

December 31, 2018

PUBLIC DOCUMENT

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101

RE: **PUBLIC Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. G008/M-18-462

Dear Mr. Wolf:

Attached are the **PUBLIC** comments of the Minnesota Department of Commerce, Division of Energy Resources (Department) in the following matter:

CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas'
(CenterPoint) Request for Change in Demand Units (Petition) and Supplemental
Information (Supplemental Filing).

The Petition was filed on July 2, 2018 and the Supplemental Filing was made on November 1, 2018 by:

Marie Doyle
Regulatory Services
CenterPoint Energy
505 Nicollet Mall, PO Box 59038
Minneapolis, MN 55459-0038

The Department requests that CenterPoint provide information in Reply Comments regarding its total entitlement level, reserve margin, and procurement planning. The Department will provide final recommendations to the Minnesota Public Utilities Commission (Commission) in subsequent supplemental comments.

The Department is available to respond to any questions the Commission may have on this matter.

Sincerely,

/s/ ADAM J. HEINEN
Rates Analyst

/s/ MATTHEW LANDI
Rates Analyst

AJH/ML/jl
Attachment



Before the Minnesota Public Utilities Commission

Public Comments of the Minnesota Department of Commerce Division of Energy Resources

Docket No. G008/M-18-462

I. SUMMARY OF CENTERPOINT'S PROPOSAL

Pursuant to Minnesota Rules 7825.2910, subpart 2,¹ CenterPoint Energy Resources Corp. (CenterPoint, CPE, or the Company) filed a petition requesting a change in demand² units (Petition) on July 2, 2018. The demand entitlement levels reported in the original Petition were proposed as of July and were not anticipated to be the final level of pipeline capacity actually purchased. Because the natural gas heating season spans the five-month period from November through March, the Company has the ability to secure capacity up until November 1st each year. In addition, the original Petition did not reflect Northern Natural Gas' (Northern or NNG) 2017-2018 reallocation of units between TF-12 Base and TF-12 Variable services.³

On November 1, 2018, the Company filed a Supplemental Filing to provide the final level of pipeline capacity actually purchased for the upcoming winter. The Supplemental Filing includes final updated demand rates and anticipated commodity pricing.

In its Petition, CenterPoint requested that the Minnesota Public Utilities Commission (Commission) approve an increase in the Company's overall demand costs on November 1, 2018 of approximately \$8.5 million. The Company did not propose a change in the total level of entitlement, but the increase in costs reflects a re-negotiated long-term agreement with Northern (Precedent Agreement)⁴ that considers anticipated growth on CenterPoint's distribution system. In the updated Supplemental Filing, CenterPoint did not adjust its original proposal and maintained the same entitlement level from the previous heating season. CenterPoint did provide an updated TF-12 Base and TF-12 Variable split amount. Finally, CenterPoint noted a minor decrease in storage costs for the upcoming heating season.

¹ **Filing by Gas Utilities:** *Filing upon a change in demand.* Gas utilities shall file for a change in demand to increase or decrease demand, to redistribute demand percentages among classes, or to exchange one form of demand for another.

² Also called entitlement, capacity, or transportation on the pipeline.

³ On November 1, NNG annually adjusts TF-12 Base and Variable billing unit entitlements based on the utility's gas use in the previous May-through-September period. The adjustments are in accordance with NNG's tariff approved by the Federal Energy Regulatory Commission (FERC).

⁴ Petition, Exhibit C3.

The Company did not propose a change in the level of storage but noted that rates on Natural Gas Pipeline (NGPL) decreased as part of a recent rate case. CenterPoint also noted that its current storage and transportation contracts on NGPL expire on April 30, 2019 and contract negotiations were ongoing at the time the Company filed its Petition. Storage does not directly impact daily entitlements, but is an important tool to secure supply.

The effects of the changes noted above are shown in greater detail and compared to the prior filings in Department Attachment 5.

II. THE DEPARTMENT'S ANALYSIS OF THE COMPANY'S PROPOSAL

The Minnesota Department of Commerce, Division of Energy Resources' (Department) analysis of the Company's request includes the following sections:

- review of CenterPoint's Precedent Agreement with Northern and related negotiations;
- the proposed changes to the entitlement level and to non-capacity items;
- the design-day requirement;
- the reserve margins;
- planning and integration; and
- the PGA cost recovery proposals.

A. REVIEW OF CENTERPOINT'S NORTHERN CONTRACT AND NEGOTIATIONS

The re-negotiation of CenterPoint's Northern contracts is a periodic part of the demand entitlement process. Typically, these contracts are re-negotiated every 10 to 15 years; the 2018 re-negotiation marks the first significant change in the contract since 2007. In 2007, CenterPoint successfully negotiated lower rates for a significant portion of its entitlement capacity in Minnesota and would receive these rates through October 31, 2019. CenterPoint stated that the primary term of its 2007 contract was 12 years (through October 31, 2019) with renewal options that allowed the Company to maintain the contract through October 2022.⁵ The Company explained in its Petition that it began a review of its current contract in 2015 in preparation for the expiration of the 2007 contract. CenterPoint further explained that the long lead-time was necessary in order to examine the potential alternatives to renewing the Northern contract. In particular, the Company analyzed the following alternatives:

- Construction of a new, Company-owned pipeline to bypass the Northern system;
- Keep the current contract through October 31, 2022 and then move all entitlements to

⁵ Department Attachment 1.

maximum tariffed rates; and

- Negotiate a new agreement.

The Company fully analyzed these alternatives and ultimately reached the conclusion that negotiating a new agreement represented the best outcome for ratepayers. The Department addresses these three alternatives separately below.

1. Bypass of Northern's System

The first alternative that CenterPoint considered was the construction of a new pipeline to the Twin Cities market, which would allow the Company to bypass a significant portion of Northern's current service to the CenterPoint service territory. CenterPoint analyzed a similar bypass of the Northern system when it last re-negotiated its Northern contracts.⁶ CenterPoint commenced bypass review in 2015, four years prior to the contract's stated primary end-date, to provide sufficient time to construct this alternative if it were deemed the best option for ratepayers.

In its Petition, CenterPoint stated that it worked jointly with Northern to conduct a bypass study to explore the possibility and feasibility of a new pipeline bypass.⁷ The analyzed bypass involved the construction of **[TRADE SECRET DATA HAS BEEN EXCISED]**.⁸ The Company also stated that, beyond cost considerations, non-cost concerns, such as potential regulatory and construction delays, were included in its decision-making process.⁹ Based on the bypass analysis and other considerations, CenterPoint concluded that bypassing the existing Northern system would not be an ideal solution for ratepayers. As such, the Company started contract negotiations with Northern.

⁶ Docket No. G008/M-07-561.

⁷ This bypass analysis was provided in **Trade Secret** Exhibit C2 to the Company's initial petition.

⁸ **Trade Secret** Exhibit C2.

⁹ Petition, Page 2.

The Department notes that the Company's bypass approach in this instance is different from its previous bypass analysis in 2005. In its initial petition in Docket No. G008/M-07-561, CenterPoint explained that it tendered a Request for Proposals (RFP) to construct a new pipeline to CenterPoint's market area in Minnesota in an effort to bypass Northern's system. In that instance, CenterPoint received proposals from various parties and CenterPoint engaged with Northern Border to negotiate the construction of a new pipeline. However, the Company ultimately received a favorable set of counter-proposals from Northern, and CenterPoint decided against construction of a bypass pipeline. The Department notes that in the instant docket, CenterPoint did not issue an independent RFP for a potential bypass of the Northern system. It is not clear what, if any, impact the lack of an RFP had on CenterPoint's negotiations with Northern or the Company's procurement decisions in this docket; as such, the Department issued discovery seeking to clarify this issue.

In its **Trade Secret** response to Department Information Request No. 2,¹⁰ CenterPoint stated that **[TRADE SECRET DATA HAS BEEN EXCISED]**. Based on this information, the Department concludes that CenterPoint's decision not to issue an RFP is reasonable.

As to the cost of the bypass option, CenterPoint stated that the cost of the bypass would be approximately \$821 million with approximately \$112 million per year that would be proposed to be included in base rates in a future rate case.¹¹ The Department notes that this cost estimate does not match the trade secret cost estimate noted by Northern in the bypass analysis. In its **Trade Secret** response to Department Information Request No. 3,¹² CenterPoint stated that **[TRADE SECRET DATA HAS BEEN EXCISED]** \$821 million cost estimate noted in CenterPoint's Petition. The Department appreciates this clarification.

¹⁰ **Trade Secret** Department Attachment 2.

¹¹ Petition, Page 2.

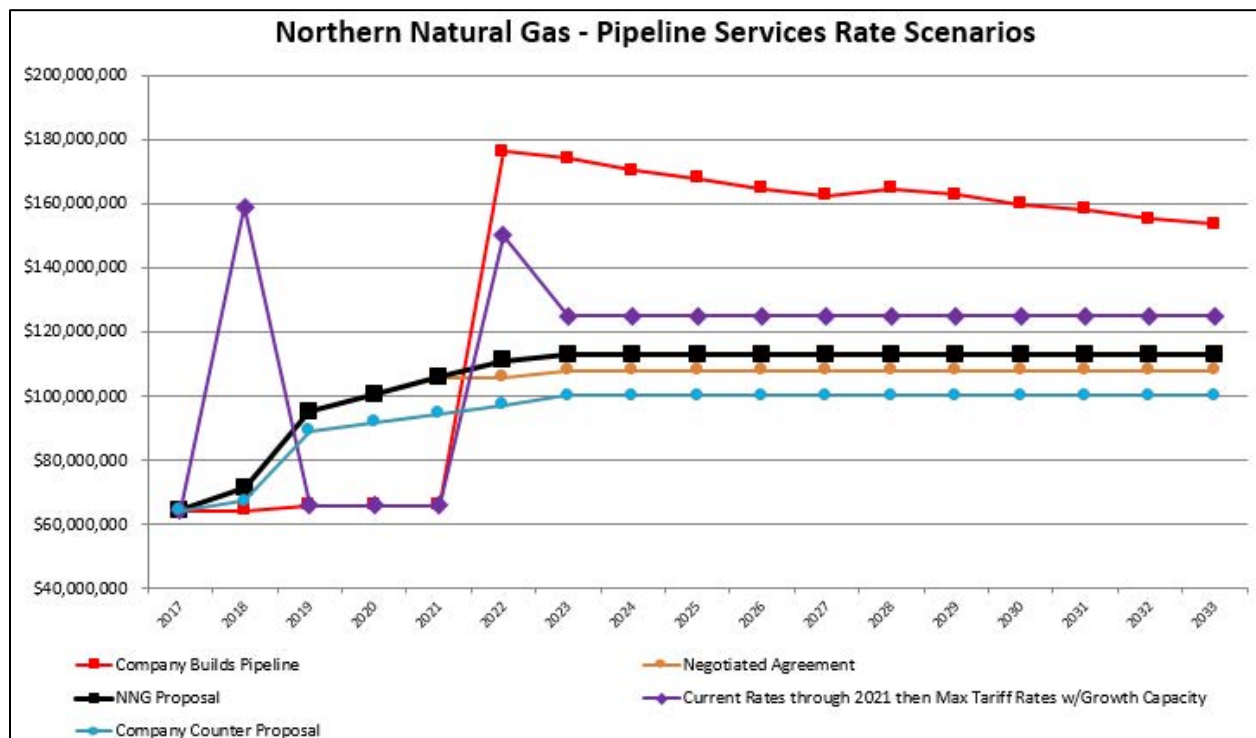
¹² **Trade Secret** Department Attachment 3.

The Department concludes that the Company's bypass analysis and decision to re-negotiate its existing contract with Northern was reasonable.

2. Continuing under the 2007 Contract

After concluding that a bypass pipeline was not a viable alternative, the Company examined whether maintaining the current contract through October 2022 and then moving to maximum tariff rates, as is contemplated under the terms of the existing contract, was an appropriate choice for ratepayers. The Company illustrated the cost implications of various alternatives.¹³ This illustration is recreated below.

Graph 1: Costs of Alternatives Considered by CenterPoint



The Company concluded that continuing with the existing contract until October 2022, and then shifting to maximum tariff rates, did not represent the best option for ratepayers. As illustrated in Graph 1 above, continuing with the NNG contract would result in significant, temporary cost fluctuations, and then higher costs would consistently be incurred in 2022 and beyond. There is the benefit of lower costs relative to a re-negotiated contract between 2019

¹³ Petition, Page 3.

and 2021, but the significant, temporary increases in 2018 and 2022 made this alternative less attractive to CenterPoint than a re-negotiated contract. Given this information, the Company engaged in negotiations with Northern in an effort to achieve additional savings for ratepayers.

The Department concludes that the Company's decision to negotiate a new agreement in lieu of continuing under the current contract and then moving to maximum tariff rates was a reasonable decision.

3. Negotiate New Agreement

After deciding to negotiate a new agreement with Northern, the Company explained that it identified several objectives for this new agreement: rate control, supply diversity, flexibility, reliability, and simplified rate structure.¹⁴ The Company was also aware that significant upgrades were needed in the Southern Twin Cities Metro Area, which, for the purposes of the Northern tariff, has historically been considered outstate, and therefore non-discount, and subject to full contribution-in-aid-of-construction (CIAC) and higher rates. With these objectives and facts in mind, the Company began negotiations with Northern.

The Company was ultimately able to negotiate a new contract that resulted in lower rates relative to maximum tariff rates and offered discounted rates in certain expansion areas. In particular, CenterPoint negotiated discounted rates for the expansion areas in the Southern Twin Cities and maintained the existing structure providing discounted rates to 79 percent of the capacity,¹⁵ with 21 percent subject to maximum rates. The Company also noted that it was able to negotiate rate caps on the portion of its contracts subject to maximum rates so that there is a degree of rate stability even for maximum rate contracts.¹⁶ Further, CenterPoint maintained the right to add growth capacity in all odd years during the contract period. Although the Precedent Agreement results in an approximately \$8.5 million increase in demand costs to ratepayers, the Company concluded that the new contract is beneficial because it results in a smaller demand cost increase relative to maximum rates, discounted rates for the expansion areas in the Southern Twin Cities Metro Area, and rate caps for capacity subject to maximum rates.¹⁷

Despite the existing contract's expiration in October 2019, the Company was able to move the effective date of the Precedent Agreement up to November 2018 to achieve the benefits noted above, and avoid the temporary 2018 rate increase.

¹⁴ Petition, Page 2.

¹⁵ Petition, Page 3.

¹⁶ Petition, Pages 3-4.

¹⁷ Petition, Pages 3-5.

The Department reviewed the Company's negotiation strategy, and contract, and concludes that it is generally favorable to ratepayers and represents the most advantageous result for ratepayers. The Department appreciates the work conducted by CenterPoint to minimize negative impacts to ratepayers. The Department does, however, note an observation from its review of the Precedent Agreement between CenterPoint and Northern.¹⁸ The Department observed the following in Section 6:

Northern will provide market support payments for CenterPoint's use in promoting load growth served by Northern. Northern will provide (a) \$275,000 on 11/01/2018, and (b) \$300,000 on November 1 of each year beginning 11/01/2019, and ending 11/01/2033.

After reviewing this clause in the Precedent Agreement, the Department was concerned that these payments may be similar to, or used as, promotional incentives, which the Commission prohibited in its September, 19, 2018 *Order* in Docket No. G999/CI-17-499.¹⁹ Given these concerns, the Department issued discovery. In its response to Department Information Request No. 5, CenterPoint agreed that the Commission *Order* in Docket No. G999/CI-17-499 prohibits the market support payments set forth in Section 6 of its Precedent Agreement. As such, the Company stated that it will credit these market support payments back to ratepayers through CenterPoint's PGA.²⁰ The Department appreciates this concession from the Company and recommends that the Commission require CenterPoint to credit any market support payments to ratepayers through the monthly PGA for the duration of the agreement between CenterPoint and Northern.

