



800 LaSalle Avenue  
PO Box 59038  
Minneapolis, MN 55459-0038

October 13, 2014

Dr. Burl Haar  
Executive Secretary  
Minnesota Public Utilities Commission  
350 Metro Square Building  
121 East Seventh Place, Suite 350  
St. Paul, Minnesota 55101-2147

**Re: CenterPoint Energy's Request for Change in Demand Units 2014-2015**  
**Docket No. G008/M-14-561**  
**Reply Comments**

Dear Dr Haar:

CenterPoint Energy has received and reviewed the October 2, 2014 Comments of the Minnesota Department of Commerce ("DOC") on CenterPoint Energy's Request for approval of a change in demand units effective November 1, 2014.

The DOC recommends that the Commission:

- Approve CenterPoint Energy's proposed level of demand entitlement subject to supplemental filing(s) by the Company related to the reallocation of units between TF-12 Base and TF-12 Variable services and the final Reservation Fees cost estimate; and
- Accept the design-day level proposed by CPE.

CenterPoint Energy thanks the Department for its review and accepts its recommendations detailed above.

The Department requested additional information and discussion from CenterPoint Energy on its Design Day model and on its allocation of storage costs, which are presented in the attached document.

Sincerely,

/s/ Marie M. Doyle  
Rates Analyst  
612-321-5078

STATE OF MINNESOTA )  
 ) ss.  
COUNTY OF HENNEPIN )

Marie M. Doyle, being first duly sworn on oath, deposes and says she served via e filing or caused to be served on behalf of CenterPoint Energy: its Reply Comments in its Request for Change in Demand Units on the Minnesota Public Utilities Commission; on the Department of Commerce (DOC) and; on the Office of the Attorney General - Residential Utilities Division; and on persons on the enclosed service list, by delivering by hand at the respective addresses on the list or by placing in the U.S. Mail at the City of Minneapolis.

/s/  
Marie M. Doyle, Rates Analyst  
Regulatory Services  
CenterPoint Energy

Subscribed and sworn to before me  
this 13th day of October, 2014

/s/ Mary Jo Schuh  
Notary Public  
Term expires: 01/31/2015

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
David	Aafedt	daafedt@winthrop.com	Winthrop & Weinstine, P.A.	Suite 3500, 225 South Sixth Street  Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_14-561_M-14-561
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes	OFF_SL_14-561_M-14-561
James J.	Bertrand	james.bertrand@leonard.com	Leonard Street & Deinard	150 South Fifth Street, Suite 2300  Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-561_M-14-561
Brenda A.	Bjorklund	brenda.bjorklund@centerpointenergy.com	CenterPoint Energy	800 LaSalle Ave FL 14  Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-561_M-14-561
James	Canaday	james.canaday@ag.state.mn.us	Office of the Attorney General-RUD	Suite 1400 445 Minnesota St. St. Paul, MN 55101	Electronic Service	No	OFF_SL_14-561_M-14-561
Jerry	Dasinger	jerry.dasinger@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East  St. Paul, MN 551012147	Electronic Service	No	OFF_SL_14-561_M-14-561
Jeffrey A.	Daugherty	jeffrey.daugherty@centerpointenergy.com	CenterPoint Energy	800 LaSalle Ave  Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-561_M-14-561
William	Davis	lkurth@campls.org	Community Action of Minneapolis	505 East Grant St Ste 100 Minneapolis, Minnesota 55405	Electronic Service	No	OFF_SL_14-561_M-14-561
Ian	Dobson	ian.dobson@ag.state.mn.us	Office of the Attorney General-RUD	Antitrust and Utilities Division 445 Minnesota Street, 1400 BRM Tower St. Paul, MN 55101	Electronic Service	No	OFF_SL_14-561_M-14-561
Marie	Doyle	marie.doyle@centerpointenergy.com	CenterPoint Energy	800 LaSalle Avenue P O Box 59038 Minneapolis, MN 554590038	Electronic Service	No	OFF_SL_14-561_M-14-561

