



MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

400 North Fourth Street
Bismarck, ND 58501
(701) 222-7900

September 9, 2013

Executive Secretary
North Dakota Public Service Commission
State Capitol Building
Bismarck, ND 58505-0480

Re: Case No. 11,006 (Therm Billing)
Monthly Report – July 2013

Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., herewith submits the following information, pursuant to the Ordering paragraphs one and two of the Order issued in the above-referenced docket, dated October 20, 1987:

1. Attachment A is a schedule showing the thermal billing factors by community that reflect the BTU values shown on Attachment B and were used for billing purposes in August 2013.
2. Attachment B consists of copies of the monthly Heating Value Test Reports received from our supplier for the month of July 2013. There is a report for each of the 17 thermal zones for the month.
3. Attachment C is a listing which states the type of measuring device in place at each zone.
4. Attachment D is a monthly list of the heating value data, by zone, for the most recent 12-month period and an average thereof. It is being provided pursuant to a Staff request.
5. Attachment E provides a brief explanation of the thermal variances, where applicable, for the month of July 2013.

Please acknowledge receipt by stamping or initialing the duplicate copy of this letter attached hereto and returning the same in the enclosed self-addressed, stamped envelope. Should the Commission or its Staff have any comments or questions with respect to these reports, please call me.

Sincerely,

Tamie Aberle
Director of Regulatory Affairs

Montana-Dakota Utilities Co.
Therm Billing Factors- North Dakota
August 2013

Town	Heat Zone	Therm Factor
MDU-303-ALEXANDER	025	1.126790
MDU-308-ARNEGARD	025	1.126790
MDU-314-APPLE VALLEY	271	1.149158
MDU-318-BEACH	032	1.055361
MDU-319-BELFIELD	032	1.063114
MDU-323-BERTHOLD	262	1.124901
MDU-327-BISMARCK	028	1.149158
MDU-330-BOWMAN	034	1.045774
MDU-337-BURLINGTON	262	1.149158
MDU-343-CARRINGTON	273	1.150123
MDU-344-CLEVELAND	272	1.142030
MDU-364-CAVALIER	273	1.166517
MDU-365-DAWSON	271	1.141072
MDU-368-DES LACS	262	1.132986
MDU-369-DICKINSON	031	1.042736
MDU-374-FT TOTTEN	273	1.158214
MDU-375-DEVILS LAKE	273	1.158214
MDU-379-BARLOW	273	1.150123
MDU-384-EPPING	264	1.131512
MDU-387-ELDRIDGE	272	1.150123
MDU-407-GLADSTONE	031	1.042736
MDU-411-GLEN ULLIN	311	1.122067
MDU-413-GOLVA	032	1.039856
MDU-416-GARRISON	262	1.132986
MDU-417-GRAFTON	273	1.182491
MDU-429-HEBRON	311	1.122067
MDU-432-HETTINGER	903	2.387549
MDU-449-JAMESTOWN	272	1.158214
MDU-459-KILLDEER	033	1.117345
MDU-463-LANGDON	273	1.150123
MDU-469-LEFOR	031	1.042736
MDU-474-LIGNITE	263	1.074958
MDU-475-LINTON	802	0.995744
MDU-478-LINCOLN	028	1.149158
MDU-494-MEDINA	271	1.141072
MDU-498-MANDAN	028	1.149158
MDU-500-MARMARTH	034	1.053513
MDU-505-MINOT	262	1.149158
MDU-510-MOTT	031	1.042736
MDU-512-MAX	262	1.149158
MDU-522-NEW ENGLAND	031	1.035186
MDU-524-NEW SALEM	028	1.124901
MDU-532-NEW ROCKFORD	273	1.150123
MDU-539-PARK RIVER	273	1.174399
MDU-540-PALERMO	262	1.124901
MDU-558-RAY	264	1.131512
MDU-561-REGENT	031	1.042736
MDU-563-RHAME	034	1.038035
MDU-564-RICHARDTON	311	1.105937
MDU-568-ROSS	261	1.098998
MDU-572-RUTHVILLE	262	1.149158
MDU-574-SANBORN	272	1.158214