B. PROPOSED CHANGES

1. Changes to the Entitlement Level

As indicated in Department Attachment 5, the Company proposed to maintain its total entitlement level from the prior heating season:

¹⁸ This agreement was originally included at Trade Secret Exhibit C3 to the Company's Petition. However, it became public on August 1, 2018 when Northern publically filed it with the Federal Energy Regulatory Commission. The public version was filed with the Commission on August 16, 2018.

¹⁹ The Commission's September 19, 2018 *Order* in Docket No. G999/CI-17-499 states in relevant part, "Commission-regulated natural gas utilities are prohibited from offering cash or noncash promotional incentives on a prospective basis."

²⁰ Department Attachment 4.

Table 1 – CenterPoint’s Total Entitlement Levels

Previous Entitlement (Dkt)	Proposed Entitlement (Dkt)	Entitlement Changes (Dkt)	% Change From Previous Year
1,409,596	1,409,596	0	0.00%

Based on its design-day and reserve margin analyses in Sections B.3 and B.4 below, the Department offers no opinion on CenterPoint’s proposed level of demand entitlement. Although its method to estimate its design-day is acceptable, the Company’s proposed total entitlement level does not allow for a sufficient reserve margin in the event of operational concerns on CenterPoint’s system.

2. Changes to Non-Capacity Items

As noted above, CenterPoint proposed no change to its level of non-capacity items. These non-capacity items include services such as storage and Firm Deferred Delivery (FDD) on the Northern system. CenterPoint did note that the costs for its NGPL storage did decrease slightly based on a Federal Energy Regulatory Commission (FERC) rate case and that the Company is currently re-negotiating its long-term contracts with NGPL.²¹ The Department notes that storage can be used as part of an integrated hedging plan to reduce baseload winter gas purchases and potentially lower the number of hedging instruments.

As has been done since the 2011 demand entitlement filings, CenterPoint zeroed out the Capacity Release and the Off-System Margin Sales credits. These items are adjusted on a monthly basis as credits become known.

3. Design-Day Requirement

a. CPE Analysis

The design-day analysis employed by CenterPoint in the Petition is similar to what was used by the Company in recent demand entitlement filings. CenterPoint also employed a secondary regression analysis to account for the recent, and expected, migration of non-firm, dual fuel customers to firm service. This is the second year that the Company employed a secondary regression analysis.

²¹ Petition, Page 5.

CenterPoint's traditional design-day analysis is based, in large part, on the work done in its supplemental filing in Docket No. G008/M-11-1078. The Company's design-day analysis is based on Ordinary Least Squares (OLS) regression and daily heating season (November through March) data over the period from November 2012 to March 2018. CPE used heating degree days (HDDs) and the squared value of HDDs (HDD²) to estimate daily firm use per customer (UPC). CPE used the same estimation period and model specifications for its existing customer model and new firm customer models, with the exception of modeling the secondary regression on the combined "new" firm group's consumption rather than on UPC, since the customer count was assumed to be static throughout the entire November 2012 to March 2018 period. The HDD² factor is included in the regression equation to account for non-linear relationships that may exist between HDDs and UPC. The inclusion of a squared HDD term is an appropriate method of accounting for non-linear relationships. The Department reviewed CenterPoint's design-day regression models, and concluded that the signs on HDD and HDD² are both appropriately positive and the scale of the coefficients appear to be reasonable.

As noted above, the Company conducted two separate regression models, one for existing firm customers and a second for new firm customers and those expected to transition to firm sales service during the heating season. This is the second year that CenterPoint used this approach, and, to the extent sufficient data exist, CenterPoint's decision is reasonable and represents, in many respects, the most appropriate way to model design-day consumption. It is possible that these recent and soon-to-be transitioning customers have usage characteristics that are different than those of existing firm customers; therefore, if the Company used a single regression model and applied after-the-fact adjustments based on current firm usage, it is possible that peak-day consumption estimates would be inaccurate and, potentially, underestimated. Since the results of the Company's customer transition model are acceptable, the Department concludes the CenterPoint's two-regression approach is reasonable at this time. The Department will continue to monitor this approach in future demand entitlement filings.

As noted earlier, the Company's analysis is based on daily throughput and weather data over the period from November 2012 to March 2018. CenterPoint's combined analyses resulted in a design-day estimate of 1,306,511 Dkt/day;²² however, as explained in CPE's filing, the Company modified the analysis such that the ultimate design-day estimate was based on the upper bound of the regression output, which results in a calculated design day of 1,373,187 Dkt/day,²³ which is 16,024 Dkt/day greater than the design-day estimate in last year's demand entitlement filing. The Company stated that it made this modification to ensure a bias toward reliability since this adjustment places the design-day estimate at the top end of expected design-day conditions based on the regressions.

²² 1,282,000 Dkt/day + 24,511 Dkt/day = 1,306,511 Dkt/day. Petition, Exhibit B1.

²³ 1,347,000 Dkt/Day + 26,187 Dkt/day = 1,373,187 Dkt/day. Petition, Exhibit B1.

The peak-day process is complex and can be impacted by many different factors. Although weather (HDDs) is the driving factor behind peak-day use, the ultimate result is also dependent upon influences such as the day of the week and when, during a cold spell, the event occurs. CenterPoint's analysis only incorporates the impacts of weather and does not contemplate other factors including: day of the week, month, and heating season. In other words, CPE's analysis assumes that all days are equal. The impact of these other factors is unclear. However, the Department conducted an alternative regression analysis to independently evaluate the impact of these other factors on CPE's design-day regressions as discussed further below.

b. Department's Alternative Design-Day Analysis

The Department conducted similar alternative analyses in recent CenterPoint demand entitlement filings to analyze the reasonableness of the Company's design-day estimates. The Department's alternative analysis was based on the same period as CenterPoint's and included HDDs and HDD² along with factors that account for month, day of the week, and heating season. Including these additional factors was expected to provide additional explanatory precision to the analysis, if they are relevant, and isolate characteristics specific to each heating season day. The Department conducted its regression analysis and obtained consistent results (e.g., positive signs on both HDD factors) that are similar to CPE's.²⁴ The Department identified the factors with the greatest impact, by type (i.e., month, day of the week, heating season), and then added these values to the impacts related to baseload and weather.²⁵ This approach is conservative and should bias the calculation in the favor of system reliability. Using this alternative approach, the additional regression factors increased the projected design day by a small amount, from CenterPoint's 1,306,511 Dkt/day figure to approximately 1,330,587 Dkt/day²⁶ as calculated using the Department's model. The Department's results are within the confidence interval from the Company's design-day analysis results.

For comparative purposes, the Department also calculated a design day based on the upper bound of its regression result. Using the upper bound, the Department estimated a design day of approximately 1,479,786 Dkt/day,²⁷ which is greater than CenterPoint's upper-bound result

²⁴ Department Attachment 6.

²⁵ The Department notes that the factors with the greatest impact in its alternative analysis differ between the existing firm and transitioning firm customer models; as such, the design-day results are analogous to an estimate of non-coincident peak throughput. Therefore, because the two model results are added together and are based on different input characteristics, the Department's estimate likely has a bias toward over-estimating peak-day usage.

²⁶ $1.5088 \text{ UPC} * 865,353 \text{ customers} = 1,305,629 \text{ Dkt/day [existing customer model]} + 24,958 \text{ Dkt/day [transitioning customer model]} = 1,330,587 \text{ Dkt/day}$. Department Attachment 5 and CenterPoint Exhibit B1.

²⁷ $1.6720 \text{ UPC} * 865,353 \text{ customers} = 1,446,892 \text{ Dkt/day [existing customer model]} + 32,894 \text{ Dkt/day [transitioning customer model]} = 1,479,786 \text{ Dkt/day}$. Department Attachment 5 and CenterPoint Exhibit B1.

of 1,373,187 Dkt/day. The result of the Department's upper-bound analysis is also greater than CenterPoint's entitlement level inclusive of physical reserves (1,409,000 Dkt) which suggests that the Company may have insufficient capacity to serve firm customers on a peak day.

The Department notes, however, that caution should be exercised regarding the conclusion that CPE may have insufficient capacity to meet peak-day use because the basis for this conclusion is purely statistical. As noted above, the Department's alternative analysis uses additional factors (*i.e.*, day of the week, month) that have the potential to impact consumption. The worst-case scenario involving all factors is an unlikely scenario. The Department also notes that its alternative analysis has greater statistical variability, all else being equal, than the Company's analysis because the Department's analysis uses a greater number of independent factors to estimate peak-day consumption.²⁸ This variability is illustrated by the larger difference in the upper bound coefficients in the regression analysis and is not entirely unexpected.

After analyzing its upper-bound estimate, the Department does not believe this is a likely result nor does this result, on its own, suggest that CenterPoint has insufficient capacity to serve firm customers on a peak day. The Company's use of an upper-bound is meant to add an additional layer of security over the point estimate to ensure peak-day reliability. Since the point estimates of the two approaches are similar (CenterPoint's 1,306,511 Dkt/day and the Department's 1,330,587 Dkt/day), the Department concludes that its upper-bound estimate for this heating season may not be a reasonable basis for drawing any conclusions regarding CPE's design day due to the model specifications used and the use of data from the most recent heating season. As noted above, the additional determinants used in the alternative analysis increased the statistical volatility of the results; in addition, the peak day during the past heating season, which occurred over the New Year's Day holiday weekend, may have contributed to the unusual result. Given these potential concerns, the Department conducted additional analysis to determine whether CenterPoint's peak-day calculations are reasonable.

Using the regression coefficients from the Company's design-day models (Exhibit B1 of the Company's Petition), the Department determined that firm throughput would have been 1,266,905 Dkt on last heating season's peak day if the average temperature was 90 HDD. This result is 25,070 Dkt, or 2.0 percent, lower than the regression-estimated design-day figure of 1,291,975 Dkt calculated in last year's demand entitlement filing. In addition, this result is 90,258 Dkt, or 7.1 percent, lower than the upper-bound estimate of 1,357,163 Dkt used by the Company to determine its total entitlement level in last year's demand entitlement filing. This analysis suggests that CenterPoint's approach to calculating its design-day is likely sufficient to ensure reliability.

²⁸ This greater statistical variability was present in past demand entitlement analyses.

The Department also conducted an after-the-fact analysis using its alternative calculations and CenterPoint's analysis. This is similar to an analysis the Department conducted in previous demand entitlement filings. The predicted sales for the 2017-2018 heating season peak day, using the Department's alternative analysis, suggests that the design-day models may have a bias toward under-estimating sales (1,045,317 Dkt/day estimated sales compared to actual sales of 1,089,622 Dkt/day). The predicted sales for the 2017-2018 heating season peak day using CenterPoint's analysis also suggests that the design-day models may have a bias toward under-estimating sales (1,055,538 Dkt/day estimated sales compared to actual sales of 1,089,622 Dkt/day).

These results are contrary to the previous analysis which attempted to estimate use if last season's peak day reached the Commission's 90 HDD planning objective. The Department notes that the amounts of under-estimation (44,305 Dkt/day and 34,084 Dkt/day) are within or near the Company's reserve margin in its last demand entitlement filing (52,433).²⁹ These results suggest that the design-day models have a bias toward under-estimating sales on a peak day; however, the under-estimation of sales is likely within the Company's reserve margin.³⁰

The differing results from these two after-the-fact analyses (using the regression coefficients from CPE's design-day models in this docket to determine what the firm throughput would have been on last heating season's peak day if the average temperature was 90 HDD and comparing the predicted sales for the 2017-2018 heating season peak day using the Department's alternative calculations and CPE's analysis) is potentially troubling and requires additional review of historical data. Specifically, the Department reviewed historical weather and throughput data for dates in which the average temperature was below zero (65 HDD) to ascertain whether the coefficients from CenterPoint's regression adequately estimated actual historical usage.³¹ Based on this review, the Department determined that the Company's model coefficients generally under-estimate usage.

Since CPE's model coefficients routinely understate consumption, it is not surprising that the planning objective peak-day analysis would suggest lower consumption than predicted on a peak day. The Department also observed that the results are not uniform; in particular, the day of the week and other instances influence the difference between estimated and actual sales.

²⁹ Docket No. G008/M-17-533.

³⁰ The Department notes that the Company's total entitlement level includes peak shaving volumes. The amount of peak shaving volumes built into the demand entitlement level is based on the results of the Concentric Study in Docket No. G008/M-11-1078. This study noted that a percentage of actual peak shaving capacity, rather than the total capacity level, be built into the peak-day deliverability because the full amount may be unavailable. The full amount may be available but, for planning purposes, the Company only includes 33 percent of these volumes in its design-day analysis. Therefore, it is possible that additional volumes may be available to serve firm customers on a peak day.

³¹ Department Attachment 7.

For example, the Department observed that higher HDD days on the weekend resulted in lower consumption than when higher HDD days occurred during the week. Further, when multiple days below zero occurred (*i.e.*, prolonged cold spell), a colder day at the end of the cold spell had lower consumption than a warmer day earlier in the cold spell. The Department was also unable to observe a consistent level of bias (*e.g.*, sales under-estimated by a consistent amount), which would be useful in gauging whether the potential level of bias in the peak-day estimates is adequately addressed by the reserve margin.

Since CenterPoint used the upper-bound of its analysis to establish its total entitlement level, the Department also analyzed the 2017-2018 heating season using upper-bound coefficients.³² The results of this analysis do not exhibit significant bias and the predicted values generally align with historical consumption. This suggests that the upper-bound of the Company's regression model likely represents an appropriate estimate of peak-day consumption. Although the Company stated that the use of the upper-bound was in the interest of creating a conservative estimate, this decision was in fact necessary to adequately predict peak-day consumption and ensure firm reliability.

c. Design-Day Conclusions

The Department's review of historical observations and data underscore the inherent difficulty with estimating peak-day consumption and the importance of an adequate reserve margin, as discussed further in Section B.4 below. Based on its review of the Company's results, the Department's results, and the various areas of concern identified above, the Department concludes that CenterPoint's design-day analysis and assumptions are acceptable and appropriate for determining peak-day consumption for the upcoming (at the time of the analysis) heating season. CenterPoint's use of the upper-bound threshold was reasonable given the potential that the models have a bias toward under-estimating firm sales on the coldest days and, based on its historical performance, suggests that CenterPoint has sufficient capacity to ensure firm reliability on a peak day, assuming no operational issues.

The Department recommends that the Commission accept the design-day level proposed by CPE in this proceeding. The Department also recommends that CenterPoint conduct additional analysis regarding its design-day calculation in future demand entitlement filings. The Department does not take issue with CenterPoint's method; however, the results of the Department's alternate analysis and its review of historical usage illustrate some of the issues with the current regression method. For instance, the historical data strongly suggest that factors beyond weather (*e.g.*, day of the week) influence peak-day consumption. Unfortunately, the upper-bound results of the Department's alternate regression analysis

³² Department Attachment 8.

illustrate the drawback to using additional non-weather factors; namely, the higher statistical uncertainty related to use of the additional independent factors. The Department concludes that coupling the current design-day method with an additional probabilistic analysis, which attempts to estimate the most likely day of the week and period during the heating season when the peak day will occur, may work to create a more robust estimate of potential peak-day consumption. This may, in turn, result in a more accurate estimate of required entitlement levels. The Department is willing to work with the Company to investigate potential improvements to the design-day analysis. As discussed further below, the Department is concerned that the Company's proposed reserve margin is too low and, in the event of an operational issue, may be insufficient to reliably provide firm service on a peak day.