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 500  Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_14-561_M-14-561
Edward	Garvey	garveyed@aol.com	Residence	32 Lawton St  Saint Paul, MN 55102	Electronic Service	No	OFF_SL_14-561_M-14-561
Elizabeth	Goodpaster	bgoodpaster@mncenter.org	MN Center for Environmental Advocacy	Suite 206 26 East Exchange Street St. Paul, MN 551011667	Electronic Service	No	OFF_SL_14-561_M-14-561
Burl W.	Haar	burl.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_14-561_M-14-561
Robert	Harding	robert.harding@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East  St. Paul, MN 55101	Electronic Service	No	OFF_SL_14-561_M-14-561
Mary	Holly	mholly@winthrop.com	Winthrop & Weinstine, P.A.	225 S Sixth St Ste 3500  Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-561_M-14-561
Linda	Jensen	linda.s.jensen@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota Street  St. Paul, MN 551012134	Electronic Service	No	OFF_SL_14-561_M-14-561
Eric	Jensen	ejensen@iwla.org	Izaak Walton League of America	Suite 202 1619 Dayton Avenue St. Paul, MN 55104	Electronic Service	No	OFF_SL_14-561_M-14-561
John	Lindell	agorud.ecf@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_14-561_M-14-561
Peter	Madsen	peter.madsen@ag.state.mn.us	Office of the Attorney General-DOC	Bremer Tower, Suite 1800 445 Minnesota Street St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_14-561_M-14-561

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E  St. Paul, MN 55106	Electronic Service	No	OFF_SL_14-561_M-14-561
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St  Duluth, MN 558022093	Electronic Service	No	OFF_SL_14-561_M-14-561
Andrew	Moratzka	apmoratzka@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-561_M-14-561
Karen	Olson	karen.olson@ag.state.mn.us	Office of the Attorney General-RUD	1400 Bremer Tower 445 Minnesota St St. Paul, MN 55101	Electronic Service	No	OFF_SL_14-561_M-14-561
LauraSue	Schlatter	LauraSue.Schlatter@state.mn.us	Office of Administrative Hearings	600 North Robert Street  St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_14-561_M-14-561
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	Ste 122 9100 W Bloomington Frwy Bloomington, MN 55431	Electronic Service	No	OFF_SL_14-561_M-14-561
Peggy	Sorum	peggy.sorum@centerpointenergy.com	CenterPoint Energy	800 LaSalle Avenue PO Box 59038 Minneapolis, MN 554590038	Electronic Service	No	OFF_SL_14-561_M-14-561
James M.	Strommen	jstrommen@kennedy-graven.com	Kennedy & Graven, Chartered	470 U.S. Bank Plaza 200 South Sixth Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-561_M-14-561
Eric	Swanson	eswanson@winthrop.com	Winthrop Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_14-561_M-14-561

## Reply Comments

CenterPoint Energy:

Docket G-008/M-14-561 – 2014-2015 Demand Entitlements

CenterPoint Energy filed its request for approval of its change in demand on July 1, 2014 for the 2014-2015 Heating Season. The Company detailed additions of pipeline demand and additional “non-capacity” items that are classified as demand costs.

The Minnesota Department of Commerce (Department or DOC) reviewed the request and filed its comments on October 2, 2014. The DOC recommends approval of CenterPoint’s proposal, subject to supplemental filings to update base/variable entitlement levels and detail reservation costs. They did request that the Company respond further to two topics: changing the Design Day definition and allocation of costs for its new storage contracts.

Design Day Modeling Discussion:

The Department, on Page 6 of its comments:

- Requested “that CenterPoint use its regression point estimate, not the upper-bound of its analysis in future demand entitlement filings.” (page 6)
- Stated that “the results from the 2013-2014 peak day suggest that the use of the upper bound from the design-day regression model to estimate total entitlement levels, which was used by CenterPoint in the current demand entitlement filing as well, may not be necessary on a going forward basis” and;
- Concluded that “use of the regression model point estimate will ensure firm reliability and potentially reduce demand costs.”

An accurate design day volume calculation is required by a Local Distribution Company (LDC) such as CenterPoint Energy to assure that it has sufficient portfolio assets - contracted gas supplies, storage facilities, and upstream pipeline transportation to serve the required markets if it were to experience weather conditions in the future that replicate the coldest conditions experienced in the market area. Given the brutality of the weather that can occur at a design day (average temperature of 25 degrees Fahrenheit), all of us have an interest in being cautious in ensuring the LDC has sufficient capacity to meet the heating needs of our firm customers under such an event.

As noted by the Department, CenterPoint Energy enlisted the advice of an industry consultant, Concentric Energy Advisors, in 2012 to assist in setting the appropriate Design Day. As a result of that review, several modifications were made to the Company’s process. First, its regression analysis was changed to use sales data only from more recent years that reflect current customer usage habits. Also, all winter season data points were used, rather than selecting only the very coldest weather data, which provides for more data points in the regression. This method, however, has the weakness of having very few actual weather occurrences at temperatures that replicate a design day. To account for this, a second modification has been included where CenterPoint Energy calculates the UPC level that

represents the upper level of a 95% confidence interval. This means only 2.5% of occurrences are expected to be higher than this upper level. Estimating the Design Day requirements in a very cold climate like Minnesota requires that one use caution to not under estimate the need, as the consequences could be severe. Using the upper level of the 95% confidence interval helps assure that statistical error won't result in the company having insufficient entitlement levels.