Montana-Dakota Utilities Co.
Therm Billing Factors- North Dakota
August 2013

Town	Heat Zone	Therm Factor
MDU-583-SENTINEL BUTTE	032	1.055361
MDU-588-SOUTH HEART	031	1.035186
MDU-717-SPIRITWOOD	272	1.158214
MDU-590-SPRINGBROOK	264	1.131512
MDU-591-STANLEY	261	1.106955
MDU-593-STEELE	271	1.141072
MDU-598-SHEYENNE	273	1.158214
MDU-605-SURREY	262	1.149158
MDU-610-TAPPEN	271	1.141072
MDU-611-TAYLOR	031	1.035186
MDU-616-TIOGA	261	1.098998
MDU-619-TURTLE LAKE	262	1.132986
MDU-620-TRENTON	024	1.139645
MDU-624-UNDERWOOD	262	1.132986
MDU-625-VALLEY CITY	272	1.166306
MDU-629-WALHALLA	273	1.174399
MDU-632-WATFORD CITY	025	1.126790
MDU-636-WHEELOCK	264	1.123379
MDU-637-WHITE EARTH	261	1.106955
MDU-642-WILLISTON	024	1.139645
MDU-646-WASHBURN	262	1.141072
MDU-647-WILTON	262	1.124901
MDU-664-RIVERDALE	262	1.132986
MDU-691-FAIRVIEW	241	1.146304
MDU-712-MINOT AFB	262	1.149158
MDU-732-MSR SITE	273	1.142404

GQ Source Daily Summary

July 2013

Number: 372

Pressure Base: 14.730

Contract Day: 1

Name: NESSON PLANT-CHARBONNEAU STATION

Temperature Base:

Contract Hour: 9

Day	Relative Density	Heating Value Wet	Heating Value Dry	Heating Value										Wobbe	CCT					
				CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6			C7	C8	C9	C10	
1	0.7141	1172.2	1193.0	0.760	3.130	72.034	20.271	3.356	0.124	0.274	0.022	0.027	0.000	0.000	0.000	0.000	0.000	0.000	1411.78	
2	0.7133	1172.2	1192.9	0.704	3.146	71.943	20.522	3.306	0.107	0.233	0.018	0.022	0.000	0.000	0.000	0.000	0.000	0.000	1412.51	
3	0.7219	1185.7	1206.7	0.739	3.070	71.257	20.501	3.860	0.152	0.350	0.031	0.039	0.000	0.000	0.000	0.000	0.000	0.000	1420.24	
4	0.7165	1176.6	1197.4	0.763	3.083	71.783	20.463	3.391	0.135	0.315	0.029	0.037	0.000	0.000	0.000	0.000	0.000	0.000	1414.66	
5	0.7144	1173.3	1194.0	0.773	3.082	71.614	21.002	3.147	0.111	0.236	0.016	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1412.69	
6	0.7147	1174.4	1195.2	0.774	3.033	71.682	20.875	3.261	0.110	0.230	0.016	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1413.84	
7	0.7150	1174.7	1195.5	0.762	3.068	71.642	20.854	3.274	0.114	0.246	0.018	0.021	0.000	0.000	0.000	0.000	0.000	0.000	1413.84	
8	0.7096	1167.0	1187.7	0.761	3.032	72.312	20.521	3.087	0.091	0.176	0.010	0.011	0.000	0.000	0.000	0.000	0.000	0.000	1409.90	
9	0.7119	1169.9	1190.6	0.775	3.055	71.904	20.864	3.089	0.095	0.191	0.012	0.014	0.000	0.000	0.000	0.000	0.000	0.000	1411.07	
10	0.7120	1169.9	1190.6	0.766	3.077	71.866	20.859	3.138	0.093	0.181	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	1410.99	
11	0.7130	1171.0	1191.7	0.767	3.100	71.714	20.914	3.223	0.093	0.174	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1411.34	