4. Reserve Margin

As shown below and in Department Attachment 5, CPE's proposed reserve margin is approximately 0.00 percent inclusive of physical reserves and 2.60 percent without physical reserves:

Table 2 – CenterPoint Reserve Margin

Total Entitlement (Dkt)	Design-Day Estimate (Dkt)³³	Difference (Dkt)	Reserve Margin (%)	Percentage Point Change From Prior Year
1,409,596	1,409,000	596	0.00%	(0.47)%
Total Entitlement (Dkt)	Design-Day Estimate without physical reserve (Dkt)	Difference (Dkt)	Reserve Margin (%)	Percentage Point Change From Prior Year
1,409,596	1,373,000	36,596	2.60%	1.26%

The Company's total entitlement level remained constant relative to last year's filing and the design-day estimate increased when compared to the prior year. This relationship is the reason for the decrease in the reserve margin compared to the prior year. The Department notes that the Company's proposed reserve margin, either with or without physical reserves, is lower than the desired amount of reserve typically approved by the Commission.

³³ "Design-Day Estimate" includes CenterPoint's calculated design day of 1,373,000 Dkt and the physical reserve of 36,000 as shown in Petition at pg. 6. If the physical reserve is removed, which essentially means that CenterPoint would use physical reserves to meet firm requirements, the Company's reserve margin is approximately 2.60 percent.

Physical reserves included in the Company's total entitlement level are inclusive of peak shaving volumes. The amount of peak shaving volumes built into the demand entitlement level is based on a percentage of actual peak shaving capacity, rather than the total capacity level, because the full amount of peak shaving capacity may be unavailable. The full amount may be available but, for planning purposes, the Company only includes 33 percent of peak shaving volumes in its design-day analysis. This adjustment accounts for the fact that CenterPoint may have used peak shaving earlier in the heating season, prior to a peak day, and then was unable to replenish volumes at the peak shaving facility. However, if CenterPoint did not call on peak shaving or was able to replenish capacity, additional volumes may be available to serve firm customers on a peak day. In the event that no peak shaving is available on the 90 HDD peak day, then CenterPoint does not have an operational reserve margin.

It is worth noting that the Company modified the analysis such that the ultimate design-day estimate was based on the upper bound of the regression output. The Company stated that it made this modification to ensure a bias toward reliability since this adjustment places the design-day estimate at the top end of expected design-day conditions based on the regression analysis. As discussed above, based on a review of historical data, it appears that the upper-bound in fact represents the most likely estimate of peak day conditions and not the top end of expected conditions. Without this modification, it is possible that CenterPoint may have procured insufficient entitlements to ensure firm reliability on a peak day.

Although the Department concluded that the Company's design-day approach is appropriate, the Department is concerned that CenterPoint's reserve margin is too low. As discussed above, if CenterPoint has full access to its peak shaving facility, CenterPoint likely has sufficient capacity to serve needs on an all-time peak day even with the low reserve margin. However, in the event that peak shaving is unavailable on a peak day, the Company does not have an operational reserve margin based on its proposed total entitlement level. The Department withholds recommendation on CenterPoint's proposed total entitlement level and recommends that the Company fully justify, in *Reply Comments*, the Company's decision to not procure additional capacity for this heating season and what, if any, other measures CenterPoint has available to ensure firm reliability on a peak day if peak shaving capacity is unavailable.

C. PLANNING AND INTEGRATION

In discussions before the Commission related to previous demand entitlement filings, the Commission expressed concern regarding the reliability of the natural gas distribution system in light of increased use of natural gas for electric generation. The Commission also expressed some concern regarding the lack of uniformity between reserve margins for different natural gas utilities and opined as to whether a standard reserve calculation or planning objective was possible or an improvement over the current system. Based on these concerns, and

Minnesota's efforts to expand natural gas use in under- and unserved areas, there is a growing need to more closely examine reserve margins and to integrate natural gas supply planning with electric resource planning.

Before presenting the Department's analysis, it is worthwhile to illustrate the general differences between peak planning for the electric utilities and peak and general system planning³⁴ for natural gas utilities.

1. Industry Differences Impacting Reserve Margin Calculations

The primary difference is that the electric industry is necessarily more interdependent than the natural gas industry. A vertically integrated electricity provider supplies most of its own product (through owned generation or purchased power agreements) and also relies on the non-contractual market [for Minnesota, the Midcontinent Independent System Operator (MISO)] at times when demand exceeds planned levels or outages prevent supply at the planned levels. Thus, the electric industry structure requires interdependency among market participants, necessitating a common, MISO system-wide reserve margin to ensure balanced reliance on the larger MISO system.

In contrast, a retail natural gas distribution utility acquires the product demanded by its customers through contracting with a natural gas transmission pipeline company for certain levels of product for specified time periods. A major factor impacting the level of interdependency within the electricity and natural gas industries is the greater availability of storage options for natural gas as opposed to electricity. For example, if natural gas utilities are aware in advance of a cold snap in weather, they may use "line pack" as a way to "store" natural gas temporarily in the pipe for use during the cold snap. Further, when natural gas consumption exceeds the levels planned or pipelines are damaged causing a loss of supply, natural gas utilities may turn to their own storage resources, propane or liquefied natural gas peaking plant capabilities, curtail natural gas supplied to interruptible customers, or seek to procure capacity release opportunities, if any exist at that time and location.

As a result of the lack of interdependency between natural gas utilities, there is not a real-time energy market or independent system operator to dispatch resources, as there is in the electric industry. Although it is true that a third-party market (*i.e.*, capacity release) exists in the natural gas market, it does not work in the same way as the electric energy markets. First, the capacity

³⁴ In addition to planning for peak days, natural gas utilities also procure pipeline supply considering minimum demand. Minimum usage (minimum day load) on a winter day is estimated to ensure that the base load gas acquired does not exceed the ability of the company to either use the gas for system load or to inject the gas into storage.

release market is not in real-time, it requires lead-time and coordination between two utilities or an Electronic Bulletin Board (EBB) system (*e.g.*, auction) operated by the interstate pipeline.

Second, the nature of the capacity release market also makes a regional reserve margin less ideal because of the potential for cross-subsidies. Since the capacity release market, either on a short-term or long-term basis, is auction based, the utility that initially purchased the capacity is unlikely to receive full value for the capacity. As such, in a situation where one regional utility may be long on capacity and a second utility short on capacity on a peak day, it is likely that the utility, and its ratepayers, that appropriately planned for a peak day will subsidize the utility with insufficient capacity. There is also the potential of a moral hazard because utilities may have an incentive to procure less capacity, to achieve lower rates in general, under the assumption that they can buy lower priced, released capacity when needed. Due to the need for individual gas utilities to procure sufficient, not too much and not too little, capacity to serve firm customers, reserve margins on the natural gas system are utility-specific rather than region-specific (as they are for the electric system).

Natural gas reserve margins are not only utility-specific, but it is possible for a natural gas utility to have different levels of reserve margins in different places on its system. That is, it may be misleading to consider a single utility-specific reserve margin as an accurate reflection of the ability of the utility to supply natural gas. A utility may have what appears to be a reasonable overall reserve margin, but still experience curtailments at a certain Town Border Station (TBS) due to the inability to physically move available product to that location. Similarly, a utility may have what appears to be an unreasonably low reserve margin but still have large reserve margins at certain locations, with the flexibility (through a loop, for example) to move the excess gas to another location to avoid curtailments.

Appropriate natural gas reserve margins can be set using various methods. For instance, a natural gas reserve margin could be set equal to the output capability of a utility's propane or liquefied natural gas peaking plant because the function of that peaking plant is to provide product at times when demand exceeds pipeline supply. Therefore, it may be reasonable to set the reserve margin at the level of the peaking plant's capacity in order to ensure that peak demand is met should the peaking plant experience an outage. (This approach is called an "N minus one" approach.) In addition, as noted in Section II.B above, the natural gas reserve margin can also be set based on statistical results.

The natural gas design-day calculation estimates the maximum firm demand anticipated under the most extreme weather conditions. The extent to which a utility procures entitlements in excess of its estimate of maximum firm demand may vary by utility depending on factors such as how much storage is in place, whether the utility has a peaking plant and the size of the plant, past experience, and expectation for load growth. Further, there may be a need to

procure additional entitlements to meet design-day requirements, but the pipeline suppliers may not offer entitlements at the specific level needed or at the location needed. The excess amount procured could be considered, or proposed as, that utility's reserve margin, but the percentage represented by that reserve margin is not the result of a calculation; rather, it was dictated by the need to fulfill design-day needs. In other words, under certain circumstances a reserve margin may exceed the levels traditionally considered reasonable by the Commission, but be legitimately dictated by the availability of supply to meet the obligation to provide firm service.

2. Adequacy of CenterPoint's Past Entitlement Levels

In light of these differences in peak planning for the electric utilities versus natural gas utilities, the Department gathered detailed information from CenterPoint, and other natural gas utilities, in order to ascertain the number, timing, and cause of interruptions (curtailments), as a first step in assessing whether the demand entitlements procured, including reserve margins in place at those times, were sufficient and prudent. These data will also aid in monitoring the growing inter-relationship between the natural gas and electric industries.

Through discovery in various dockets, CenterPoint provided the Department with daily throughput data (both firm and interruptible), curtailment data, and Maximum Daily Quantity (MDQ) data,³⁵ by TBS over the period from November 2012 to March 2018. Since the adequacy of entitlements to meet peak natural gas consumption, including possible impacts on energy system reliability, is focused on the heating season, the Department concentrated its analysis on the heating season months (*i.e.*, November through March) and, in particular, the yearly peak sendouts on the CenterPoint system since the 2012-2013 heating season.³⁶

The Department first reviewed information regarding the Company's historical curtailments. The majority of the events involved TBS-specific curtailments, which means that CenterPoint experienced operational concerns at a micro level that required intervention to maintain reliability at these points. There was only one instance, January 4, 2014 to January 7, 2014, when the Company declared a system-wide curtailment.

This system-wide curtailment event included two of the coldest days (approximately 80 HDDs) in the 2013-2014 heating season. Consumption by interruptible customers decreased significantly as a result of the curtailment notice. This reaction suggests that the Company has additional capacity available to manage a heating season peak day, and that interruptible customers are likely to respond to CenterPoint's curtailment notices in the event of an all-time

³⁵ The MDQ, or Maximum Daily Quantity, is the maximum volume amount that may be transported on a daily basis to a given receipt point or TBS based on an agreed-upon contract.

³⁶ **Trade Secret** Department Attachment 9.

peak day (90 HDD). The Department reviewed the Company's interruptible tariffs, noting that the strong response by interruptible customers may be driven by CenterPoint's penalty structure, which makes unauthorized use of gas expensive, and likely uneconomic, for interruptible customers after a curtailment is announced.

The Department notes that interruptible consumption appears to have shifted to firm use after the system-wide curtailment during the 2013-2014 heating season. This shift lowers the risk, to some degree, of unauthorized interruptible use on a peak day since the number of interruptible customers, in general, has decreased and peak day planning should be more consistent since these customers are included in demand entitlement planning prior to the heating season; however, the capacity available to curtail appears to have decreased.

The Department also observed instances where TBS consumption on various days, including the peak sendouts for each heating season, exceeded the MDQs for the TBS. The Department notes that consumption in excess of the MDQ is not consistent across all TBSs, but there are certain TBSs where consumption in excess of the MDQ is regularly occurring. The fact that consumption exceeded the MDQ for certain TBSs does not necessarily suggest that reliability was in question at these points, but rather, that CenterPoint must incur additional costs to procure additional capacity, assuming capacity is even available on the interstate pipeline. This situation presents a potential issue on a peak day since available capacity is not guaranteed, but it does provide a signal to CenterPoint that it should address an issue and procure additional capacity or upgrade a TBS.

In the lead up to the 2018-2019 heating, representatives from CenterPoint met with the Department to discuss the Company's procurement strategy for the heating season. As part of this meeting, CenterPoint explained its relatively new approach to analyzing its system and conducting its planning at the more granular TBS level. The Company's presentation provided useful insight, so the Department recommends that CenterPoint elaborate in detail, in its *Reply Comments*, how the Company conducts planning at the TBS level as well as what steps it takes to maintain reliability at the TBS level and to correct instances where consumption exceeds the MDQ.

The Department also reviewed the Company's annual service quality reports and did not identify instances of service quality issues involving a community or area of a community with reliability issues with their natural gas service.

3. *Natural Gas Used to Generate Electricity*

Regarding the growing interdependence of the natural gas and electric industries, the Department specifically analyzed consumption by electric generators served by CenterPoint.

Over the period analyzed, the Company provided service to at least **[TRADE SECRET DATA EXCISED]** electric generators that took some level of firm service. Over the course of this period, firm consumption by these generators decreased significantly. The **[TRADE SECRET DATA HAS BEEN EXCISED]** facility has been primarily interruptible since the 2012-2013 heating season; however, the **[TRADE SECRET DATA HAS BEEN EXCISED]** transitioned from firm to interruptible service during this period.

The Department notes that, from the perspective of the natural gas system, interruptible service for electric generation customers is preferred because these generators are large and can have volatile consumption patterns especially during adverse weather conditions. Serving most electric generators under interruptible service is the most appropriate method, from the natural gas utility's perspective, to ensure firm reliability on a peak day. Under the current arrangement, CenterPoint is able to interrupt service to these customers, either in full or in part, such that traditional firm customers maintain service on a peak day.

From the perspective of electric reliability, however, firm service provides the greatest reliability since the fuel source is always available. Therefore, the current arrangement for most generating facilities to receive interruptible service potentially harms the electric system, either from a reliability or cost perspective, or both,³⁷ because these units may be unavailable when called on by MISO based on economic dispatch.³⁸

Based on its review of CenterPoint's distribution planning and the nature of the Company's natural gas distribution system, the Department concludes that the current planning approach (*i.e.*, unique to each utility) is reasonable at this time and is not a detriment to ratepayers or reliability. The Department looks forward to CenterPoint's responses and additional information on this topic in *Reply Comments*.

D. THE COMPANY'S PGA COST RECOVERY PROPOSAL

The demand entitlement amount listed in Department Attachment 5 represents the demand entitlements for which the Company's firm customers will be paying beginning November 1, 2018. In its Supplemental Filing, CenterPoint compared its October 2018 PGA rates to its proposed November 2018 PGA which resulted in an increase in demand costs by \$0.0601 per Dkt for the Residential class. This increase in demand cost is the result of the renegotiated Northern contract discussed in Section 2A above. As shown in Department Attachment 10, the Department replicated CenterPoint's analysis and found the same result. CenterPoint's

³⁷ The Department has not compared the cost savings from the cheaper interruptible service to the cost increase that may be incurred by the electric system due to the unavailability of natural gas.

³⁸ MISO does not factor in the deliverability of fuel when determining dispatch.

proposed changes would result in the following annual rate impacts:

- Annual demand cost increase of \$6.01, or approximately 7.52 percent, for the average Residential customer consuming 100 Dkt annually;
- Annual demand cost increase of \$4.81, or approximately 7.52 percent, for the average Commercial/Industrial Firm - A customer consuming 80 Dkt annually;
- Annual demand cost increase of \$171.89, or approximately 7.52 percent, for the average Commercial/Industrial Firm - B customer consuming 2,860 Dkt annually; and
- Annual demand cost increase of \$859.43, or approximately 7.52 percent, for the average Commercial/Industrial Firm - C customer consuming 14,300 Dkt annually.

Based on its analysis, the Department recommends that the Commission approve the proposed demand costs with an effective date of November 1, 2018.

III. THE DEPARTMENT'S RECOMMENDATIONS

The Department requests that CenterPoint provide the following information in Reply Comments regarding its total entitlement level, reserve margin, and procurement planning:

- a full explanation of why the Company did not procure additional capacity for this heating season and what, if any, other measures CenterPoint has available to ensure firm reliability on a peak day if peak shaving capacity is unavailable; and
- a full explanation, and detail, of how the Company conducts planning at the TBS level and what steps it takes to maintain reliability at the TBS level and to correct instances where consumption exceeds the MDQ.