The model developed is an Ordinary Least Squares (OLS) statistical model, which assumes that approximately half the time the model will over forecast, and the other half of the time the model will under forecast. The point-estimate should be expected to fall in the middle of possible outcomes.

As a check of the model's performance, CenterPoint Energy used the model it developed in the spring of 2013 for the 2013-2014 Design Day to demonstrate the "fit" of the model at predicting the sales this past winter, after the fact. The model for 2013-2014 is structurally the same as the 2014-2015, but the coefficients were updated in the present docket to account for the addition of a new year of data and the removal of the oldest year of data. The Company used the monthly firm customer count and the actual HDD weather and calculated a predicted sales volume for the five winter months November 2013 through March 2014. The model predictions were then compared to the actual firm sales recorded by the Company's Daily sales reports. When comparing actual firm sales data this past winter, on the peak day (01/06/14), at 78.8 HDDs, the model **under** forecast approximately 34,400 DT, which is about 3.2%. (The model predicted 1,051,910 DT, and the actual firm sales were 1,086,330 DT at 78.8 HDD.) Of the 25 coldest days (HDD greater than 65, or temperature less than 0 degrees F) the model over-forecast 12 days and under-forecast 13 days, which suggests that it is a good statistical model, but highlights why the "point estimate" may not be appropriate as the Design Day estimate. The attached pages show the results of this analysis.

See the attachment for more detail. The plot (page 1) and data (pages 2-4) show the actual firm throughput for the 2013-14 Winter Season (WS), compared to the model fit. CNP also calculated the difference and the percent difference as shown.

In reviewing the attached data, on some days the model under-forecast sales volumes, sometimes in excess of 15%. CenterPoint Energy uses the model to be sure we have enough capacity to delivery gas when the temperature is approaching a design day scenario; we have to be extremely cautious about the design day estimate.

In conclusion, it is critically important that we have the capacity to serve firm customers if a Design Day occurs; using a 95% Confidence Interval upper limit is responsible, if not necessary, to assure sufficient capacity.

#### Demand Additions:

Northern Natural Gas, the primary pipeline serving CenterPoint Energy's system, is required by the Federal Energy Regulatory Commission (FERC) to file plans for significant expansions of its system two years in advance of in-service dates. Viking Pipeline, likewise, requires contracts and FERC filings in advance to make significant changes to capacity. This means that CenterPoint Energy must plan entitlement additions at least two years out. As CenterPoint has

discussed in earlier demand entitlement dockets, adding capacity on a pipeline such as Northern Natural requires construction and therefore is a long term project. The FERC approval process requires a minimum of two-year lead time for pipeline projects of any material size, but planning construction with Northern Natural under the grown terms of the Company's long term agreement can lead to substantial savings over building the capacity later at the pipeline's cost of service rate. Planned construction projects may lead to "lumpy" additions over the planning horizon, but lead to more cost-effective additions that may not match precisely with changes in the Design Day model.

#### Storage cost allocation for Additional Storage contracted

The Department also requested that CenterPoint Energy, in its *Reply Comments*, provide a detailed discussion regarding its proposal to allocate its two new storage contracts 75 percent to demand and 25 percent to commodity, as it does with reservation fees.

CenterPoint Energy's previously contracted storage for NGPL had a long-standing cost allocation, which had been set based upon a historic split, and was modified in the February 28, 2012 order in the 07-561 and 11-1078 docket to allocate part of the previously all-firm allocation between firm and small volume dual fuel customers (see ordering point 6.) Applying this cost allocation did not seem appropriate as the services on the new agreements were expected to be very different from the NGPL storage service.