12	0.7209	1183.3	1204.3	0.763	3.090	71.145	20.832	3.631	0.144	0.329	0.029	0.036	0.000	0.000	0.000	0.000	0.000	0.000	1418.35	
13	0.7215	1184.5	1205.5	0.768	3.062	71.158	20.740	3.721	0.150	0.338	0.028	0.035	0.000	0.000	0.000	0.000	0.000	0.000	1419.24	
14	0.7145	1174.4	1195.2	0.768	3.034	71.800	20.664	3.344	0.116	0.240	0.016	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1413.89	
15	0.7154	1175.9	1196.7	0.773	3.018	71.657	20.791	3.366	0.116	0.242	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	1414.84	
16	0.7176	1179.2	1200.0	0.772	3.023	71.585	20.618	3.513	0.134	0.299	0.025	0.031	0.000	0.000	0.000	0.000	0.000	0.000	1416.60	
17	0.7156	1176.3	1197.1	0.768	3.013	71.786	20.573	3.415	0.127	0.274	0.020	0.024	0.000	0.000	0.000	0.000	0.000	0.000	1415.16	
18	0.7163	1176.3	1197.1	0.770	3.083	71.719	20.474	3.501	0.127	0.277	0.021	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1414.39	
19	0.7278	1194.9	1216.0	0.766	3.019	70.887	20.413	4.114	0.198	0.487	0.050	0.066	0.000	0.000	0.000	0.000	0.000	0.000	1425.41	
20	0.7213	1184.4	1205.3	0.783	3.034	71.227	20.687	3.695	0.155	0.352	0.030	0.037	0.000	0.000	0.000	0.000	0.000	0.000	1419.20	
21	0.7185	1181.2	1202.1	0.773	2.982	71.637	20.431	3.641	0.148	0.329	0.026	0.033	0.000	0.000	0.000	0.000	0.000	0.000	1418.15	
22	0.7193	1181.8	1202.7	0.769	3.027	71.396	20.722	3.538	0.147	0.336	0.028	0.036	0.000	0.000	0.000	0.000	0.000	0.000	1418.08	
23	0.7167	1178.1	1199.0	0.765	3.009	71.675	20.625	3.446	0.134	0.295	0.023	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1416.28	
24	0.7182	1181.1	1202.0	0.769	2.957	71.781	20.243	3.726	0.146	0.319	0.026	0.033	0.000	0.000	0.000	0.000	0.000	0.000	1418.41	
25	0.7149	1175.3	1196.1	0.781	2.994	71.882	20.548	3.345	0.126	0.275	0.021	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1414.61	
26	0.7182	1179.9	1200.8	0.775	3.030	71.506	20.669	3.499	0.141	0.319	0.026	0.033	0.000	0.000	0.000	0.000	0.000	0.000	1416.91	
27	0.7186	1180.2	1201.1	0.776	3.044	71.482	20.647	3.523	0.143	0.322	0.027	0.033	0.000	0.000	0.000	0.000	0.000	0.000	1416.88	
28	0.7194	1181.5	1202.5	0.768	3.048	71.478	20.531	3.613	0.149	0.342	0.029	0.037	0.000	0.000	0.000	0.000	0.000	0.000	1417.71	
29	0.7163	1179.5	1200.4	0.756	2.900	72.180	19.834	3.816	0.150	0.313	0.021	0.025	0.000	0.000	0.000	0.000	0.000	0.000	1418.29	
30	0.7133	1172.2	1193.0	0.776	3.035	71.960	20.585	3.269	0.110	0.228	0.015	0.018	0.000	0.000	0.000	0.000	0.000	0.000	1412.53	
31	0.7179	1178.2	1199.1	0.763	3.117	71.418	20.811	3.403	0.131	0.299	0.025	0.032	0.000	0.000	0.000	0.000	0.000	0.000	1415.24	
Avg	0.7167	1178.0	1198.4	0.766	3.045	71.649	20.616	3.460	0.130	0.285	0.022	0.028	0.000	0.000	0.000	0.000	0.000	0.000	1415.58	