The Department will provide complete final recommendations in subsequent supplemental comments; however, at this time, the Department recommends that the Commission approve the proposed demand costs with an effective date of November 1, 2018 and require CenterPoint to credit to ratepayers through the monthly PGA any market support payments received from Northern for the duration of the Precedent Agreement between CenterPoint and Northern.

/jl

Attachment

From: [Doyle, Marie M.](#)
To: [Heinen, Adam \(COMM\)](#)
Cc: [Coogler, Bruce L.](#); [Sorum, Peggy J.](#); [Doyle, Marie M.](#); [Lee, Amber S.](#); [Bjorklund, Brenda A.](#)
Subject: RE: [External Email] Demand Entitlement Question- INFORMAL IR #6
Date: Tuesday, December 18, 2018 2:12:54 PM
Attachments: [image003.png](#)
[image004.png](#)

Adam – I forwarded your question to Bruce Coogler, VP of Gas Supply, who gave me the following explanation:

The primary term of the agreements was 12 years, beginning November 1, 2007 and extending through October 31, 2019. CenterPoint Energy had 3 consecutive options to extend the agreements by 1 year each by giving at least 18 months written notice prior to each date the agreement would otherwise terminate. Therefore, the total term could have been 15 years if CenterPoint Energy desired to extend the agreements to the maximum ending date of October 31, 2022.



Marie M. Doyle
Regulatory Analyst
612.321.5078
Marie.Doyle@CenterPointEnergy.com
505 Nicollet Mall, PO Box 59038, Mpls. MN 55379-0038

From: Heinen, Adam (COMM) [mailto:adam.heinen@state.mn.us]
Sent: Tuesday, December 18, 2018 12:13 PM
To: Doyle, Marie M. <marie.doyle@centerpointenergy.com>
Subject: [External Email] Demand Entitlement Question

EXTERNAL EMAIL

Marie,

I am working on answering some questions for Susan and she would like some clarification regarding how the worked, especially the time period it would have been in effect. The below quote mentions a 15 year contract but it also implies that the contract would expire in 2019, which is less than 15 years. Susan is a bit confused by this. My impression is that the contract was for 15 years (so expiration in 2021), but if you wanted to renegotiate there was, for the lack of a better word, a contract provision for the 2019. If you could help me out with this explanation, it would be greatly appreciated. Thanks!

CenterPoint Energy's (CPE) 2007 fifteen-year contract¹ with Northern Natural Gas (NNG) for transportation service is scheduled to end on October 31, 2019. CenterPoint Energy began reviewing its need for additional pipeline transportation capacity to meet current and future customers' demand and alternatives for pipeline services in 2015, four years prior to the 2007 contract's stated end-date, because some of the alternatives considered would require a long lead time, involve negotiation of complex agreements, require regulatory review and approval, and/or necessitate the completion of construction.

Adam Heinen

Public Utilities Rates Analyst

651-539-1825

mn.gov/commerce

Minnesota Department of Commerce

85 7th Place East, Suite 280 | Saint Paul, MN 55101



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State of Minnesota DOC

Utility Information Request

Docket Number: G-008/M-18-462

Date of Request: 11/2/2018

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/13/2018

Analyst Requesting Information: Adam Heinen/Matthew Landi

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

Request No.	
DOC 002 P	<p>Topic: Bypass Analysis</p> <p>Reference(s): Petition Pages 1 and 2 and CenterPoint Initial Petition in Docket No. G008/M-07-561</p> <p>The Department notes that CenterPoint last renegotiated its contract with Northern Natural Gas in, and around, the year 2005. During this last renegotiation, the Company issued a Request for Proposal (RFP) to other pipeline companies to construct a bypass to CenterPoint's markets in Minnesota. Please fully explain why CenterPoint did not issue an RFP in this instance and a full explanation of whether, in the Company's estimation, an RFP would have resulted in an improved bargaining position for ratepayers.</p> <p>If this information has already been provided in initial petition or in response to an earlier Department-DER information request, please identify the specific cite(s) or Department-DER information request number(s).</p> <p>Response:</p> <p>CenterPoint Energy has designated selected information in this response as trade secret. The information meets the definition of trade secret in Minn. Stat. § 13.37, subd. 1(b), as follows: (1) the information was supplied by the Company, the affected organization; (2) the Company has taken all reasonable efforts to maintain the secrecy of the information, including protecting it from disclosure in this proceeding; and (3) the information includes information about the Company's contract negotiating strategy, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from their</p>

Response By: Marie Doyle

Title: Regulatory Analyst

Department: Regulatory

Telephone: 612-321-5078

disclosure or use.

Summary

In 2005, CenterPoint Energy (or the Company) negotiated a transportation service agreement with Northern Natural Gas (NNG or Northern), which became effective in 2007 and was set to expire in 2019 (2007 Contract). Beginning in 2014 and 2015, the Company began evaluating options to extend, renegotiate or replace the NNG contract and eventually determined renegotiation was the best alternative. The new contract became effective November 1, 2018, after FERC approval in August 2018, and it extends through October 31, 2034. The new contract provides additional transportation capacity to meet growth in both residential and commercial and industrial needs beginning in 2019 and going forward. The contract also provides a material discount on a large portion of entitlement.

[TRADE SECRET INFORMATION BEGINS...

Response By: Marie Doyle
Title: Regulatory Analyst
Department: Regulatory
Telephone: 612-321-5078

...TRADE SECRET INFORMATION ENDS]

Response By: Marie Doyle
Title: Regulatory Analyst
Department: Regulatory
Telephone: 612-321-5078

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State of Minnesota DOC

Utility Information Request

Docket Number: G-008/M-18-462

Date of Request: 11/2/2018

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 11/13/2018

Analyst Requesting Information: Adam Heinen/Matthew Landi

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

Request No.	
DOC 003 P	<p>Topic: Bypass Analysis</p> <p>Reference(s): Petition, Page 2, and Non-Public Exhibit C2</p> <p>Please reconcile the difference between the bypass cost estimate included in the Company's Petition and in the Bypass Analysis.</p> <p>If this information has already been provided in initial petition or in response to an earlier Department-DER information request, please identify the specific cite(s) or Department-DER information request number(s).</p> <p>Response:</p> <p>CenterPoint Energy has designated selected information in this response as trade secret. The information meets the definition of trade secret in Minn. Stat. § 13.37, subd. 1(b), as follows: (1) the information was supplied by the Company, the affected organization; (2) the Company has taken all reasonable efforts to maintain the secrecy of the information, including protecting it from disclosure in this proceeding; and (3) the information includes information about the Company's contract negotiating strategy, which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from their disclosure or use.</p> <p>[TRADE SECRET INFORMATION BEGINS...</p>

Response By: Marie Doyle

Title: Regulatory Analyst

Department: Regulatory

Telephone: 612-321-5078

...TRADE SECRET INFORMATION ENDS]

Response By: Marie Doyle
Title: Regulatory Analyst
Department: Regulatory
Telephone: 612-321-5078

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State of Minnesota DOC

Utility Information Request

Docket Number: G-008/M-18-462

Date of Request: 11/29/2018

Requested From: CenterPoint Energy Minnesota Gas

Response Due: 12/10/2018

Analyst Requesting Information: Adam Heinen/Matthew Landi

Type of Inquiry: Other

If you feel your responses are trade secret or privileged, please indicate this on your response.

Request No.	
DOC 005	<p>The above reference is an excerpt from CenterPoint's contract agreement with Northern Natural Gas (Northern). This reference discusses market support payments that Northern will make to CenterPoint to promote load growth in areas served by Northern. The Department notes that these market support payments appear similar, on a retail level, to Promotional Incentives, which the Commission prohibited in its September 19, 2018 <i>Order</i> in Docket No. G999/CI-17-499, and Advertising Expenses, which are restricted by Minnesota Statute 216B.16, subd. 8. As such, please fully explain how these market support payments are used and how these payments are accounted for. As part of this response, please fully explain how ratepayers benefit from these payments and whether these payments are also included in the assessed demand rates or any other rates charged to CenterPoint by Northern.</p> <p>If this information has already been provided in initial petition or in response to an earlier Department-DER information request, please identify the specific cite(s) or Department-DER information request number(s).</p> <p>Response:</p> <p>The Company agrees that the Minnesota Public Utilities Commission's September 19, 2018, Order in Docket No. G999/CI-17-499 prohibits the market support payments set forth in Section 6 of the Company's August 16, 2018, Supplemental Filing. As such, the market support payments will be credited back to the Company's Purchase Gas Adjustment.</p>

Response By: Amber Lee

Title: Director Regulatory Affairs

Department: Regulatory

Telephone: 612-321-4625

Page 1 of 1

Department Attachment 5
Docket No. G008/M-18-462
CenterPoint Demand Entitlement Analysis

Docket No.	Heating Season	Number of Firm Customers				Design Day Requirement			Total Entitlement Plus On-line Storage & Peak Shaving			Reserve Margin
		(1 A) Actual Number of Jan. Customers	(1) Projected DD Customers	(2) Change from Previous Year	(3) % Change From Previous Year	(4) Design Day (Dk)	(5) Change from Previous Year	(6) % Change From Previous Year	(7) Total Entitlement (Dk)	(8) Entitlement Change from Previous Year	(9) % Change From Previous Year	(10) Corrected Reserve Margin [(7)-(4))/(4)
18-462	2018-2019*	n/a	865,353	8,261	0.96%	1,409,000	6,000	0.43%	1,409,596	0	0.00%	0.04%
17-533	2017-2018	858,548	857,092	6,520	0.77%	1,403,000	39,000	2.86%	1,409,596	34,126	2.48%	0.47%
16-571	2016-2017	847,780	850,572	9,437	1.12%	1,364,000	11,000	0.81%	1,375,470	19,519	1.44%	0.84%
15-644	2015-2016	839,291	841,135	11,133	1.34%	1,353,000	27,000	2.04%	1,355,951	11,533	0.86%	0.22%
14-561	2014-2015	830,377	830,002	6,212	0.75%	1,326,000	2,000	0.15%	1,344,418	4,479	0.33%	1.39%
13-578	2013-2014	821,220	823,790	12,651	1.56%	1,324,000	8,000	0.61%	1,339,939	-6,842	-0.51%	1.20%
12-864	2012-2013	813,605	811,139	3,212	0.40%	1,316,000	100,000	8.22%	1,346,781	-32,900	-2.38%	2.34%
11-1078	2011-2012	807,922	807,927	3,647	0.45%	1,216,000	3,000	0.25%	1,379,681	0	0.00%	13.46%
10-1162	2010-2011	804,703	804,280	3,104	0.39%	1,213,000	2,000	0.17%	1,379,681	40,000	2.99%	13.74%
09-1260	2009-2010	801,286	801,176	4,031	0.51%	1,211,000	-24,000	-1.94%	1,339,681	1/ 9,615	0.72%	10.63%
08-1307	2008-2009	797,228	797,145	-10,815	-1.34%	1,235,000	-11,000	-0.88%	1,330,066	1/ 873	0.07%	7.70%
07-561	2007-2008	792,950	807,960	15,025	1.89%	1,246,000	14,000	1.14%	1,329,193	1/ 26,891	2.06%	6.68%
06-1533	2006-2007	787,326	792,935	16,585	2.14%	1,232,000	12,000	0.98%	1,302,302	2,000	0.15%	5.71%
05-1736	2005-2006	777,424	776,350	17,129	2.26%	1,220,000	-44,000	-3.48%	1,300,302	4,500	0.35%	6.58%
	2004-2005	762,835	759,221	14,710	1.98%	1,264,000	21,000	1.69%	1,295,802	0	0.00%	2.52%
	2003-2004**	745,890	744,511	18,603	2.56%	1,243,000	29,300	2.41%	1,295,802	34,400	2.73%	4.25%
	2002-2003**	728,005	725,908	16,524	2.33%	1,213,700	30,092	2.54%	1,261,402	12,500	1.00%	3.93%
	2001-2002		709,384			1,183,608			1,248,902			5.52%
Average Per Year:			796,502	9,232	1.19%	1,260,019	13,712	1.10%	1,331,469	10,043	0.77%	5.13%

Docket No.	Heating Season	Firm Peak Day Sendout			Per Customer Metrics				
		(11) Firm Peak Day Sendout (Dk)	(12) Change from Previous Year	(13) % Change From Previous Year	(14) Excess per Customer [(7) - (4)]/(1)	(15) Design Day per Customer (4)/(1)	(16) Entitlement per Customer (7)/(1)	(17) Peak Day Sendout per DD # Customer (11)/(1)	(18) Peak Day Sendout per Actual Customers (11)/(1 A)
18-462	2018-2019*	n/a	n/a	n/a	0.0007	1.6282	1.6289	n/a	n/a
17-533	2017-2018	1,089,622	110,691	11.31%	0.0077	1.6369	1.6446	1.2713	1.2691
16-571	2016-2017	978,931	(15,215)	-1.53%	0.0135	1.6036	1.6171	1.1509	1.1547
15-644	2015-2016	994,146	34,156	3.56%	0.0035	1.6085	1.6120	1.1819	1.1845
14-561	2014-2015	959,990	(126,340)	-11.63%	0.0222	1.5976	1.6198	1.1566	1.1561
13-578	2013-2014	1,086,330	125,196	13.03%	0.0193	1.6072	1.6266	1.3187	1.3228
12-864	2012-2013	961,134	130,690	15.74%	0.0379	1.6224	1.6604	1.1849	1.1813
11-1078	2011-2012	830,444	(42,328)	-4.85%	0.2026	1.5051	1.7077	1.0279	1.0279
10-1162	2010-2011	872,772	(21,153)	-2.37%	0.2072	1.5082	1.7154	1.0852	1.0846
09-1260	2009-2010	893,925	(130,839)	-12.77%	0.1606	1.5115	1.6721	1.1158	1.1156
08-1307	2008-2009	1,024,764	21,335	2.13%	0.1193	1.5493	1.6685	1.2855	1.2854
07-561	2007-2008	1,003,429	5,627	0.56%	0.1030	1.5422	1.6451	1.2419	1.2654
06-1533	2006-2007	997,802	140,866	16.44%	0.0887	1.5537	1.6424	1.2584	1.2673
05-1736	2005-2006	856,936	(87,406)	-9.26%	0.1034	1.5715	1.6749	1.1038	1.1023
	2004-2005	944,342	(69,052)	-6.81%	0.0419	1.6649	1.7068	1.2438	1.2379
	2003-2004	1,013,394	97,281	10.62%	0.0709	1.6696	1.7405	1.3612	1.3586
	2002-2003	916,113	122,670	15.46%	0.0657	1.6720	1.7377	1.2620	1.2584
	2001-2002	793,443			0.0920	1.6685	1.7605	1.1185	
Average Per Year:		945,493	12,366	1.89%	0.0800	1.5937	1.6737	1.1936	1.2002

All the numbers reflected in the above tables are consolidated for the Company's previous Northern and Viking service areas.