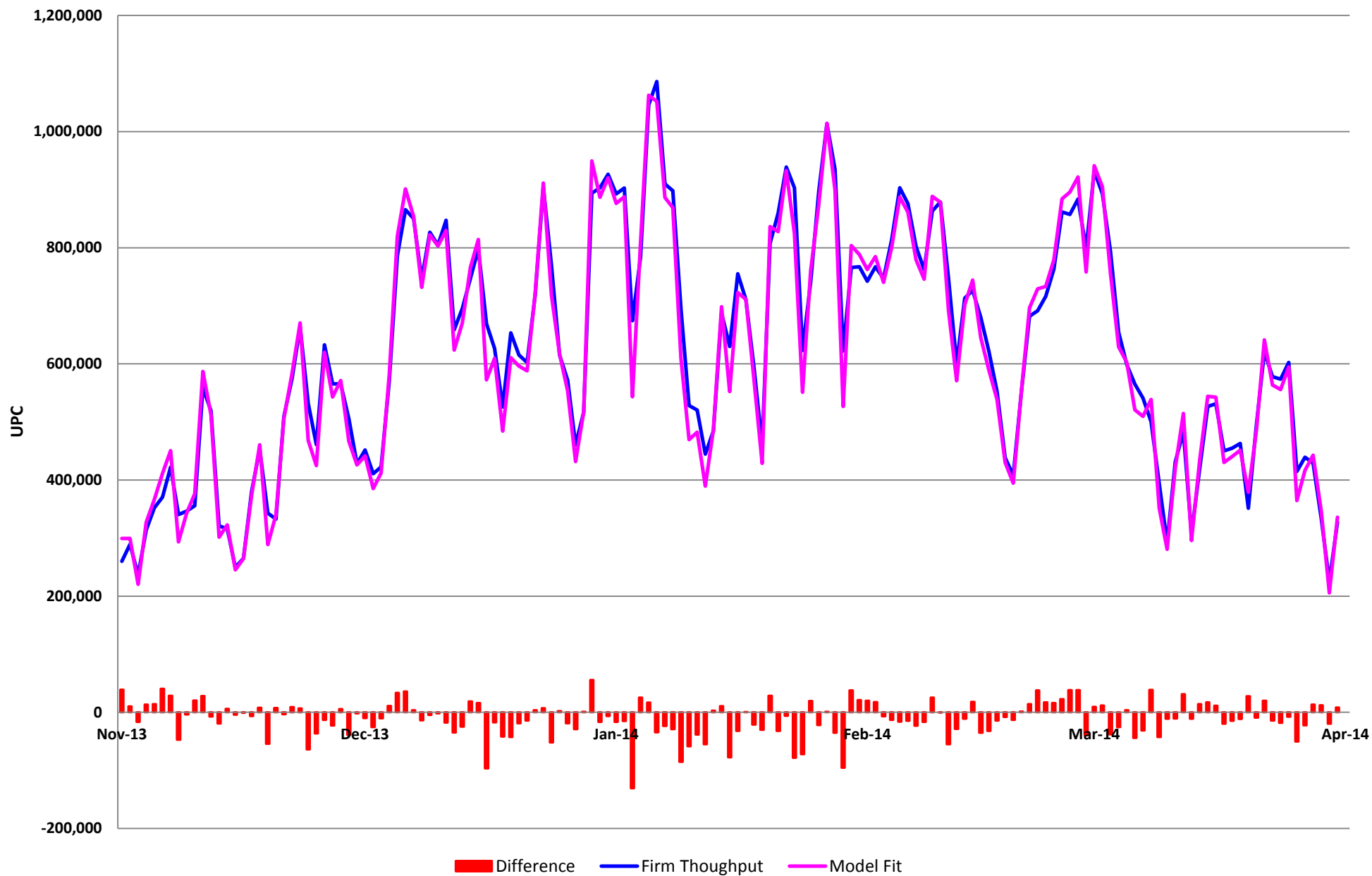
In its' November 1, 2011 Demand Entitlement filing, Docket No. G-008/M-11-1078, the Company proposed an allocation of fixed costs for its then-new storage contract with Tenaska as part baseload (75.8% Commodity) and part swing (24.2% Demand) based on the services the Company contracted from Tenaska. The costs being allocated represent the fixed fees added on top of the commodity gas costs to provide the contracted services to get the commodity to our market area. At that time, the company explained that part of the service was arranged to provide baseload gas throughout the winter, which delivers the same quantity of gas each day of the month (the 75.8% portion). The remaining gas was proposed to be Demand (24.2%), because the service provided swing, or variable, daily quantities depending upon CPE's needs. The PUC approved the allocation for that storage agreement on September 6, 2013. Unlike the new storage contracts proposed for the upcoming winter (2014-2015) that allow for all of the stored gas to be delivered on a swing supply basis each day, the Tenaska contract had the greater portion of its gas to be delivered as baseload supply. On the Tenaska storage contract, only 24.2% of the stored gas could be used to provide swing supplies.