Zone 24, 264



GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	0602230	Specific Gravity:	0.7122
GQ Source Name:	WATFORD CITY BORDER	Dry Heat Value:	1192.58
Effective Date:	7/1/2013 9:00:00 AM	Wet Heat Value:	1171.82
Effective End Date:	1/18/2038 9:14:00 PM	As Deliv. Heat Value:	1192.58
Pressure Base:	14.730	Sample Pressure:	450.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>			<u>Mol %</u>	
C1	Methane	72.212		CO2	Carbon Dioxide	0.774
C2	Ethane	20.113	5.3630	N2	Nitrogen	2.925
C3	Propane	3.539	0.9723	O2	Oxygen	0.000
IC4	Isobutane	0.127	0.0416	He	Helium	
NC4	n-Butane	0.257	0.0809	H2	Hydrogen	
IC5	Isopentane	0.025	0.0091	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.024	0.0087	Ar	Argon	
C6	Hexanes	0.003	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					
Totals			100.000%	6.475 GPM		

Sample Date:
Sample Type: Composite
Sample Tech: PP
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 25

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	0602160	Specific Gravity:	0.7346
GQ Source Name:	FAIRVIEW BORDER	Dry Heat Value:	1205.03
Effective Date:	7/1/2013 9:00:00 AM	Wet Heat Value:	1184.06
Effective End Date:	1/18/2038 9:14:00 PM	As Deliv. Heat Value:	1205.03
Pressure Base:	14.730	Sample Pressure:	120.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>		
C1	Methane	68.550	CO2	Carbon Dioxide	1.183	
C2	Ethane	21.901	5.8398	N2	Nitrogen	3.659
C3	Propane	4.317	1.1859	O2	Oxygen	0.000
IC4	Isobutane	0.132	0.0430	He	Helium	
NC4	n-Butane	0.233	0.0733	H2	Hydrogen	
IC5	Isopentane	0.012	0.0045	H2S	Hydrogen Sulfide	
NCS	n-Pentane	0.013	0.0045	Ar	Argon	
C6	Hexanes	0.000	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					
Totals		100.000%	7.151 GPM			

Sample Date:
Sample Type: Composite
Sample Tech: RR
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 241

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	2501030	Specific Gravity:	0.6695
GQ Source Name:	LIGNITE PLANT	Dry Heat Value:	1130.26
Effective Date:	7/1/2013 9:00:00 AM	Wet Heat Value:	1110.59
Effective End Date:	1/18/2038 9:14:00 PM	As Deliv. Heat Value:	1130.26
Pressure Base:	14.730	Sample Pressure:	130.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>
C1 Methane	76.881		CO2 Carbon Dioxide	0.093
C2 Ethane	18.247	4.8655	N2 Nitrogen	3.702
C3 Propane	1.073	0.2948	O2 Oxygen	0.000
IC4 Isobutane	0.000	0.0000	He Helium	
NC4 n-Butane	0.000	0.0000	H2 Hydrogen	
IC5 Isopentane	0.000	0.0000	H2S Hydrogen Sulfide	
NC5 n-Pentane	0.000	0.0000	Ar Argon	
C6 Hexanes	0.000	0.0000	CO Carbon Monoxide	
C7 Heptanes			H2 Water	
C8 Octanes			Neo-C5 Neopentane	
C9 Nonanes				
C10 Decanes				
Totals		99.996%	5.160 GPM	

Sample Date:
Sample Type: Composite
Sample Tech: PP
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 263

*** End of Report ***

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	0202080	Specific Gravity:	0.7243
GQ Source Name:	RICHARDTON-GLEN ULLIN COMPRE	Dry Heat Value:	1188.31
Effective Date:	7/1/2013 9:00:00 AM	Wet Heat Value:	1167.63
Effective End Date:	1/18/2038 9:14:00 PM	As Deliv. Heat Value:	1188.31
Pressure Base:	14.730	Sample Pressure:	0.00
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>		
C1	Methane	69.048	CO2	Carbon Dioxide	0.507	
C2	Ethane	21.711	5.7892	N2	Nitrogen	4.726
C3	Propane	3.729	1.0245	O2	Oxygen	0.000
IC4	Isobutane	0.081	0.0264	He	Helium	
NC4	n-Butane	0.171	0.0537	H2	Hydrogen	
IC5	Isopentane	0.011	0.0042	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.012	0.0042	Ar	Argon	
C6	Hexanes	0.000	0.0000	CO	Carbon Monoxide	
C7	Heptanes			H2	Water	
C8	Octanes			Neo-C5	Neopentane	
C9	Nonanes					
C10	Decanes					
Totals		99.997%	6.902 GPM			

Sample Date:
Sample Type: Composite
Sample Tech: KM
H2S: ppm

Sample Remarks:

Analysis Tech: MB

Analysis Remarks:

Zone 311

GQ Source Analysis

WBI Energy Transmission, Inc.

GQ Source Number:	1202160	Specific Gravity:	0.8003
GQ Source Name:	BOWMAN BORDER	Dry Heat Value:	1140.12
Effective Date:	7/1/2013 9:00:00 AM	Wet Heat Value:	1120.28
Effective End Date:	1/18/2038 9:14:07 PM	As Deliv. Heat Value:	1140.12
Pressure Base:	14.730	Sample Pressure:	
Viscosity:		Sample Temperature:	

	<u>Mol %</u>	<u>Liquid Content</u>		<u>Mol %</u>	
C1	Methane	54.151	CO2	Carbon Dioxide	2.187
C2	Ethane	27.750	N2	Nitrogen	12.267
C3	Propane	3.199	O2	Oxygen	
IC4	Isobutane	0.095	He	Helium	
NC4	n-Butane	0.294	H2	Hydrogen	
IC5	Isopentane	0.013	H2S	Hydrogen Sulfide	
NC5	n-Pentane	0.037	Ar	Argon	
C6	Hexanes	0.007	CO	Carbon Monoxide	
C7	Heptanes		H2	Water	
C8	Octanes		Neo-C5	Neopentane	
C9	Nonanes				
C10	Decanes				
Totals		100.000%	8.422 GPM		