* = Projected Values

** = From CenterPoint's Exh. B, page 3 in Docket No. G008/M-08-1307.

1/ Corrected total entitlement amounts for peak-shaving output. See Docket No. G008/M-10-1162.


```
. regress upc hdd HDDs_2 Nov Dec Jan Feb Mar Sun Mon Tue Wed Thu Fri Sat HSI148 HSI1213 HSI1314 HS
> 1415 hsl1516 hsl1617
note: Feb omitted because of collinearity
note: Thu omitted because of collinearity
note: HSI1314 omitted because of collinearity
```

Source	SS	df	MS	Number of obs =	907
Model	49.3518319	17	2.90304893	F(17, 889) =	3087.51
Residual	.835888481	889	.000940257	Prob > F	= 0.0000
				R-squared	= 0.9833
				Adj R-squared	= 0.9830
Total	50.1877204	906	.055394835	Root MSE	= .03066

upc	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
hdd	.0132547	.0003495	37.92	0.000	.0125687	.0139407
HDDs_2	.0000226	3.99e-06	5.67	0.000	.0000148	.0000304
Nov	-.0367016	.0036263	-10.12	0.000	-.0438188	-.0295845
Dec	-.0098411	.003267	-3.01	0.003	-.0162531	-.003429
Jan	.0159887	.0032696	4.89	0.000	.0095717	.0224058
Feb	0	(omitted)				
Mar	-.0220768	.0034848	-6.34	0.000	-.0289161	-.0152375
Sun	.0020738	.0038246	0.54	0.588	-.0054324	.0095801
Mon	.0057275	.0038396	1.49	0.136	-.0018082	.0132631
Tue	.0060977	.0038158	1.60	0.110	-.0013913	.0135867
Wed	.0034592	.003813	0.91	0.365	-.0040243	.0109427
Thu	0	(omitted)				
Fri	-.0036724	.0038066	-0.96	0.335	-.0111434	.0037987
Sat	-.0136946	.0038031	-3.60	0.000	-.0211588	-.0062305
HSI148	.0243938	.0035748	6.82	0.000	.0173778	.0314099
HSI1213	-.0206861	.0036088	-5.73	0.000	-.0277689	-.0136034
HSI1314	0	(omitted)				
HSI1415	.0033311	.0035694	0.93	0.351	-.0036743	.0103365
hsl1516	-.0046772	.0037135	-1.26	0.208	-.0119654	.0026111
hsl1617	.0080334	.0036813	2.18	0.029	.0008084	.0152585
_cons	.0863184	.0090313	9.56	0.000	.0685932	.1040437

```
. regress upc hdd HDDs_2 Nov Dec Jan Mar Sun Mon Tue Wed Fri Sat HS1718 HS1213 HS1415 hs1516 hs161
> 7
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Source	SS	df	MS	Number of obs =	907
Model	49.3518319	17	2.90304893	F(17, 889) =	3087.51
Residual	.835888481	889	.000940257	Prob > F =	0.0000
				R-squared =	0.9833
				Adj R-squared =	0.9830
Total	50.1877204	906	.055394835	Root MSE =	.03066

upc	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
hdd	.0132547	.0003495	37.92	0.000	.0125687	.0139407
HDDs_2	.0000226	3.99e-06	5.67	0.000	.0000148	.0000304
Nov	-.0367016	.0036263	-10.12	0.000	-.0438188	-.0295845
Dec	-.0098411	.003267	-3.01	0.003	-.0162531	-.003429
Jan	.0159887	.0032696	4.89	0.000	.0095717	.0224058
Mar	-.0220768	.0034848	-6.34	0.000	-.0289161	-.0152375
Sun	.0020738	.0038246	0.54	0.588	-.0054324	.0095801
Mon	.0057275	.0038396	1.49	0.136	-.0018082	.0132631
Tue	.0060977	.0038158	1.60	0.110	-.0013913	.0135867
Wed	.0034592	.003813	0.91	0.365	-.0040243	.0109427
Fri	-.0036724	.0038066	-0.96	0.335	-.0111434	.0037987
Sat	-.0136946	.0038031	-3.60	0.000	-.0211588	-.0062305
HS1718	.0243938	.0035748	6.82	0.000	.0173778	.0314099
HS1213	-.0206861	.0036088	-5.73	0.000	-.0277689	-.0136034
HS1415	.0033311	.0035694	0.93	0.351	-.0036743	.0103365
hs1516	-.0046772	.0037135	-1.26	0.208	-.0119654	.0026111
hs1617	.0080334	.0036813	2.18	0.029	.0008084	.0152585
_cons	.0863184	.0090313	9.56	0.000	.0685932	.1040437

```
. regress t17 hdd HDDs_2 Nov Dec Jan Feb Mar Sun Mon Tue Wed Thu Fri Sat HS1718 HS1213 HS1314 HS14
> 15 hs1516 hs1617
note: Jan omitted because of collinearity
note: Fri omitted because of collinearity
note: HS1112 omitted because of collinearity
```

Source	SS	df	MS	Number of obs =	907
Model	1.0469e+10	17	615810828	F(17, 889) =	224.84
Residual	2.4349e+09	889	2738922.32	Prob > F =	0.0000
				R-squared =	0.8113
				Adj R-squared =	0.8077
Total	1.2904e+10	906	14242479.1	Root MSE =	1655

t17	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
hdd	111.4495	16.38545	6.80	0.000	79.29082	143.6082
HDDs_2	1.056237	.1955461	5.40	0.000	.6724515	1.440023
Nov	-2118.617	194.419	-10.90	0.000	-2500.19	-1737.043
Dec	-644.2035	174.2316	-3.70	0.000	-986.1568	-302.2503
Jan	0	(omitted)				
Feb	-37.98268	176.7189	-0.21	0.830	-384.8175	308.8522
Mar	-1125.653	191.3726	-5.88	0.000	-1501.248	-750.0586
Sun	-293.4272	206.1835	-1.42	0.155	-698.0903	111.236
Mon	471.3244	206.8479	2.28	0.023	65.35718	877.2917
Tue	450.9271	205.9699	2.19	0.029	46.68324	855.171
Wed	396.4603	205.9417	1.93	0.055	-7.728192	800.6488
Thu	469.4025	205.3896	2.29	0.023	66.29751	872.5075
Fri	0	(omitted)				
Sat	-724.6344	205.1744	-3.53	0.000	-1127.317	-321.9516
HS1718	0	(omitted)				
HS1213	-2233.399	195.0835	-11.45	0.000	-2616.277	-1850.521
HS1314	-1783.763	203.8192	-8.75	0.000	-2183.786	-1383.74
HS1415	-1905.872	195.7796	-9.73	0.000	-2290.116	-1521.628
hs1516	-2343.398	190.4263	-12.31	0.000	-2717.136	-1969.661
hs1617	-2086.006	190.8131	-10.93	0.000	-2460.503	-1711.509
_cons	8328.271	400.3889	20.80	0.000	7542.454	9114.089

```
. regress t17 hdd HDDs_2 Nov Dec Feb Mar Sun Mon Tue Wed Thu Sat HS1213 HS1314 HS14 HS1415 hs1516
> hsl617
note: HS1415 omitted because of collinearity
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Source	SS	df	MS	Number of obs =	907
Model	1.0469e+10	17	615810828	F(17, 889) =	224.84
Residual	2.4349e+09	889	2738922.32	Prob > F =	0.0000
				R-squared =	0.8113
				Adj R-squared =	0.8077
Total	1.2904e+10	906	14242479.1	Root MSE =	1655

t17	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
hdd	111.4495	16.38545	6.80	0.000	79.29082	143.6082
HDDs_2	1.056237	.1955461	5.40	0.000	.6724515	1.440023
Nov	-2118.617	194.419	-10.90	0.000	-2500.19	-1737.043
Dec	-644.2035	174.2316	-3.70	0.000	-986.1568	-302.2503
Feb	-37.98268	176.7189	-0.21	0.830	-384.8175	308.8522
Mar	-1125.653	191.3726	-5.88	0.000	-1501.248	-750.0586
Sun	-293.4272	206.1835	-1.42	0.155	-698.0903	111.236
Mon	471.3244	206.8479	2.28	0.023	65.35718	877.2917
Tue	450.9271	205.9699	2.19	0.029	46.68324	855.171
Wed	396.4603	205.9417	1.93	0.055	-7.728192	800.6488
Thu	469.4025	205.3896	2.29	0.023	66.29751	872.5075
Sat	-724.6344	205.1744	-3.53	0.000	-1127.317	-321.9516
HS1213	-2233.399	195.0835	-11.45	0.000	-2616.277	-1850.521
HS1314	-1783.763	203.8192	-8.75	0.000	-2183.786	-1383.74
HS1415	-1905.872	195.7796	-9.73	0.000	-2290.116	-1521.628
HS1415	0	(omitted)				
hs1516	-2343.398	190.4263	-12.31	0.000	-2717.136	-1969.661
hs1617	-2086.006	190.8131	-10.93	0.000	-2460.503	-1711.509
_cons	8328.271	400.3889	20.80	0.000	7542.454	9114.089

Date	Firm Throughout	Temperature	Firm Customer	UPC	HDD	HDDx2	Nov	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
11/01/12	307,225	35.9	811,114	0.379	29.1	847	1	0	0	0						
11/02/12	323,801	37.5	811,114	0.399	27.5	756	1	0	0	0						
11/03/12	309,667	37.5	811,114	0.382	27.5	756	1	0	0	0						
11/04/12	286,563	41.4	811,114	0.353	23.6	557	1	0	0	0						
11/05/12	293,718	41.3	811,114	0.362	23.7	562	1	0	0	0						
11/06/12	300,748	39.8	811,114	0.371	25.2	635	1	0	0	0						
11/07/12	287,479	39.9	811,114	0.354	25.1	630	1	0	0	0						
11/08/12	249,963	43.3	811,114	0.308	21.7	471	1	0	0	0						
11/09/12	224,816	47.3	811,114	0.277	17.7	313	1	0	0	0						
11/10/12	174,624	53.8	811,114	0.215	11.2	125	1	0	0	0						
11/11/12	449,010	24.9	811,114	0.554	40.1	1608	1	0	0	0						
11/12/12	524,323	22.4	811,114	0.646	42.6	1815	1	0	0	0						
11/13/12	349,460	36.9	811,114	0.431	28.1	790	1	0	0	0						
11/14/12	263,688	43.6	811,114	0.325	21.4	458	1	0	0	0						
11/15/12	330,197	35.9	811,114	0.407	29.1	847	1	0	0	0						
11/16/12	329,654	36.8	811,114	0.406	28.2	795	1	0	0	0						
11/17/12	219,662	49.0	811,114	0.271	16.0	256	1	0	0	0						
11/18/12	196,452	50.4	811,114	0.242	14.6	213	1	0	0	0						
11/19/12	215,001	46.3	811,114	0.265	18.7	350	1	0	0	0						
11/20/12	247,642	45.0	811,114	0.305	20.0	400	1	0	0	0						
11/21/12	161,947	56.5	811,114	0.200	8.5	72	1	0	0	0						
11/22/12	360,375	31.7	811,114	0.444	33.3	1109	1	0	0	0						
11/23/12	551,707	18.5	811,114	0.680	46.5	2162	1	0	0	0						
11/24/12	478,911	27.3	811,114	0.590	37.7	1421	1	0	0	0						
11/25/12	496,388	23.1	811,114	0.614	41.9	1756	1	0	0	0						
11/26/12	569,345	18.1	811,114	0.702	46.9	2200	1	0	0	0						
11/27/12	474,521	29.3	811,114	0.585	35.7	1274	1	0	0	0						
11/28/12	417,455	30.7	811,114	0.515	34.3	1176	1	0	0	0						
11/29/12	395,313	34.5	811,114	0.487	30.5	930	1	0	0	0						
11/30/12	383,381	35.3	811,114	0.473	29.7	882	1	0	0	0						
12/01/12	322,331	39.3	812,553	0.397	25.7	660	0	1	0	0						
12/02/12	327,142	40.9	812,553	0.403	24.1	581	0	1	0	0						
12/03/12	281,835	44.3	812,553	0.347	20.7	428	0	1	0	0						
12/04/12	462,568	25.3	812,553	0.569	39.7	1576	0	1	0	0						
12/05/12	406,844	37.8	812,553	0.501	27.2	740	0	1	0	0						
12/06/12	367,630	33.4	812,553	0.452	31.6	999	0	1	0	0						
12/07/12	444,670	28.0	812,553	0.547	37.0	1369	0	1	0	0						
12/08/12	409,188	30.8	812,553	0.504	34.2	1170	0	1	0	0						
12/09/12	505,871	22.9	812,553	0.623	42.1	1772	0	1	0	0						
12/10/12	624,225	9.3	812,553	0.768	55.7	3102	0	1	0	0						
12/11/12	607,940	17.0	812,553	0.748	48.0	2304	0	1	0	0						
12/12/12	417,427	37.4	812,553	0.514	27.6	762	0	1	0	0						
12/13/12	455,817	27.5	812,553	0.561	37.5	1406	0	1	0	0						
12/14/12	395,568	33.5	812,553	0.487	31.5	992	0	1	0	0						
12/15/12	380,605	34.7	812,553	0.468	30.3	918	0	1	0	0						
12/16/12	516,676	21.7	812,553	0.636	43.3	1875	0	1	0	0						
12/17/12	507,739	23.8	812,553	0.625	41.2	1697	0	1	0	0						
12/18/12	471,763	27.8	812,553	0.581	37.2	1384	0	1	0	0						
12/19/12	460,079	27.0	812,553	0.566	38.0	1444	0	1	0	0						
12/20/12	620,644	16.8	812,553	0.764	48.2	2323	0	1	0	0						
12/21/12	625,145	13.7	812,553	0.769	51.3	2632	0	1	0	0						
12/22/12	561,124	19.1	812,553	0.691	45.9	2107	0	1	0	0						
12/23/12	599,746	16.4	812,553	0.738	48.6	2362	0	1	0	0						
12/24/12	668,095	9.0	812,553	0.822	56.0	3136	0	1	0	0						
12/25/12	715,967	7.2	812,553	0.881	57.8	3341	0	1	0	0						
12/26/12	673,635	12.5	812,553	0.829	52.5	2756	0	1	0	0						
12/27/12	606,782	18.8	812,553	0.747	46.2	2134	0	1	0	0						
12/28/12	550,126	19.4	812,553	0.688	45.6	2079	0	1	0	0						
12/29/12	664,060	8.6	812,553	0.817	56.4	3181	0	1	0	0						
12/30/12	621,446	16.9	812,553	0.765	48.1	2314	0	1	0	0						
12/31/12	730,350	4.0	812,553	0.899	61.0	3721	0	1	0	0						
01/01/13	688,935	13.7	813,605	0.847	51.3	2632	0	0	0	0						
01/02/13	617,490	16.8	813,605	0.759	48.2	2323	0	0	0	0						
01/03/13	639,791	15.3	813,605	0.786	49.7	2470	0	0	0	0						
01/04/13	545,654	20.3	813,605	0.671	44.7	1998	0	0	0	0						
01/05/13	572,764	18.3	813,605	0.704	46.7	2181	0	0	0	0						
01/06/13	570,148	21.5	813,605	0.701	43.5	1892	0	0	0	0						
01/07/13	476,479	27.2	813,605	0.586	37.8	1429	0	0	0	0						
01/08/13	462,921	31.3	813,605	0.569	33.7	1136	0	0	0	0						
01/09/13	444,889	29.5	813,605	0.547	35.5	1260	0	0	0	0						