CenterPoint Energy proposed the 75 percent demand / 25 percent commodity cost allocation for the two new storage agreements because the costs represent the fixed-cost (demand) portion of the new storage services that were contracted to serve swing supplies. Under the terms of this storage contract, gas is brought to CenterPoint Energy's distribution system as needed, just like swing supplies that have a reservation component. In the February 28, 2012 order in the G-008/M-07-561 and G-008/M-11-1078, this kind of cost was ordered to be split 75% demand and 25% commodity to reflect that some of the fixed-cost portion of the storage costs should be borne by dual fuel customers as they use some of the storage supplies throughout the winter when not required for firm supply (ordering point 7).



# CNP MG Firm Throughput vs. HDDs WS 2013 - 2014

## Actual vs. Model



<u>Date</u>	<u>Firm Throughput</u>	<u>Temperature</u>	<u>Firm Customer</u>	<u>UPC</u>	<u>HDD</u>	<u>HDDs^2</u>	<u>Model Fit</u>	<u>Difference</u>	<u>%</u>
11/01/13	260,159	42.3	818,523	0.318	22.7	515	299,218	39,059	15.0%
11/02/13	289,097	42.3	818,523	0.353	22.7	515	299,218	10,121	3.5%
11/03/13	236,978	49.2	818,523	0.290	15.8	250	220,421	(16,557)	-7.0%
11/04/13	314,108	39.9	818,523	0.384	25.1	630	327,326	13,218	4.2%
11/05/13	352,238	36.6	818,523	0.430	28.4	807	366,553	14,315	4.1%
11/06/13	370,632	32.9	818,523	0.453	32.1	1030	411,288	40,656	11.0%
11/07/13	422,025	29.7	818,523	0.516	35.3	1246	450,688	28,663	6.8%
11/08/13	340,633	42.8	818,523	0.416	22.2	493	293,422	(47,211)	-13.9%
11/09/13	346,247	38.6	818,523	0.423	26.4	697	342,695	(3,552)	-1.0%
11/10/13	355,609	35.8	818,523	0.434	29.2	853	376,158	20,549	5.8%
11/11/13	558,987	19.0	818,523	0.683	46.0	2116	586,963	27,976	5.0%
11/12/13	519,267	24.8	818,523	0.634	40.2	1616	512,223	(7,044)	-1.4%
11/13/13	320,820	42.1	818,523	0.392	22.9	524	301,542	(19,278)	-6.0%
11/14/13	316,502	40.3	818,523	0.387	24.7	610	322,616	6,114	1.9%
11/15/13	249,500	47.0	818,523	0.305	18.0	324	245,223	(4,277)	-1.7%
11/16/13	265,288	45.3	818,523	0.324	19.7	388	264,597	(691)	-0.3%
11/17/13	380,344	36.0	818,523	0.465	29.0	841	373,741	(6,603)	-1.7%
11/18/13	452,662	28.9	818,523	0.553	36.1	1303	460,630	7,969	1.8%
11/19/13	343,053	43.2	818,523	0.419	21.8	475	288,773	(54,280)	-15.8%
11/20/13	332,804	38.8	818,523	0.407	26.2	686	340,310	7,506	2.3%