Sample Date: 8/1/2013 9:00:00 AM
Sample Type: Composite
Sample Tech: MIKE GENTILINI
H2S: ppm

Sample Remarks:

Analysis Tech: MIKE GENTILINI

Analysis Remarks:

Zone 34

NORTH DAKOTA HEATING VALUE ZONES		
ZONES	MEASURING DEVICE	LOCATION
211	Chromatograph	Sidney Area
24	Chromatograph	Williston Area
241	Monthly Sampler	Fairview Area
25	Monthly Sampler	Watford City Area
261	Chromatograph	Williston – Tioga – Minot Line
262	Chromatograph	Minot Area
263	Monthly Sampler	Tioga – Portal
264	Chromatograph	Williston – Ray
271	Chromatograph	Bismarck – Cleveland
272	Chromatograph	Cleveland – Mapleton
273	Chromatograph	Cleveland – Grafton
28	Chromatograph	Bismarck
31	Chromatograph	Dickinson
311	Monthly Sampler	Taylor Take-Off – Glen Ullin Comp
32	Chromatograph	Cabin Creek – Dickinson
33	Chromatograph	Killdeer
34	Monthly Sampler	Bowman Area

MONTANA DAKOTA UTILITIES CO
NORTH DAKOTA
HEATING VALUE DATA
12 MONTH ACCUMULATIVE AT 14.73 psia, 60 f. DRY

STATE	ZONE	ZONE BOUNDARY	12 MONTH AVERAGE	JULY 13	JUNE 13	MAY 13	APR 13	MAR 13	FEB 13	JAN 13	DEC 12	NOV 12	OCT 12	SEPT 12	AUG 12	ZONE
MT/ND	211	Sidney Area	1204	1209	1212	1201	1213	1206	1202	1203	1200	1201	1200	1202	1197	211
ND	24	Williston Area	1201	1198	1196	1197	1216	1204	1204	1204	1203	1199	1195	1197	1198	24
ND	25	Watford City Area	1187	1193	1188	1154	1200	1201	1196	1192	1192	1188	1176	1183	1184	25
ND/MT	241	Fairview Area	1196	1205	1205	1203	1203	1195	1196	1191	1191	1192	1189	1191	1187	241
ND	261	Williston - Tioga - Minot Line	1157	1172	1156	1159	1163	1123	1139	1160	1162	1162	1164	1170	1151	261
ND	262	Minot Area	1173	1191	1181	1177	1172	1170	1168	1163	1165	1165	1171	1175	1179	262
ND	263	Tioga - Portal	1119	1130	1127	1123	1117	1116	1116	1069	1069	1135	1140	1142	1143	263
ND	264	Williston - Ray	1201	1198	1196	1197	1216	1204	1204	1204	1203	1199	1195	1197	1198	264
ND	271	Bismarck - Cleveland	1164	1191	1183	1175	1167	1145	1144	1137	1147	1154	1170	1173	1178	271
ND	272	Cleveland - Mapleton	1165	1192	1183	1178	1169	1147	1145	1138	1148	1155	1171	1175	1180	272
ND	273	Cleveland - Grafton	1165	1192	1184	1177	1169	1146	1145	1138	1149	1155	1171	1175	1180	273
ND	28	Bismarck - Cabin Creek	1141	1191	1182	1173	1117	1102	1100	1108	1114	1104	1149	1173	1178	28
ND	31	Dickinson Area	1115	1112	1130	1163	1117	1103	1098	1105	1110	1111	1152	1074	1102	31
ND	311	Taylor Take-Off - Glen Ullin Comp		1188	1097	1163	1117	1103	1098	1105	1110					
ND/MT	32	Cabin Creek - Dickinson	1103	1142	1094	1100	1088	1089	1086	1094	1099	1056	1121	1131	1135	32
ND	33	Killdeer	1178	1183	1180	1179	1177	1176	1177	1177	1176	1177	1177	1180	1179	33
ND	34	Bowman Area	1139	1140	1121	1136	1146	1144	1147	1143	1142	1142	1140	1136	1130	34
ND	35	Baker Field - North Dakota	979	0	0	0	0	0	0	979	979	979	979	979	979	35

**THERMAL ZONE VARIANCE
DOCUMENTATION**

July 2013

<i>ZONE</i>	<i>BTU VARIANCE</i>	<i>REASON</i>
311	91	Mix of gas in the area
32	48	Mix of gas in the area