① CONTACTS ARE IN GOOD CONDITION ② MOVED THE MOTOR CAPACITOR TO THE CONTROL CABINET ③ TIGHTEN MOTOR MOUNTING BOLTS. ④ The request was made not to paint the exterior at this time.

SINGLE PHASE REGULATOR MAINTENANCE REPORT

LOCATION Hay River MAKE Siemens S/N 05142-1 DESIGN B

E JFR KVA 288 KV 13.8 AMP 200 MEGGER 1 GΩ

FEEDER Hay 81 CAPACITOR VALUE 6.5 uf GAL OIL 171 COUNTER 89878

HEIGHT (to live part) 7' 0" WEIGHT 4069 BASE HOLE CENTERS 25½" x 25½" COMP # REG 973

TTR RESULTS

	16	1.113
	15	1.105
	14	1.097
	13	1.090
	12	1.083
	11	1.075
	10	1.068
	9	1.060
	8	1.054
	7	1.047
	6	1.040
	5	1.033
	4	1.024
	3	1.019
	2	1.013
	1	1.005
..utral		1.000
	1	.992
	2	.986
	3	.980
	4	.974
	5	.968
	6	.962
	7	.956
	8	.951
	9	.946
	10	.939
	11	.932
	12	.929
	13	.923
	14	.917
	15	.911
	16	.906

MAINTENANCE SCHEDULE

**** DATE COMPLETED ****

REG-1YCNTL 2-26-01

REG-3YROIL 2-26-01

REG-9YRMJ 2-26-01

OIL ANALYSIS

TL# 14338 PPM 2

COLOR: CLEAR ___ LIGHT AMBER ✓ MEDIUM AMBER ___

SAMPLE CARBON: NONE ✓ STREAKS ___

ACID TEST PRESENT ___ NOT PRESENT ✓

DIELECTRIC VALUE 31.8

TESTED BY: K.H.

TASKS PERFORMED

1. UNTANKED ✓
2. FILTERED OIL ✓
3. REPLACED OIL ___
4. INSPECTED MECH ✓
5. EXTERNAL CAPACITOR ✓
6. INTERNAL CAPACITOR ___
7. EXTENDED CONTROL CABINET ___
8. NEUTRAL LIGHT OPERATION ✓
9. COUNTER OPERATION ✓
10. LIMIT SWITCH OPERATION ✓
11. DRAG HAND OPERATION ✓
12. PAINTED EXTERIOR ___

COMMENTS:

① CONTACTS WERE IN GOOD CONDITION ② REPLACED THE NEUTRAL LIGHT SWITCH. ③ MOVED THE MOTOR CAPACITOR TO THE CONTROL CABINET. ④ THE REQUEST WAS MADE NOT TO PAINT THE EXTERIOR.

** THE PANEL HAS BEEN REPLACED SO THE COUNTER NUMBER WILL BE DIFFERANT.

J:\PEM\ELECT\WORD\SIN_REG.doc
06/28/00

SINGLE PHASE REGULATOR MAINTENANCE REPORT

LOCATION Hay River MAKE A-C S/N 3-3753-04321-8 DESIGN A

'E SFR KVA 288 KV 13.8 AMP 200 MEGGER 1.5 GΩ

FEEDER Hay 81 CAPACITOR VALUE 6 μf GAL. OIL 161 COUNTER 121382

HEIGHT (to live part) 7'0" WEIGHT 3953 BASE HOLE CENTERS 25½" x 25½" COMP # REG 97

TTR RESULTS

	16	1.104
	15	1.096
	14	1.090
	13	1.083
	12	1.076
	11	1.071
	10	1.064
	9	1.056
	8	1.052
	7	1.045
	6	1.039
	5	1.033
	4	1.026
	3	1.018
	2	1.013
	1	1.005
Neutral		1.000
	1	.994
	2	.987
	3	.980
	4	.974
	5	.967
	6	.960
	7	.954
	8	.947
	9	.940
	10	.934
	11	.929
	12	.922
	13	.915
	14	.907
	15	.900
	16	.997

MAINTENANCE SCHEDULE

**** DATE COMPLETED ****

REG-1YCNTL 2-28-01

REG-3YROIL 2-28-01

REG-9YRMJ 2-28-01

OIL ANALYSIS

TL# 9444 PPM 0

COLOR: CLEAR ___ LIGHT AMBER ✓ MEDIUM AMBER ___

SAMPLE CARBON: NONE ✓ STREAKS ___

ACID TEST PRESENT ___ NOT PRESENT ✓

DIELECTRIC VALUE 41.6

TESTED BY: K.H.