11/21/13	509,198	25.3	818,523	0.622	39.7	1576	505,875	(3,323)	-0.7%
11/22/13	574,041	19.3	818,523	0.701	45.7	2088	583,032	8,991	1.6%
11/23/13	663,634	12.7	818,523	0.811	52.3	2735	670,475	6,841	1.0%
11/24/13	531,897	28.3	818,523	0.650	36.7	1347	468,125	(63,772)	-12.0%
11/25/13	461,092	31.8	818,523	0.563	33.2	1102	424,763	(36,329)	-7.9%
11/26/13	632,752	16.5	818,523	0.773	48.5	2352	619,807	(12,945)	-2.0%
11/27/13	565,510	22.4	818,523	0.691	42.6	1815	542,908	(22,602)	-4.0%
11/28/13	565,579	20.2	818,523	0.691	44.8	2007	571,329	5,750	1.0%
11/29/13	505,603	28.4	818,523	0.618	36.6	1340	466,886	(38,717)	-7.7%
11/30/13	427,827	31.7	818,523	0.523	33.3	1109	426,002	(1,825)	-0.4%
12/01/13	451,675	30.5	820,313	0.551	34.5	1190	441,741	(9,934)	-2.2%
12/02/13	410,717	35.1	820,313	0.501	29.9	894	385,426	(25,291)	-6.2%
12/03/13	422,560	32.9	820,313	0.515	32.1	1030	412,188	(10,372)	-2.5%
12/04/13	569,447	19.6	820,313	0.694	45.4	2061	580,398	10,951	1.9%
12/05/13	786,137	2.0	820,313	0.958	63.0	3969	819,706	33,569	4.3%
12/06/13	865,403	(3.7)	820,313	1.055	68.7	4720	901,301	35,898	4.1%
12/07/13	850,293	(0.4)	820,313	1.037	65.4	4277	853,810	3,517	0.4%
12/08/13	745,786	8.3	820,313	0.909	56.7	3215	731,861	(13,925)	-1.9%
12/09/13	826,831	1.8	820,313	1.008	63.2	3994	822,528	(4,303)	-0.5%
12/10/13	804,486	3.2	820,313	0.981	61.8	3819	802,778	(1,708)	-0.2%
12/11/13	847,431	1.3	820,313	1.033	63.7	4058	829,628	(17,803)	-2.1%
12/12/13	658,704	16.3	820,313	0.803	48.7	2372	623,831	(34,873)	-5.3%
12/13/13	695,246	12.8	820,313	0.848	52.2	2725	670,608	(24,638)	-3.5%
12/14/13	747,492	5.8	820,313	0.911	59.2	3505	766,437	18,945	2.5%
12/15/13	798,126	2.4	820,313	0.973	62.6	3919	814,064	15,938	2.0%
12/16/13	669,197	20.2	820,313	0.816	44.8	2007	572,579	(96,618)	-14.4%
12/17/13	626,442	17.4	820,313	0.764	47.6	2266	609,281	(17,161)	-2.7%
12/18/13	525,856	27.1	820,313	0.641	37.9	1436	484,202	(41,654)	-7.9%
12/19/13	653,216	17.3	820,313	0.796	47.7	2275	610,584	(42,632)	-6.5%
12/20/13	615,169	18.4	820,313	0.750	46.6	2172	596,127	(19,042)	-3.1%
12/21/13	602,408	19.0	820,313	0.734	46.0	2116	588,247	(14,161)	-2.4%
12/22/13	718,679	9.0	820,313	0.876	56.0	3136	722,247	3,568	0.5%
12/23/13	904,190	(4.4)	820,313	1.102	69.4	4816	911,438	7,249	0.8%
12/24/13	770,114	9.3	820,313	0.939	55.7	3102	718,123	(51,991)	-6.8%