Date	Firm Throughout	Temperature	Firm Customer	UPC	HDD	HDDx2	Nov	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
01/10/13	397,847	35.5	813,605	0.489	29.5	870	0	0	0	0						
01/11/13	413,862	32.4	813,605	0.509	32.6	1063	0	0	0	0						
01/12/13	705,978	7.4	813,605	0.868	57.6	3318	0	0	0	0						
01/13/13	777,312	6.0	813,605	0.955	59.0	3481	0	0	0	0						
01/14/13	710,666	11.7	813,605	0.873	53.3	2841	0	0	0	0						
01/15/13	550,828	26.3	813,605	0.677	38.7	1498	0	0	0	0						
01/16/13	594,587	19.8	813,605	0.731	45.2	2043	0	0	0	0						
01/17/13	631,806	17.4	813,605	0.777	47.6	2266	0	0	0	0						
01/18/13	434,528	33.7	813,605	0.534	31.3	980	0	0	0	0						
01/19/13	676,182	12.8	813,605	0.831	52.2	2725	0	0	0	0						
01/20/13	852,848	(0.1)	813,605	1.048	65.1	4738	0	0	0	0						
01/21/13	961,134	(6.9)	813,605	1.181	71.9	5170	0	0	0	0						
01/22/13	841,471	3.0	813,605	1.034	62.0	3844	0	0	0	0						
01/23/13	839,349	1.9	813,605	1.032	63.1	3982	0	0	0	0						
01/24/13	801,212	10.1	813,605	0.985	54.9	3014	0	0	0	0						
01/25/13	737,493	10.2	813,605	0.906	54.8	3003	0	0	0	0						
01/26/13	630,692	22.2	813,605	0.775	42.8	1832	0	0	0	0						
01/27/13	486,825	31.2	813,605	0.598	33.8	1142	0	0	0	0						
01/28/13	435,624	31.0	813,605	0.535	34.0	1156	0	0	0	0						
01/29/13	483,077	27.1	813,605	0.594	37.9	1436	0	0	0	0						
01/30/13	730,758	9.1	813,605	0.898	55.9	3125	0	0	0	0						
01/31/13	919,219	(5.9)	813,605	1.130	70.9	5027	0	0	0	0						
02/01/13	816,844	0.3	814,223	1.003	64.7	4186	0	0	1	0						
02/02/13	708,072	7.2	814,223	0.870	57.8	3341	0	0	1	0						
02/03/13	692,681	9.7	814,223	0.851	55.3	3058	0	0	1	0						
02/04/13	647,045	15.3	814,223	0.795	49.7	2470	0	0	1	0						
02/05/13	603,769	15.3	814,223	0.742	49.7	2470	0	0	1	0						
02/06/13	582,564	21.1	814,223	0.715	43.9	1927	0	0	1	0						
02/07/13	556,766	22.0	814,223	0.684	43.0	1849	0	0	1	0						
02/08/13	525,703	21.3	814,223	0.646	43.7	1910	0	0	1	0						
02/09/13	493,459	26.0	814,223	0.606	39.0	1521	0	0	1	0						
02/10/13	485,604	30.8	814,223	0.596	34.2	1170	0	0	1	0						
02/11/13	571,707	21.8	814,223	0.702	43.2	1866	0	0	1	0						
02/12/13	484,926	26.5	814,223	0.596	38.5	1482	0	0	1	0						
02/13/13	427,336	32.5	814,223	0.525	32.5	1056	0	0	1	0						
02/14/13	554,503	19.2	814,223	0.681	45.8	2098	0	0	1	0						
02/15/13	661,122	9.9	814,223	0.812	55.1	3036	0	0	1	0						
02/16/13	631,804	12.5	814,223	0.776	52.5	2756	0	0	1	0						
02/17/13	508,693	27.9	814,223	0.625	37.1	1376	0	0	1	0						
02/18/13	674,176	14.9	814,223	0.828	50.1	2510	0	0	1	0						
02/19/13	808,222	2.8	814,223	0.993	62.2	3869	0	0	1	0						
02/20/13	706,152	12.0	814,223	0.867	53.0	2809	0	0	1	0						
02/21/13	602,844	20.6	814,223	0.740	44.4	1971	0	0	1	0						
02/22/13	524,048	24.0	814,223	0.644	41.0	1681	0	0	1	0						
02/23/13	520,587	21.6	814,223	0.639	43.4	1884	0	0	1	0						
02/24/13	476,977	28.3	814,223	0.586	36.7	1347	0	0	1	0						
02/25/13	472,546	27.5	814,223	0.580	37.5	1406	0	0	1	0						
02/26/13	464,870	32.3	814,223	0.571	32.7	1069	0	0	1	0						
02/27/13	431,229	32.2	814,223	0.530	32.8	1076	0	0	1	0						
02/28/13	515,657	26.9	814,223	0.633	38.1	1452	0	0	1	0						
03/01/13	533,662	22.0	814,551	0.655	43.0	1849	0	0	0	1						
03/02/13	484,756	23.6	814,551	0.595	41.4	1714	0	0	0	1						
03/03/13	470,739	28.2	814,551	0.578	36.8	1354	0	0	0	1						
03/04/13	535,288	25.5	814,551	0.657	39.5	1560	0	0	0	1						
03/05/13	504,327	25.4	814,551	0.619	39.6	1568	0	0	0	1						
03/06/13	545,786	20.0	814,551	0.670	45.0	2025	0	0	0	1						
03/07/13	486,969	24.7	814,551	0.598	40.3	1624	0	0	0	1						
03/08/13	387,185	35.0	814,551	0.475	30.0	900	0	0	0	1						
03/09/13	393,953	36.1	814,551	0.484	28.9	835	0	0	0	1						
03/10/13	482,549	31.7	814,551	0.592	33.3	1109	0	0	0	1						
03/11/13	507,328	26.6	814,551	0.623	38.4	1475	0	0	0	1						
03/12/13	539,477	23.2	814,551	0.662	41.8	1747	0	0	0	1						
03/13/13	468,207	26.8	814,551	0.575	38.2	1459	0	0	0	1						
03/14/13	371,041	33.8	814,551	0.456	31.2	973	0	0	0	1						
03/15/13	471,024	28.1	814,551	0.578	36.9	1362	0	0	0	1						
03/16/13	547,044	18.0	814,551	0.672	47.0	2209	0	0	0	1						
03/17/13	523,983	25.8	814,551	0.643	39.2	1537	0	0	0	1						
03/18/13	643,074	15.3	814,551	0.789	49.7	2470	0	0	0	1						
03/19/13	658,246	13.4	814,551	0.808	51.6	2663	0	0	0	1						
03/20/13	644,459	14.0	814,551	0.791	51.0	2601	0	0	0	1						

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03/21/13	545,252	21.0	814,551	0.669	44.0	1936	0	0	0	1						
03/22/13	441,787	27.9	814,551	0.542	37.1	1376	0	0	0	1						
03/23/13	411,784	32.1	814,551	0.506	32.9	1082	0	0	0	1						
03/24/13	466,804	29.6	814,551	0.573	35.4	1253	0	0	0	1						
03/25/13	407,250	32.2	814,551	0.500	32.8	1076	0	0	0	1						
03/26/13	408,283	31.6	814,551	0.501	33.4	1116	0	0	0	1						
03/27/13	386,039	34.3	814,551	0.449	30.7	942	0	0	0	1						
03/28/13	329,700	37.1	814,551	0.405	27.9	778	0	0	0	1						
03/29/13	280,746	42.8	814,551	0.345	22.2	493	0	0	0	1						
03/30/13	278,436	42.6	814,551	0.342	22.4	502	0	0	0	1						
03/31/13	435,064	29.8	814,551	0.534	35.2	1239	0	0	0	1						
11/01/13	260,159	42.3	818,523	0.318	22.7	515	1	0	0	0						
11/02/13	289,097	42.3	818,523	0.353	22.7	515	1	0	0	0						
11/03/13	236,978	49.2	818,523	0.290	15.8	250	1	0	0	0						
11/04/13	314,108	39.9	818,523	0.384	25.1	630	1	0	0	0						
11/05/13	352,238	36.6	818,523	0.430	28.4	807	1	0	0	0						
11/06/13	370,632	32.9	818,523	0.453	32.1	1030	1	0	0	0						
11/07/13	422,025	29.7	818,523	0.516	35.3	1246	1	0	0	0						
11/08/13	340,633	42.8	818,523	0.416	22.2	493	1	0	0	0						
11/09/13	346,247	38.6	818,523	0.423	26.4	697	1	0	0	0						
11/10/13	355,609	35.8	818,523	0.434	29.2	853	1	0	0	0						
11/11/13	558,987	19.0	818,523	0.683	46.0	2116	1	0	0	0						
11/12/13	519,267	24.8	818,523	0.634	40.2	1616	1	0	0	0						
11/13/13	320,820	42.1	818,523	0.392	22.9	524	1	0	0	0						
11/14/13	316,502	40.3	818,523	0.387	24.7	610	1	0	0	0						
11/15/13	249,500	47.0	818,523	0.305	18.0	324	1	0	0	0						
11/16/13	265,288	45.3	818,523	0.324	19.7	388	1	0	0	0						
11/17/13	380,344	36.0	818,523	0.465	29.0	841	1	0	0	0						
11/18/13	452,662	28.9	818,523	0.553	36.1	1303	1	0	0	0						
11/19/13	343,053	43.2	818,523	0.419	21.8	475	1	0	0	0						
11/20/13	332,804	38.8	818,523	0.407	26.2	686	1	0	0	0						
11/21/13	509,198	25.3	818,523	0.622	39.7	1576	1	0	0	0						
11/22/13	574,041	19.3	818,523	0.701	45.7	2088	1	0	0	0						
11/23/13	663,634	12.7	818,523	0.811	52.3	2735	1	0	0	0						
11/24/13	531,897	28.3	818,523	0.650	36.7	1347	1	0	0	0						
11/25/13	461,092	31.8	818,523	0.563	33.2	1102	1	0	0	0						
11/26/13	632,752	16.5	818,523	0.773	48.5	2352	1	0	0	0						
11/27/13	565,510	22.4	818,523	0.691	42.6	1815	1	0	0	0						
11/28/13	565,579	20.2	818,523	0.691	44.8	2007	1	0	0	0						
11/29/13	505,603	28.4	818,523	0.618	36.6	1340	1	0	0	0						
11/30/13	427,827	31.7	818,523	0.523	33.3	1109	1	0	0	0						
12/01/13	451,675	30.5	820,313	0.551	34.5	1190	0	1	0	0						
12/02/13	410,717	35.1	820,313	0.501	29.9	894	0	1	0	0						
12/03/13	422,560	32.9	820,313	0.515	32.1	1030	0	1	0	0						
12/04/13	569,447	19.6	820,313	0.694	45.4	2061	0	1	0	0						
12/05/13	786,137	2.0	820,313	0.958	63.0	3969	0	1	0	0						
12/06/13	885,403	(3.7)	820,313	1.055	68.7	4720	0	1	0	0						
12/07/13	850,293	(0.4)	820,313	1.037	65.4	4277	0	1	0	0						
12/08/13	745,786	8.3	820,313	0.909	56.7	3215	0	1	0	0						
12/09/13	826,831	1.8	820,313	1.008	63.2	3994	0	1	0	0						
12/10/13	804,486	3.2	820,313	0.981	61.8	3819	0	1	0	0						
12/11/13	847,431	1.3	820,313	1.033	63.7	4058	0	1	0	0						
12/12/13	656,704	16.3	820,313	0.803	48.7	2372	0	1	0	0						
12/13/13	695,246	12.8	820,313	0.848	52.2	2725	0	1	0	0						
12/14/13	747,492	5.8	820,313	0.911	59.2	3505	0	1	0	0						
12/15/13	798,126	2.4	820,313	0.973	62.6	3919	0	1	0	0						
12/16/13	669,197	20.2	820,313	0.816	44.8	2007	0	1	0	0						
12/17/13	626,442	17.4	820,313	0.764	47.6	2266	0	1	0	0						
12/18/13	525,856	27.1	820,313	0.641	37.9	1436	0	1	0	0						
12/19/13	653,216	17.3	820,313	0.796	47.7	2275	0	1	0	0						
12/20/13	615,169	18.4	820,313	0.750	46.6	2172	0	1	0	0						
12/21/13	602,408	19.0	820,313	0.734	46.0	2116	0	1	0	0						
12/22/13	718,679	9.0	820,313	0.876	56.0	3136	0	1	0	0						
12/23/13	904,190	(4.4)	820,313	1.102	69.4	4816	0	1	0	0						
12/24/13	770,114	9.3	820,313	0.939	55.7	3102	0	1	0	0						
12/25/13	615,169	16.8	820,313	0.750	48.2	2323	0	1	0	0						
12/26/13	571,937	21.7	820,313	0.697	43.3	1875	0	1	0	0						
12/27/13	460,757	31.3	820,313	0.562	33.7	1136	0	1	0	0						
12/28/13	516,400	24.5	820,313	0.630	40.5	1640	0	1	0	0						
12/29/13	893,763	(7.0)	820,313	1.090	72.0	5184	0	1	0	0						

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12/30/13	903,236	(2.7)	820,313	1.101	67.7	4583	0	1	0	0						
12/31/13	926,621	(5.0)	820,313	1.130	70.0	4900	0	1	0	0						
01/01/14	892,852	(1.9)	821,220	1.087	66.9	4476	0	0	0	0						
01/02/14	902,940	(2.7)	821,220	1.100	67.7	4583	0	0	0	0						
01/03/14	674,191	22.5	821,220	0.821	42.5	1806	0	0	0	0						
01/04/14	783,780	2.8	821,220	0.954	62.2	3869	0	0	0	0						
01/05/14	1,045,732	(14.5)	821,220	1.273	79.5	6320	0	0	0	0						
01/06/14	1,086,330	(13.8)	821,220	1.323	78.8	6209	0	0	0	0						
01/07/14	909,815	(2.6)	821,220	1.108	67.6	4570	0	0	0	0						
01/08/14	898,060	(1.4)	821,220	1.094	66.4	4409	0	0	0	0						
01/09/14	695,186	17.4	821,220	0.847	47.6	2266	0	0	0	0						
01/10/14	526,248	28.3	821,220	0.643	36.7	1347	0	0	0	0						
01/11/14	520,417	27.3	821,220	0.634	37.7	1421	0	0	0	0						
01/12/14	444,652	34.8	821,220	0.541	30.2	912	0	0	0	0						
01/13/14	484,290	26.9	821,220	0.590	38.1	1452	0	0	0	0						
01/14/14	687,622	10.8	821,220	0.837	54.2	2938	0	0	0	0						
01/15/14	629,869	21.8	821,220	0.767	43.2	1866	0	0	0	0						
01/16/14	755,215	9.0	821,220	0.920	56.0	3136	0	0	0	0						
01/17/14	710,491	9.9	821,220	0.865	55.1	3036	0	0	0	0						
01/18/14	593,127	20.3	821,220	0.722	44.7	1998	0	0	0	0						
01/19/14	458,959	31.6	821,220	0.559	33.4	1116	0	0	0	0						
01/20/14	807,551	0.9	821,220	0.983	64.1	4109	0	0	0	0						
01/21/14	859,867	1.5	821,220	1.047	63.5	4032	0	0	0	0						
01/22/14	939,132	(5.8)	821,220	1.144	70.8	5013	0	0	0	0						
01/23/14	903,346	1.7	821,220	1.100	63.3	4007	0	0	0	0						
01/24/14	623,215	21.9	821,220	0.759	43.1	1858	0	0	0	0						
01/25/14	740,592	6.3	821,220	0.902	58.7	3446	0	0	0	0						
01/26/14	896,955	(1.8)	821,220	1.092	66.8	4462	0	0	0	0	8.1	8.1	0.014059253	0.113879949	821951	93,604
01/27/14	1,013,460	(11.3)	821,220	1.234	76.3	5822	0	0	0	0	9.5	9.5	0.014059253	0.133562903	821951	109,782
01/28/14	934,603	(3.5)	821,220	1.138	68.5	4692	0	0	0	0	(7.8)	7.8	0.014059253	0.109662173	821951	90,137
01/29/14	622,124	23.8	821,220	0.758	41.2	1697	0	0	0	0	(27.3)	27.3	0.014059253	0.383817605	821951	315,479
01/30/14	765,957	3.2	821,220	0.933	61.8	3819	0	0	0	0						
01/31/14	767,161	4.3	821,220	0.934	60.7	3684	0	0	0	0						
02/01/14	742,210	6.2	821,951	0.903	58.8	3457	0	0	1	0						
02/02/14	767,201	4.6	821,951	0.933	60.4	3648	0	0	1	0						
02/03/14	747,100	7.8	821,951	0.909	57.2	3272	0	0	1	0						
02/04/14	813,285	3.5	821,951	0.989	61.5	3782	0	0	1	0						
02/05/14	903,288	(2.6)	821,951	1.099	67.6	4570	0	0	1	0	6.1	6.1	0.014059253	0.085761443	821951	70,492
02/06/14	875,965	(0.8)	821,951	1.066	65.8	4330	0	0	1	0	(1.8)	1.8	0.014059253	0.025306655	821951	20,801
02/07/14	802,105	5.0	821,951	0.976	60.0	3600	0	0	1	0						
02/08/14	762,332	7.4	821,951	0.927	57.6	3318	0	0	1	0						
02/09/14	863,250	(2.7)	821,951	1.050	67.7	4583	0	0	1	0	10.1	10.1	0.014059253	0.141998455	821951	116,716
02/10/14	878,879	(2.0)	821,951	1.069	67.0	4489	0	0	1	0	(0.7)	0.7	0.014059253	0.009841477	821951	8,089
02/11/14	747,125	11.3	821,951	0.909	53.7	2884	0	0	1	0						
02/12/14	599,842	20.4	821,951	0.730	44.6	1989	0	0	1	0						
02/13/14	713,019	10.6	821,951	0.867	54.4	2959	0	0	1	0						
02/14/14	726,273	7.5	821,951	0.884	57.5	3306	0	0	1	0						
02/15/14	680,208	14.8	821,951	0.828	50.2	2520	0	0	1	0						
02/16/14	621,395	19.0	821,951	0.756	46.0	2116	0	0	1	0						
02/17/14	552,739	22.9	821,951	0.672	42.1	1772	0	0	1	0						
02/18/14	436,311	31.5	821,951	0.533	33.5	1122	0	0	1	0						
02/19/14	407,689	34.4	821,951	0.496	30.6	936	0	0	1	0						
02/20/14	551,513	21.8	821,951	0.671	43.2	1866	0	0	1	0						
02/21/14	682,078	11.0	821,951	0.830	54.0	2916	0	0	1	0						
02/22/14	691,246	8.6	821,951	0.841	56.4	3181	0	0	1	0						
02/23/14	716,126	8.3	821,951	0.871	56.7	3215	0	0	1	0						
02/24/14	763,209	5.0	821,951	0.929	60.0	3600	0	0	1	0						
02/25/14	861,631	(2.4)	821,951	1.048	67.4	4543	0	0	1	0	(7.4)	7.4	0.014059253	0.104038472	821951	85,515
02/26/14	857,478	(3.2)	821,951	1.043	68.2	4651	0	0	1	0	0.8	0.8	0.014059253	0.011247402	821951	9,245
02/27/14	883,960	(5.0)	821,951	1.075	70.0	4900	0	0	1	0	1.8	1.8	0.014059253	0.025306655	821951	20,801
02/28/14	797,741	6.5	821,951	0.971	58.5	3422	0	0	1	0	(11.5)	11.5	0.014059253	0.161681409	821951	132,894
03/01/14	931,911	(6.3)	822,177	1.133	71.3	5084	0	0	0	1						
03/02/14	893,144	(3.8)	822,177	1.086	68.8	4733	0	0	0	1	(2.5)	2.5	0.014059253	0.035148132	822177	147,958
03/03/14	793,372	6.7	822,177	0.965	58.3	3399	0	0	0	1						
03/04/14	654,645	16.0	822,177	0.796	49.0	2401	0	0	0	1						
03/05/14	596,914	18.0	822,177	0.728	47.0	2209	0	0	0	1						
03/06/14	564,977	24.3	822,177	0.687	40.7	1656	0	0	0	1						
03/07/14	540,896	25.2	822,177	0.658	39.8	1584	0	0	0	1						
03/08/14	500,163	22.9	822,177	0.608	42.1	1772	0	0	0	1						
03/09/14	393,788	38.0	822,177	0.479	27.0	729	0	0	0	1						