TASKS PERFORMED

1. UNTANKED ✓
2. FILTERED OIL ✓
3. REPLACED OIL ___
4. INSPECTED MECH ✓
5. EXTERNAL CAPACITOR ✓
6. INTERNAL CAPACITOR ___
7. EXTENDED CONTROL CABINET ✓
8. NEUTRAL LIGHT OPERATION ✓
9. COUNTER OPERATION ✓
10. LIMIT SWITCH OPERATION ___
11. DRAG HAND OPERATION ✓
12. PAINTED EXTERIOR ___

COMMENTS:

① All contacts are in good condition, ② tightened motor mount bolts & motor housing screws. ③ Moved the motor capacitor to the control cabinet. ④ The request was made not to paint this reg.

InfraTech

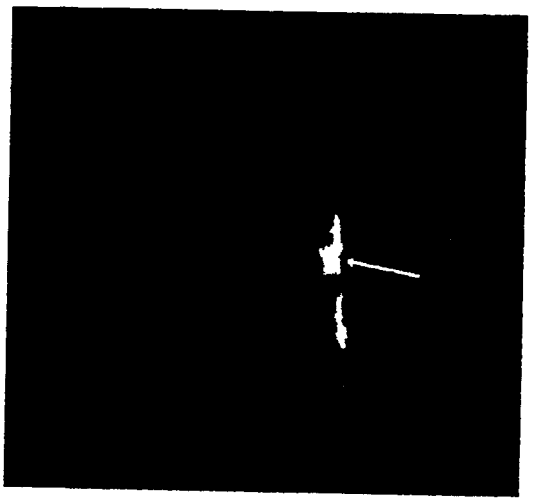
"We See the Difference"

Company X-CEL Energy **Current Date:** 04/18/01

Address 1414 W. Hamilton PO Box 8

City Eau Claire **State** WI **Zip Code** 54701

Contact Michael Scheppke **Phone** (715) 839-1418



Reference Temp: 46 F. **Temperature Rise:** 94 F.

Fault Temp: 140 F.

Location: Cedar Falls Hydro

Panel Name or Number: Switch 641 B 2.4 KV Disc.

Description:

The south or blue phase is warm. The closing point on this switch appears to be hot.

Scanned by: Gerry Burdick
8007 Croyle Ave
Rapid City, SD 57702
Phone: (605) 388-8591

Caution: Before you start
Lockout for Safety!

MAINTENANCE AND TEST R' 'ORT

DATE 10 -01

STATION Otter Creek EQUIP. NO. #2 TRN SERIAL C-05696-5-2 DIV. N/A BUS. 2

INITIAL ☐ MAJOR ☐ MINOR ☐ EMERGENCY ☐ SPECIAL Inspect LTC

REQUESTED BY Jim King DATE 10-3-01 ORDER NO. TRN326

EQUIPMENT TRANSFORMER

NAMEPLATE DATA

MANUFACTURER McGraw-Edison TYPE OA/FA/FA INST. BOOK

MECH. TYPE 550BL PNEUMATIC ☐ SPRING ☐ SOLENOID ☐ HYDRAULIC ☐ INST. BOOK

VOLTAGE 68800A-13200Y/7970 CURRENT 1046 MVA 28 GAL. OF OIL See Note

MISC.

COUNTER READING – AS FOUND 192636 AS LEFT 192683

FACTUAL DATA AND MISCELLANEOUS INFORMATION

* Oil Data - Main Tank 3750 gallons - TL 3459-2 ppm
LTC Comp 188 gallons - TL 45655-3 ppm

WORK DONE (EXPLAIN IN DETAIL)

① Inspected LTC on complaint of intermittent operation, actual fuse failing on in-rush current. No serious problems were discovered inside the LTC compartment.
② All six main moving contact assemblies were replaced due to wear
③ 24 main stationary contacts were replaced due to wear
④ After contact replacement tapchanger was operated by hand 16R-16L to insure proper alignment.
⑤ Tapchanger was run electrically & TTR tested on all steps "Tap A"
⑥ The control circuitry for lower operation does not work properly - this problem has been directed to the relay department.
⑦ LTC filter was replaced - hour meter read "5513"
⑧ Released clearance

* When replacing contacts main tank pressure should be zero to obtain proper contact alignment.