<u>Date</u>	<u>Firm Throughput</u>	<u>Temperature</u>	<u>Firm Customer</u>	<u>UPC</u>	<u>HDD</u>	<u>HDDs^2</u>	<u>Model Fit</u>	<u>Difference</u>	<u>%</u>
12/25/13	615,169	16.8	820,313	0.750	48.2	2323	617,192	2,023	0.3%
12/26/13	571,937	21.7	820,313	0.697	43.3	1875	553,124	(18,813)	-3.3%
12/27/13	460,757	31.3	820,313	0.562	33.7	1136	431,869	(28,888)	-6.3%
12/28/13	516,400	24.5	820,313	0.630	40.5	1640	517,160	760	0.1%
12/29/13	893,763	(7.0)	820,313	1.090	72.0	5184	949,438	55,675	6.2%
12/30/13	903,236	(2.7)	820,313	1.101	67.7	4583	886,825	(16,411)	-1.8%
12/31/13	926,621	(5.0)	820,313	1.130	70.0	4900	920,179	(6,442)	-0.7%
01/01/14	892,852	(1.9)	821,220	1.087	66.9	4476	876,292	(16,560)	-1.9%
01/02/14	902,940	(2.7)	821,220	1.100	67.7	4583	887,806	(15,134)	-1.7%
01/03/14	674,191	22.5	821,220	0.821	42.5	1806	543,392	(130,799)	-19.4%
01/04/14	783,780	2.8	821,220	0.954	62.2	3869	809,315	25,535	3.3%
01/05/14	1,045,732	(14.5)	821,220	1.273	79.5	6320	1,062,519	16,787	1.6%
01/06/14	1,086,330	(13.8)	821,220	1.323	78.8	6209	1,051,910	(34,420)	-3.2%
01/07/14	909,815	(2.6)	821,220	1.108	67.6	4570	886,378	(23,437)	-2.6%
01/08/14	898,060	(1.4)	821,220	1.094	66.4	4409	869,092	(28,968)	-3.2%
01/09/14	695,186	17.4	821,220	0.847	47.6	2266	609,955	(85,231)	-12.3%
01/10/14	528,248	28.3	821,220	0.643	36.7	1347	469,667	(58,581)	-11.1%
01/11/14	520,417	27.3	821,220	0.634	37.7	1421	482,220	(38,197)	-7.3%
01/12/14	444,652	34.8	821,220	0.541	30.2	912	389,488	(55,164)	-12.4%
01/13/14	484,290	26.9	821,220	0.590	38.1	1452	487,284	2,994	0.6%
01/14/14	687,622	10.8	821,220	0.837	54.2	2938	698,456	10,834	1.6%
01/15/14	629,869	21.8	821,220	0.767	43.2	1866	552,431	(77,438)	-12.3%
01/16/14	755,215	9.0	821,220	0.920	56.0	3136	723,046	(32,169)	-4.3%
01/17/14	710,491	9.9	821,220	0.865	55.1	3036	710,720	229	0.0%
01/18/14	593,127	20.3	821,220	0.722	44.7	1998	571,907	(21,220)	-3.6%
01/19/14	458,959	31.6	821,220	0.559	33.4	1116	428,648	(30,311)	-6.6%
01/20/14	807,551	0.9	821,220	0.983	64.1	4109	836,225	28,674	3.6%
01/21/14	859,867	1.5	821,220	1.047	63.5	4032	827,690	(32,177)	-3.7%
01/22/14	939,132	(5.8)	821,220	1.144	70.8	5013	932,894	(6,238)	-0.7%
01/23/14	903,346	1.7	821,220	1.100	63.3	4007	824,865	(78,481)	-8.7%
01/24/14	623,215	21.9	821,220	0.759	43.1	1858	551,158	(72,057)	-11.6%
01/25/14	740,592	6.3	821,220	0.902	58.7	3446	760,331	19,739	2.7%
01/26/14	896,955	(1.8)	821,220	1.092	66.8	4462	874,833	(22,122)	-2.5%
01/27/14	1,013,460	(11.3)	821,220	1.234	76.3	5822	1,014,309	849	0.1%
01/28/14	934,603	(3.5)	821,220	1.138	68.5	4692	899,381	(35,222)	-3.8%
01/29/14	622,124	23.8	821,220	0.758	41.2	1697	526,679	(95,445)	-15.3%
01/30/14	765,957	3.2	821,220	0.933	61.8	3819	803,665	37,708	4.9%
01/31/14	767,161	4.3	821,220	0.934	60.7	3684	788,207	21,046	2.7%
02/01/14	742,210	6.2	821,951	0.903	58.8	3457	762,375	20,165	2.7%
02/02/14	767,201	4.6	821,951	0.933	60.4	3648	784,714	17,513	2.3%
02/03/14	747,100	7.8	821,951	0.909	57.2	3272	740,221	(6,879)	-0.9%
02/04/14	813,285	3.5	821,951	0.989	61.5	3782	800,156	(13,129)	-1.6%
02/05/14	903,288	(2.6)	821,951	1.099	67.6	4570	887,167	(16,121)	-1.8%
02/06/14	875,965	(0.8)	821,951	1.066	65.8	4330	861,261	(14,704)	-1.7%
02/07/14	802,105	5.0	821,951	0.976	60.0	3600	779,122	(22,983)	-2.9%
02/08/14	762,332	7.4	821,951	0.927	57.6	3318	745,752	(16,580)	-2.2%
02/09/14	863,250	(2.7)	821,951	1.050	67.7	4583	888,596	25,346	2.9%
02/10/14	878,879	(2.0)	821,951	1.069	67.0	4489	878,501	(378)	0.0%
02/11/14	747,125	11.3	821,951	0.909	53.7	2884	692,272	(54,853)	-7.3%
02/12/14	599,842	20.4	821,951	0.730	44.6	1989	571,111	(28,731)	-4.8%
02/13/14	713,019	10.6	821,951	0.867	54.4	2959	701,782	(11,237)	-1.6%
02/14/14	726,273	7.5	821,951	0.884	57.5	3306	744,353	18,080	2.5%
02/15/14	680,208	14.8	821,951	0.828	50.2	2520	645,062	(35,146)	-5.2%
02/16/14	621,395	19.0	821,951	0.756	46.0	2116	589,422	(31,973)	-5.1%