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03/10/14	291,729	44.0	822,177	0.355	21.0	441	0	0	0	1						
03/11/14	431,105	32.3	822,177	0.524	32.7	1069	0	0	0	1						
03/12/14	483,403	24.8	822,177	0.588	40.2	1616	0	0	0	1						
03/13/14	307,016	42.7	822,177	0.373	22.3	497	0	0	0	1						
03/14/14	418,521	31.3	822,177	0.509	33.7	1136	0	0	0	1						
03/15/14	526,833	22.5	822,177	0.641	42.5	1806	0	0	0	1						
03/16/14	531,181	22.6	822,177	0.646	42.4	1798	0	0	0	1						
03/17/14	450,154	31.5	822,177	0.548	33.5	1122	0	0	0	1						
03/18/14	454,709	30.7	822,177	0.553	34.3	1176	0	0	0	1						
03/19/14	463,131	29.8	822,177	0.563	35.2	1239	0	0	0	1						
03/20/14	351,375	35.7	822,177	0.427	29.3	858	0	0	0	1						
03/21/14	495,618	27.0	822,177	0.603	38.0	1444	0	0	0	1						
03/22/14	621,205	15.1	822,177	0.756	49.9	2490	0	0	0	1						
03/23/14	577,846	21.0	822,177	0.703	44.0	1936	0	0	0	1						
03/24/14	573,786	21.6	822,177	0.698	43.4	1884	0	0	0	1						
03/25/14	602,373	18.6	822,177	0.733	46.4	2153	0	0	0	1						
03/26/14	414,848	36.9	822,177	0.505	28.1	790	0	0	0	1						
03/27/14	439,292	32.6	822,177	0.534	32.4	1050	0	0	0	1						
03/28/14	429,334	30.5	822,177	0.522	34.5	1190	0	0	0	1						
03/29/14	334,433	38.4	822,177	0.407	26.6	708	0	0	0	1						
03/30/14	225,216	50.6	822,177	0.274	14.4	207	0	0	0	1						
03/31/14	327,421	39.3	822,177	0.398	25.7	660	0	0	0	1						
11/01/14	367,563	36.5	827,395	0.444	28.5	812	1	0	0	0						
11/02/14	231,159	47.9	827,395	0.279	17.1	292	1	0	0	0						
11/03/14	233,899	47.7	827,395	0.283	17.3	299	1	0	0	0						
11/04/14	268,421	41.9	827,395	0.324	23.1	534	1	0	0	0						
11/05/14	326,320	36.8	827,395	0.394	28.2	795	1	0	0	0						
11/06/14	340,678	35.8	827,395	0.412	29.2	853	1	0	0	0						
11/07/14	335,309	40.5	827,395	0.405	24.5	600	1	0	0	0						
11/08/14	322,365	38.5	827,395	0.390	26.5	702	1	0	0	0						
11/09/14	393,884	32.0	827,395	0.476	33.0	1089	1	0	0	0						
11/10/14	508,087	26.0	827,395	0.614	39.0	1521	1	0	0	0						
11/11/14	553,993	20.3	827,395	0.670	44.7	1998	1	0	0	0						
11/12/14	560,707	21.0	827,395	0.678	44.0	1936	1	0	0	0						
11/13/14	585,474	17.2	827,395	0.708	47.8	2285	1	0	0	0						
11/14/14	613,431	13.3	827,395	0.741	51.7	2673	1	0	0	0						
11/15/14	585,907	18.0	827,395	0.708	47.0	2209	1	0	0	0						
11/16/14	659,920	10.8	827,395	0.798	54.2	2938	1	0	0	0						
11/17/14	714,806	10.5	827,395	0.864	54.5	2970	1	0	0	0						
11/18/14	644,371	16.5	827,395	0.779	48.5	2352	1	0	0	0						
11/19/14	626,852	17.6	827,395	0.758	47.4	2247	1	0	0	0						
11/20/14	681,400	10.6	827,395	0.824	54.4	2959	1	0	0	0						
11/21/14	517,790	30.3	827,395	0.626	34.7	1204	1	0	0	0						
11/22/14	372,244	40.0	827,395	0.450	25.0	625	1	0	0	0						
11/23/14	384,723	35.6	827,395	0.465	29.4	864	1	0	0	0						
11/24/14	651,368	15.9	827,395	0.787	49.1	2411	1	0	0	0						
11/25/14	573,152	22.3	827,395	0.693	42.7	1823	1	0	0	0						
11/26/14	632,391	14.1	827,395	0.764	50.9	2591	1	0	0	0						
11/27/14	691,455	7.9	827,395	0.836	57.1	3260	1	0	0	0						
11/28/14	576,838	21.9	827,395	0.697	43.1	1858	1	0	0	0						
11/29/14	495,652	24.8	827,395	0.599	40.2	1616	1	0	0	0						
11/30/14	759,517	6.8	827,395	0.918	58.2	3387	1	0	0	0						
12/01/14	790,337	6.0	829,243	0.953	59.0	3481	0	1	0	0						
12/02/14	667,030	17.8	829,243	0.804	47.2	2228	0	1	0	0						
12/03/14	624,334	17.8	829,243	0.753	47.2	2228	0	1	0	0						
12/04/14	499,938	29.0	829,243	0.603	36.0	1296	0	1	0	0						
12/05/14	496,939	26.8	829,243	0.602	38.2	1459	0	1	0	0						
12/06/14	500,326	26.3	829,243	0.603	38.7	1498	0	1	0	0						
12/07/14	456,325	33.6	829,243	0.553	31.4	986	0	1	0	0						
12/08/14	557,999	23.2	829,243	0.673	41.8	1747	0	1	0	0						
12/09/14	577,744	21.3	829,243	0.697	43.7	1910	0	1	0	0						
12/10/14	518,127	26.9	829,243	0.625	38.1	1452	0	1	0	0						
12/11/14	467,898	31.1	829,243	0.564	33.9	1149	0	1	0	0						
12/12/14	400,232	35.9	829,243	0.483	29.1	847	0	1	0	0						
12/13/14	284,196	45.8	829,243	0.343	19.2	369	0	1	0	0						
12/14/14	256,361	48.3	829,243	0.312	16.7	279	0	1	0	0						
12/15/14	405,457	33.9	829,243	0.489	31.1	967	0	1	0	0						
12/16/14	638,372	16.4	829,243	0.770	48.6	2362	0	1	0	0						
12/17/14	652,468	15.5	829,243	0.787	49.5	2450	0	1	0	0						
12/18/14	596,151	20.5	829,243	0.719	44.5	1980	0	1	0	0						

Date	Firm	Temperature	Customer	UPC	HDD	HDDx2	Nov	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
12/19/14	501,724	28.4	829,243	0.605	36.6	1340	0	1	0	0						
12/20/14	459,592	31.6	829,243	0.554	33.4	1116	0	1	0	0						
12/21/14	410,299	36.5	829,243	0.495	28.5	812	0	1	0	0						
12/22/14	406,959	35.3	829,243	0.491	29.7	882	0	1	0	0						
12/23/14	412,973	34.9	829,243	0.498	30.1	906	0	1	0	0						
12/24/14	412,651	32.5	829,243	0.498	32.5	1056	0	1	0	0						
12/25/14	414,740	32.7	829,243	0.500	32.3	1043	0	1	0	0						
12/26/14	481,652	28.3	829,243	0.581	36.7	1347	0	1	0	0						
12/27/14	590,972	15.2	829,243	0.713	49.8	2480	0	1	0	0						
12/28/14	663,340	12.7	829,243	0.800	52.3	2735	0	1	0	0						
12/29/14	854,543	0.7	829,243	1.031	64.3	4134	0	1	0	0						
12/30/14	940,053	(2.4)	829,243	1.134	67.4	4543	0	1	0	0						
12/31/14	776,560	11.7	829,243	0.936	53.3	2841	0	1	0	0						
01/01/15	618,564	18.6	821,220	0.753	46.4	2153	0	0	0	0						
01/02/15	586,734	24.1	830,376	0.707	40.9	1673	0	0	0	0						
01/03/15	663,484	15.6	830,376	0.799	49.4	2440	0	0	0	0						
01/04/15	950,644	(5.9)	830,376	1.145	70.9	5027	0	0	0	0	(21.5)	21.5	0.014059253	0.302273938	830376	251,001
01/05/15	944,214	(2.8)	830,376	1.137	67.8	4597	0	0	0	0	(3.1)	3.1	0.014059253	0.043583684	830376	36,191
01/06/15	939,937	(0.4)	830,376	1.132	65.4	4277	0	0	0	0	(2.4)	2.4	0.014059253	0.033742207	830376	28,019
01/07/15	949,471	(2.4)	830,376	1.143	67.4	4543	0	0	0	0	2.0	2	0.014059253	0.028118506	830376	23,349
01/08/15	879,746	5.1	830,376	1.059	59.9	3588	0	0	0	0						
01/09/15	876,851	0.7	830,376	1.056	64.3	4134	0	0	0	0						
01/10/15	772,023	9.8	830,376	0.930	55.2	3047	0	0	0	0						
01/11/15	783,629	6.7	830,376	0.944	58.3	3399	0	0	0	0						
01/12/15	911,739	(2.5)	830,376	1.098	67.5	4556	0	0	0	0						
01/13/15	756,958	13.4	830,376	0.912	51.6	2663	0	0	0	0						
01/14/15	590,481	22.5	830,376	0.711	42.5	1806	0	0	0	0						
01/15/15	507,661	29.2	830,376	0.611	35.8	1282	0	0	0	0						
01/16/15	514,955	28.1	830,376	0.620	36.9	1362	0	0	0	0						
01/17/15	486,621	32.9	830,376	0.562	32.1	1030	0	0	0	0						
01/18/15	454,265	30.5	830,376	0.547	34.5	1190	0	0	0	0						
01/19/15	441,767	32.4	830,376	0.532	32.6	1063	0	0	0	0						
01/20/15	491,225	29.0	830,376	0.592	36.0	1296	0	0	0	0						
01/21/15	525,076	26.6	830,376	0.632	38.4	1475	0	0	0	0						
01/22/15	541,206	26.7	830,376	0.652	38.3	1467	0	0	0	0						
01/23/15	427,079	32.6	830,376	0.514	32.4	1050	0	0	0	0						
01/24/15	402,152	33.5	830,376	0.484	31.5	992	0	0	0	0						
01/25/15	521,749	24.6	830,376	0.628	40.4	1632	0	0	0	0						
01/26/15	395,529	37.1	830,376	0.476	27.9	778	0	0	0	0						
01/27/15	456,665	30.9	830,376	0.550	34.1	1163	0	0	0	0						
01/28/15	485,348	30.6	830,376	0.584	34.4	1183	0	0	0	0						
01/29/15	611,743	19.9	830,376	0.737	45.1	2034	0	0	0	0						
01/30/15	560,072	23.0	830,376	0.674	42.0	1764	0	0	0	0						
01/31/15	595,192	22.4	830,376	0.714	42.6	1815	0	0	0	0						
02/01/15	762,696	8.6	831,145	0.918	56.4	3181	0	0	1	0						
02/02/15	749,680	9.5	831,145	0.902	55.5	3080	0	0	1	0						
02/03/15	702,139	13.5	831,145	0.845	51.5	2652	0	0	1	0						
02/04/15	795,294	3.7	831,145	0.957	61.3	3758	0	0	1	0						
02/05/15	701,447	14.8	831,145	0.844	50.2	2520	0	0	1	0						
02/06/15	531,220	23.8	831,145	0.639	41.2	1697	0	0	1	0						
02/07/15	456,349	30.8	831,145	0.549	34.2	1170	0	0	1	0						
02/08/15	537,857	25.2	831,145	0.647	39.8	1584	0	0	1	0						
02/09/15	500,250	25.6	831,145	0.602	39.4	1552	0	0	1	0						
02/10/15	581,851	24.5	831,145	0.700	40.5	1640	0	0	1	0						
02/11/15	772,821	6.5	831,145	0.930	58.5	3422	0	0	1	0						
02/12/15	768,543	8.4	831,145	0.925	56.6	3204	0	0	1	0						
02/13/15	691,486	14.8	831,145	0.832	50.2	2520	0	0	1	0						
02/14/15	840,306	1.3	831,145	1.011	63.7	4058	0	0	1	0						
02/15/15	807,592	7.5	831,145	0.972	57.5	3306	0	0	1	0						
02/16/15	747,739	11.0	831,145	0.900	54.0	2916	0	0	1	0						
02/17/15	872,945	0.8	831,145	1.050	64.2	4122	0	0	1	0						
02/18/15	959,990	(4.5)	831,145	1.155	69.5	4830	0	0	1	0						
02/19/15	800,579	5.5	831,145	0.963	59.5	3540	0	0	1	0						
02/20/15	638,483	20.8	831,145	0.768	44.2	1954	0	0	1	0						
02/21/15	763,072	5.8	831,145	0.918	59.2	3505	0	0	1	0						
02/22/15	945,749	(6.0)	831,145	1.138	71.0	5041	0	0	1	0						
02/23/15	706,701	20.0	831,145	0.853	45.0	2025	0	0	1	0						
02/24/15	620,386	18.7	831,145	0.746	46.3	2144	0	0	1	0						
02/25/15	783,255	7.1	831,145	0.942	57.9	3352	0	0	1	0						
02/26/15	830,745	2.8	831,145	1.000	62.2	3869	0	0	1	0						