(CONTINUED ON BACK)

RECOMMENDATIONS ☐ MATERIALS USED ☐

* * LTC Velcon Filter Data
- Model - TP-2
- Filter Housing - VF-71E
- S/N - 812062
- Flow - 2 GPM
- Hour Meter = 5513 - New Filter installed

MAN IN CHARGE CREW MEMBERS Keith - Art

TIME CREW HOURS REPORT NOTED BY MS

* New Parts for Stock Need To Be Ordered

– (Continued)

STING #2 TRN CTC Controls

① 34D - Allen Bradley - Type N Relay - Catalog # 700-N400A1 - Series "C"

② 34R & 34L - ITE/ROWAN - Catalog # 2180R-FER62AA

Existing #1 TRN CTC Controls "NEW HARDWARE"

① 34D - Furnas - Catalog # 42CF35AF

② 34R & 34L - Allen Bradley - Catalog # 100-A24ND3 - Series "C"

③ 62A - DURAKOOL - Catalog # BFT-7034

TEST RESULTS

PRES. SW. SETTINGS

	OPEN	CLOSE
GOV.		
ALARM		
C.O.		
PRECHARGE		

CYCLE COUNT

POLE	1	2	3
CLOSE			
TRIP #1			
TRIP #2			
DEADTIME			

COIL VALUES (OHMS)

TC1 _____ CC _____ X _____

TC2 _____ Y _____

OTHERS _____

OPERATION TESTS

NORMAL TRIP ☐

CO ☐ OC ☐

HALF VOLTAGE ☐

PUSH-OUT ☐

OTHERS _____

MEASUREMENTS	AØ	BØ	CØ
PENETRATION			
STOP CLEARANCE			

LIFTROD TRAVEL _____

BELL CRANK _____

OTHERS _____

OIL	AØ	BØ	CØ
DIELECTRIC			

COLOR _____

CARBON _____

FILTERED ☐ CHANGED ☐

OTHER INFO. _____

CONTACT INSP.

MAINS _____

ARCS _____

MISC. _____

CONTACT RESISTANCE

PHASE	MV METER Scale	MV METER Read	R_c MICROHMS	I RATED	$\left(\frac{I}{1000}\right)^2 R_c$	WATTS LOSS
AS FOUND						
AS LEFT						

See Back Side

TRANSFORMER FIELD TEST REPORT - L. . EQUIPMENT
FORM 0334-9

Location Otter Creek Equip. #2 Transformer Make McGraw-Ed.

T.T.R. TEST:

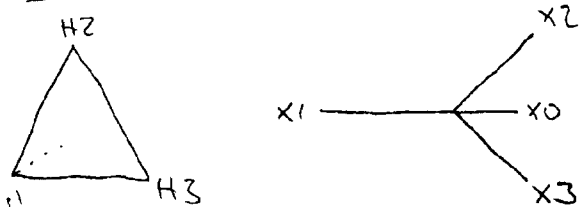
☐ New Transf. ☒ Old Transf. ☐ Before Repairs ☒ After Repairs ☐ Emergency** ~~[illegible]~~

Note: Set H.V. Ratio Adjuster on Tap Position Corresponding to Full High-Voltage Winding for LTC Ratio Check.
** Indicate T.T.R. Exciting Current by Each Ratio When Making Emergency Test.

L.T.C. POS. NO.		TTR CONN. EXCITE X0 X1 SEC. H1 H3 T.T.R. RATIO AØ	TTR CONN. EXCITE X0 X2 SEC. H1 H2 T.T.R. RATIO BØ	TTR CONN. EXCITE X0 X3 SEC. H2 H3 T.T.R. RATIO CØ
Raise	16	8.4751	8.4751	8.4751
	15	8.551	8.550	8.550
	14	8.604	8.603	8.604
	13	8.640	8.640	8.640
	12	8.670	8.670	8.670
	11	8.751	8.751	8.751
	10	8.806	8.806	8.806
	9	8.845	8.845	8.845
	8	8.877	8.876	8.876
	7	8.961	8.961	8.961
	6	9.020	9.019	9.020
	5	9.060	9.060	9.060
	4	9.093	9.093	9.093
	3	9.181	9.180	9.181
	2	9.243	9.243	9.243
	1	9.286	9.286	9.286
Neutral		9.320	9.320	9.320
Lower	1	9.363	9.363	9.363
	2	9.399	9.349	9.349
	3	9.492	9.442	9.491
	4	9.559	9.559	9.559
	5	9.604	9.604	9.604
	6	9.642	9.641	9.641
	7	9.739	9.739	9.739
	8	9.811	9.810	9.811
	9	9.858	9.857	9.858
	10	9.848	9.848	9.848
	11	10.000	10.000	10.000
	12	10.077	10.076	10.077
	13	10.126	10.126	10.126
	14	10.168	10.167	10.168
	15	10.276	10.275	10.276
	16	10.356	10.356	10.356