<u>Date</u>	<u>Firm Throughput</u>	<u>Temperature</u>	<u>Firm Customer</u>	<u>UPC</u>	<u>HDD</u>	<u>HDDs^2</u>	<u>Model Fit</u>	<u>Difference</u>	<u>%</u>
02/17/14	552,739	22.9	821,951	0.672	42.1	1772	538,714	(14,025)	-2.5%
02/18/14	438,311	31.5	821,951	0.533	33.5	1122	430,243	(8,068)	-1.8%
02/19/14	407,689	34.4	821,951	0.496	30.6	936	394,688	(13,001)	-3.2%
02/20/14	551,513	21.8	821,951	0.671	43.2	1866	552,923	1,410	0.3%
02/21/14	682,078	11.0	821,951	0.830	54.0	2916	696,343	14,265	2.1%
02/22/14	691,246	8.6	821,951	0.841	56.4	3181	729,190	37,944	5.5%
02/23/14	716,126	8.3	821,951	0.871	56.7	3215	733,322	17,196	2.4%
02/24/14	763,209	5.0	821,951	0.929	60.0	3600	779,122	15,913	2.1%
02/25/14	861,631	(2.4)	821,951	1.048	67.4	4543	884,278	22,647	2.6%
02/26/14	857,478	(3.2)	821,951	1.043	68.2	4651	895,833	38,355	4.5%
02/27/14	883,960	(5.0)	821,951	1.075	70.0	4900	922,016	38,056	4.3%
02/28/14	797,741	6.5	821,951	0.971	58.5	3422	758,212	(39,529)	-5.0%
03/01/14	931,911	(6.3)	822,177	1.133	71.3	5084	941,313	9,402	1.0%
03/02/14	893,144	(3.8)	822,177	1.086	68.8	4733	904,779	11,635	1.3%
03/03/14	793,372	6.7	822,177	0.965	58.3	3399	755,654	(37,718)	-4.8%
03/04/14	654,645	16.0	822,177	0.796	49.0	2401	629,228	(25,417)	-3.9%
03/05/14	598,914	18.0	822,177	0.728	47.0	2209	602,737	3,823	0.6%
03/06/14	564,977	24.3	822,177	0.687	40.7	1656	520,886	(44,091)	-7.8%
03/07/14	540,896	25.2	822,177	0.658	39.8	1584	509,408	(31,488)	-5.8%
03/08/14	500,163	22.9	822,177	0.608	42.1	1772	538,863	38,700	7.7%
03/09/14	393,788	38.0	822,177	0.479	27.0	729	351,384	(42,404)	-10.8%
03/10/14	291,729	44.0	822,177	0.355	21.0	441	280,785	(10,944)	-3.8%
03/11/14	431,105	32.3	822,177	0.524	32.7	1069	420,499	(10,606)	-2.5%
03/12/14	483,403	24.8	822,177	0.588	40.2	1616	514,509	31,106	6.4%
03/13/14	307,016	42.7	822,177	0.373	22.3	497	295,884	(11,132)	-3.6%
03/14/14	418,521	31.3	822,177	0.509	33.7	1136	432,850	14,329	3.4%
03/15/14	526,833	22.5	822,177	0.641	42.5	1806	544,025	17,192	3.3%
03/16/14	531,181	22.6	822,177	0.646	42.4	1798	542,750	11,569	2.2%
03/17/14	450,154	31.5	822,177	0.548	33.5	1122	430,362	(19,792)	-4.4%
03/18/14	454,709	30.7	822,177	0.553	34.3	1176	440,255	(14,454)	-3.2%
03/19/14	463,131	29.8	822,177	0.563	35.2	1239	451,455	(11,676)	-2.5%
03/20/14	351,375	35.7	822,177	0.427	29.3	858	379,020	27,645	7.9%
03/21/14	495,618	27.0	822,177	0.603	38.0	1444	486,577	(9,041)	-1.8%
03/22/14	621,205	15.1	822,177	0.756	49.9	2490	641,229	20,024	3.2%
03/23/14	577,846	21.0	822,177	0.703	44.0	1936	563,462	(14,384)	-2.5%
03/24/14	573,786	21.6	822,177	0.698	43.4	1884	555,687	(18,099)	-3.2%
03/25/14	602,373	18.6	822,177	0.733	46.4	2153	594,839	(7,534)	-1.3%
03/26/14	414,848	36.9	822,177	0.505	28.1	790	364,579	(50,269)	-12.1%
03/27/14	439,292	32.6	822,177	0.534	32.4	1050	416,827	(22,465)	-5.1%
03/28/14	429,334	30.5	822,177	0.522	34.5	1190	442,744	13,410	3.1%
03/29/14	334,433	38.4	822,177	0.407	26.6	708	346,622	12,189	3.6%
03/30/14	225,216	50.6	822,177	0.274	14.4	207	205,678	(19,538)	-8.7%
03/31/14	327,421	39.3	822,177	0.398	25.7	660	335,884	8,463	2.6%