SHEET 2 OF

VECTOR



#2 TRANSFORMER IS ON TAP "A" = 74,200V x 13,800Y

INSULATING OIL REPORT FORM

To Michael D. Scheppke 7/31/2001

Address Eau Claire SC

Sample Information

Sample Number 44012

Division Wisconsin **Sub Station** ? Creek OTTER CREEK

Department 642GO **PEM/TRIS**

Date Sampled 7/18/2001 **Date Recieved** 7/24/2001

Equipment ID TRN0326 **Type** transformer **KVA** 3750

Serial Number

Oil Temperature 40 **Make** McGraw Edison

Winding Temperature 35 **Phase**

Ambient Temperature 90 **Bank**

Gallons 3750

KF Yes

Current Results

Neut. Number	0.01	**Contamination**	None
IFT	27.7	**Specific Gravity**	0.878
Pour Point	<-40	**Inhibitor**	0.24 *
Dielectric D877	40	**Karl Fischer**	10
myers Index	2770	**Date Done**	7/31/2001
Dielectric D1816		**Analyst**	SHF

Outside acceptable limits (* as noted).

Relative Saturation Percent 8

Amy Gryniewski
Associate Chemist

Analysis as requested.

Oil Lab 612-630-4248
Rev 2 6/27/00

FILE

3-PHASE RECLOSER RECORD

	GROUND TRIP FAST CURVE				GROUND TRIP DELAYED CURVE				SERIES TRIP FAST CURVE				SERIES TRIP DELAYED CURVE				MINIMUM PICK UP AMPS			
DATE	AMPS	1	2	3	AMPS	1	2	3	AMPS	1	2	3	AMPS	1	2	3	CNTR	1	2	3
5-24-01	Tap 300	Comp 12	Reo 89										1000	90.2/73.8				577	593	571
														89.2	83.5	80.2				
	Tap 1000	Comp 13	Reo 80										1500	44.8/34.2						
														41.9	35.9	31.5				
	Tap 500	Comp 12	Reo 89		1000	181.5/148.5												291	290	299
						186.2	185.6	186.4												

AMERY DIVISION RECLOSER RECORD

District _____ Station Source _____ Feeder _____

Feeder Leg _____ Pole No. _____ Feeder kV _____

Physical Location _____

Recloser Make McGraw Edison Series Tripping Seq. 4 D Ground Tripping Seq. 4 - 3

One Shot Lever : Yes X No _____ Ground Trip: Yes X No _____

Amp Rating 400 x Type RV By-Pass Fuse _____

CT Ratio 600 : 5 Ground Trip Conn. Series X Parallel ____ For 300 Amp P.U.

FILE

REMARKS RUS 91 Rush River

Storm Sort # [redacted] Serial # 8613

H:/W07001/Excel 5/3-Phase Recloser Record

Exh. 10.c.6 ~ 1 page

Detailed Substation Inspection

Location: EAU CLAIRE 345

Date: 9-02

Inspector: HOFFMEISTER

Detailed Substation Inspection Includes:

- ☑ Visual inspection of the entire sub, including insulators with binoculars.
- ☑ Inspection of substation equipment for oil leaks, oil levels, proper gas pressure etc.
- ☑ Inspect all out door terminal cabinets/mechanisms for condition of fuses, terminations and door seals.
- ☑ Visual inspection of all breaker mechanism cabinets and components.
- ☑ Test all breaker and outdoor mechanism (MOD) cabinet heaters.
- ☑ Drain water and oil from air tanks on pneumatic breaker mechanisms.
- ☑ Inspect substation yard-fence, gates and gravel (washouts), protruding ground rods, make repairs as needed.
- ☑ Inspect control house for signs of mice or other rodent infestation.
- ☑ Test control house heaters for proper operation.
- ☑ Visual inspection of battery, control panels, and terminal cabinets for any necessary repairs.

REPAIRS MADE:

OTHER NEEDED REPAIRS:

WORKED ON EAST EXHAUST FAN - BAD CONNECTIONS AT TERMINAL BLOCK

COMMENTS:

9 2/0 35' GROUNDS W/ LARGE FERRULES
SPARE FUSES