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02/27/15	774,493	6.7	831,145	0.932	58.3	3399	0	0	1	0						
02/28/15	685,372	15.5	831,145	0.825	49.5	2450	0	0	1	0						
03/01/15	627,674	19.5	831,261	0.755	45.5	2070	0	0	0	1						
03/02/15	570,691	22.1	831,261	0.687	42.9	1840	0	0	0	1						
03/03/15	691,313	12.7	831,261	0.832	52.3	2735	0	0	0	1						
03/04/15	842,930	1.8	831,261	1.014	63.2	3994	0	0	0	1						
03/05/15	725,944	10.7	831,261	0.873	54.3	2948	0	0	0	1						
03/06/15	470,830	31.8	831,261	0.566	33.2	1102	0	0	0	1						
03/07/15	381,236	35.9	831,261	0.459	29.1	847	0	0	0	1						
03/08/15	355,291	39.5	831,261	0.427	25.5	650	0	0	0	1						
03/09/15	296,854	46.8	831,261	0.360	18.2	331	0	0	0	1						
03/10/15	262,695	46.4	831,261	0.316	18.6	346	0	0	0	1						
03/11/15	252,506	46.0	831,261	0.304	19.0	361	0	0	0	1						
03/12/15	212,362	53.5	831,261	0.255	11.5	132	0	0	0	1						
03/13/15	231,551	46.7	831,261	0.279	18.3	335	0	0	0	1						
03/14/15	219,062	50.3	831,261	0.264	14.7	216	0	0	0	1						
03/15/15	173,085	58.2	831,261	0.208	6.8	46	0	0	0	1						
03/16/15	291,740	42.7	831,261	0.351	22.3	497	0	0	0	1						
03/17/15	355,797	37.0	831,261	0.428	28.0	784	0	0	0	1						
03/18/15	354,330	40.0	831,261	0.426	25.0	625	0	0	0	1						
03/19/15	312,948	42.3	831,261	0.376	22.7	515	0	0	0	1						
03/20/15	300,948	41.1	831,261	0.362	23.9	571	0	0	0	1						
03/21/15	395,428	33.2	831,261	0.476	31.8	1011	0	0	0	1						
03/22/15	457,962	31.0	831,261	0.551	34.0	1156	0	0	0	1						
03/23/15	451,317	28.5	831,261	0.543	36.5	1332	0	0	0	1						
03/24/15	419,337	33.0	831,261	0.504	32.0	1024	0	0	0	1						
03/25/15	459,571	33.5	831,261	0.553	31.5	992	0	0	0	1						
03/26/15	489,174	28.1	831,261	0.588	36.9	1362	0	0	0	1						
03/27/15	436,770	27.8	831,261	0.525	37.2	1384	0	0	0	1						
03/28/15	359,926	36.7	831,261	0.433	28.3	801	0	0	0	1						
03/29/15	321,955	44.0	831,261	0.387	21.0	441	0	0	0	1						
03/30/15	270,307	44.5	831,261	0.325	20.5	420	0	0	0	1						
03/31/15	180,486	54.0	831,261	0.217	11.0	121	0	0	0	1						
11/01/15	186,784	50.7	835,774	0.223	14.3	204	1	0	0	0						
11/02/15	136,970	56.5	835,774	0.166	8.5	72	1	0	0	0						
11/03/15	109,063	57.6	835,774	0.130	7.4	55	1	0	0	0						
11/04/15	115,379	60.4	835,774	0.138	4.6	21	1	0	0	0						
11/05/15	183,702	48.6	835,774	0.220	16.4	269	1	0	0	0						
11/06/15	276,913	40.7	835,774	0.331	24.3	590	1	0	0	0						
11/07/15	259,975	44.8	835,774	0.311	20.2	408	1	0	0	0						
11/08/15	203,064	51.0	835,774	0.243	14.0	196	1	0	0	0						
11/09/15	184,526	49.3	835,774	0.221	15.7	246	1	0	0	0						
11/10/15	182,491	50.5	835,774	0.218	14.5	210	1	0	0	0						
11/11/15	241,315	46.1	835,774	0.289	18.9	357	1	0	0	0						
11/12/15	350,921	37.4	835,774	0.420	27.6	762	1	0	0	0						
11/13/15	325,752	37.6	835,774	0.390	27.4	751	1	0	0	0						
11/14/15	239,847	47.4	835,774	0.287	17.6	310	1	0	0	0						
11/15/15	173,240	53.7	835,774	0.207	11.3	128	1	0	0	0						
11/16/15	219,808	48.8	835,774	0.263	16.2	262	1	0	0	0						
11/17/15	182,261	53.7	835,774	0.218	11.3	128	1	0	0	0						
11/18/15	299,903	40.3	835,774	0.359	24.7	610	1	0	0	0						
11/19/15	483,830	30.3	835,774	0.579	34.7	1204	1	0	0	0						
11/20/15	508,067	24.5	835,774	0.608	40.5	1640	1	0	0	0						
11/21/15	512,731	22.3	835,774	0.613	42.7	1823	1	0	0	0						
11/22/15	460,295	28.6	835,774	0.551	36.4	1325	1	0	0	0						
11/23/15	376,597	35.5	835,774	0.451	29.5	870	1	0	0	0						
11/24/15	349,079	39.3	835,774	0.418	25.7	660	1	0	0	0						
11/25/15	312,036	41.6	835,774	0.373	23.4	548	1	0	0	0						
11/26/15	479,519	25.6	835,774	0.574	39.4	1552	1	0	0	0						
11/27/15	552,812	20.1	835,774	0.661	44.9	2016	1	0	0	0						
11/28/15	508,314	24.0	835,774	0.608	41.0	1681	1	0	0	0						
11/29/15	451,483	30.7	835,774	0.540	34.3	1176	1	0	0	0						
11/30/15	437,944	33.0	835,774	0.524	32.0	1024	1	0	0	0						
12/01/15	442,535	29.5	837,760	0.528	35.5	1260	0	1	0	0						
12/02/15	447,920	30.4	837,760	0.535	34.6	1197	0	1	0	0						
12/03/15	472,297	28.2	837,760	0.564	36.8	1354	0	1	0	0						
12/04/15	368,165	39.1	837,760	0.439	25.9	671	0	1	0	0						
12/05/15	328,862	41.1	837,760	0.393	23.9	571	0	1	0	0						
12/06/15	403,379	33.8	837,760	0.481	31.2	973	0	1	0	0						
12/07/15	374,391	37.3	837,760	0.447	27.7	767	0	1	0	0						

Date	Firm Throughout	Temperature	Firm Customer	UPC	HDD	HDDx2	Nov	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
12/08/15	381,841	36.8	837,760	0.456	28.2	795	0	1	0	0						
12/09/15	327,136	42.7	837,760	0.390	22.3	497	0	1	0	0						
12/10/15	334,222	41.0	837,760	0.399	24.0	576	0	1	0	0						
12/11/15	363,681	36.8	837,760	0.434	28.2	795	0	1	0	0						
12/12/15	343,595	39.6	837,760	0.410	25.4	645	0	1	0	0						
12/13/15	368,992	38.5	837,760	0.440	26.5	702	0	1	0	0						
12/14/15	437,799	33.2	837,760	0.523	31.8	1011	0	1	0	0						
12/15/15	436,476	34.2	837,760	0.521	30.8	949	0	1	0	0						
12/16/15	488,553	29.6	837,760	0.583	35.4	1253	0	1	0	0						
12/17/15	603,595	20.8	837,760	0.720	44.2	1954	0	1	0	0						
12/18/15	698,006	13.1	837,760	0.833	51.9	2694	0	1	0	0						
12/19/15	566,103	25.3	837,760	0.676	39.7	1576	0	1	0	0						
12/20/15	434,205	34.4	837,760	0.518	30.6	936	0	1	0	0						
12/21/15	458,336	31.3	837,760	0.547	33.7	1136	0	1	0	0						
12/22/15	447,446	33.7	837,760	0.534	31.3	980	0	1	0	0						
12/23/15	471,586	29.4	837,760	0.563	35.6	1267	0	1	0	0						
12/24/15	512,214	25.7	837,760	0.611	39.3	1544	0	1	0	0						
12/25/15	475,231	28.4	837,760	0.567	36.6	1340	0	1	0	0						
12/26/15	508,144	27.1	837,760	0.607	37.9	1436	0	1	0	0						
12/27/15	640,955	15.6	837,760	0.765	49.4	2440	0	1	0	0						
12/28/15	638,266	21.7	837,760	0.762	43.3	1875	0	1	0	0						
12/29/15	564,844	22.7	837,760	0.674	42.3	1789	0	1	0	0						
12/30/15	595,136	18.7	837,760	0.710	46.3	2144	0	1	0	0						
12/31/15	642,391	16.6	837,760	0.767	48.4	2343	0	1	0	0						
01/01/16	572,008	21.3	839,290	0.682	43.7	1910	0	0	0	0						
01/02/16	523,491	26.5	839,290	0.624	38.5	1482	0	0	0	0						
01/03/16	576,480	21.3	839,290	0.687	43.7	1910	0	0	0	0						
01/04/16	599,468	20.9	839,290	0.714	44.1	1945	0	0	0	0						
01/05/16	528,614	26.4	839,290	0.630	38.6	1490	0	0	0	0						
01/06/16	476,750	30.8	839,290	0.568	34.2	1170	0	0	0	0						
01/07/16	444,228	32.6	839,290	0.529	32.4	1050	0	0	0	0						
01/08/16	546,913	22.8	839,290	0.652	42.2	1781	0	0	0	0						
01/09/16	871,416	(2.3)	839,290	1.038	67.3	4529	0	0	0	0						
01/10/16	921,350	(5.3)	839,290	1.098	70.3	4942	0	0	0	0						
01/11/16	873,927	0.9	839,290	1.041	64.1	4109	0	0	0	0						
01/12/16	888,242	(1.4)	839,290	1.058	66.4	4409	0	0	0	0						
01/13/16	670,113	17.6	839,290	0.798	47.4	2247	0	0	0	0						
01/14/16	586,633	23.5	839,290	0.699	41.5	1722	0	0	0	0						
01/15/16	707,301	12.6	839,290	0.843	52.4	2746	0	0	0	0						
01/16/16	955,546	(6.7)	839,290	1.139	71.7	5141	0	0	0	0	(19.3)	19.3	0.014059253	0.271343582	839290	227,736
01/17/16	994,146	(8.2)	839,290	1.185	73.2	5358	0	0	0	0	1.5	1.5	0.014059253	0.021088879	839290	17,700
01/18/16	958,427	(2.8)	839,290	1.142	67.8	4597	0	0	0	0	(5.4)	5.4	0.014059253	0.075919966	839290	63,719
01/19/16	824,586	7.2	839,290	0.982	57.8	3341	0	0	0	0	(10.0)	10	0.014059253	0.140592529	839290	117,998
01/20/16	647,507	20.3	839,290	0.771	44.7	1998	0	0	0	0						
01/21/16	620,688	20.9	839,290	0.740	44.1	1945	0	0	0	0						
01/22/16	617,111	20.6	839,290	0.735	44.4	1971	0	0	0	0						
01/23/16	593,340	22.8	839,290	0.707	42.2	1781	0	0	0	0						
01/24/16	508,263	28.5	839,290	0.606	36.5	1332	0	0	0	0						
01/25/16	535,877	26.9	839,290	0.638	38.1	1452	0	0	0	0						
01/26/16	595,250	22.1	839,290	0.709	42.9	1840	0	0	0	0						
01/27/16	485,934	36.0	839,290	0.579	29.0	841	0	0	0	0						
01/28/16	547,422	24.7	839,290	0.652	40.3	1624	0	0	0	0						
01/29/16	481,943	31.0	839,290	0.574	34.0	1156	0	0	0	0						
01/30/16	408,721	36.7	839,290	0.487	28.3	801	0	0	0	0						
01/31/16	435,251	31.9	839,290	0.519	33.1	1096	0	0	0	0						
02/01/16	490,305	29.7	839,679	0.584	35.3	1246	0	0	1	0						
02/02/16	579,907	24.7	839,679	0.691	40.3	1624	0	0	1	0						
02/03/16	630,886	15.3	839,679	0.751	49.7	2470	0	0	1	0						
02/04/16	653,631	16.4	839,679	0.778	48.6	2362	0	0	1	0						
02/05/16	571,112	24.8	839,679	0.680	40.2	1616	0	0	1	0						
02/06/16	453,128	34.3	839,679	0.540	30.7	942	0	0	1	0						
02/07/16	563,434	24.3	839,679	0.671	40.7	1656	0	0	1	0						
02/08/16	754,508	11.9	839,679	0.899	53.1	2820	0	0	1	0						
02/09/16	758,905	9.7	839,679	0.904	55.3	3058	0	0	1	0						
02/10/16	776,442	8.5	839,679	0.925	56.5	3192	0	0	1	0						
02/11/16	719,315	13.0	839,679	0.857	52.0	2704	0	0	1	0						
02/12/16	834,719	2.5	839,679	0.994	62.5	3906	0	0	1	0						
02/13/16	763,627	7.8	839,679	0.909	57.2	3272	0	0	1	0						
02/14/16	672,416	18.0	839,679	0.801	47.0	2209	0	0	1	0						
02/15/16	486,405	30.3	839,679	0.579	34.7	1204	0	0	1	0						

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02/16/16	541,235	24.4	839,679	0.645	40.6	1648	0	0	1	0						
02/17/16	536,297	26.9	839,679	0.641	38.1	1452	0	0	1	0						
02/18/16	435,593	37.4	839,679	0.519	27.6	762	0	0	1	0						
02/19/16	382,817	40.3	839,679	0.456	24.7	610	0	0	1	0						
02/20/16	427,988	33.4	839,679	0.510	31.6	999	0	0	1	0						
02/21/16	460,019	31.7	839,679	0.548	33.3	1109	0	0	1	0						
02/22/16	444,186	33.0	839,679	0.529	32.0	1024	0	0	1	0						
02/23/16	433,803	35.7	839,679	0.517	29.3	858	0	0	1	0						
02/24/16	456,317	32.7	839,679	0.543	32.3	1043	0	0	1	0						
02/25/16	487,889	28.7	839,679	0.581	36.3	1318	0	0	1	0						
02/26/16	383,094	36.2	839,679	0.456	28.8	829	0	0	1	0						
02/27/16	261,306	47.0	839,679	0.311	18.0	324	0	0	1	0						
02/28/16	469,162	32.8	839,679	0.559	32.2	1037	0	0	1	0						
02/29/16	571,942	20.6	839,679	0.681	44.4	1971	0	0	1	0						
03/01/16	604,214	18.7	839,821	0.719	46.3	2144	0	0	0	1						
03/02/16	503,024	26.4	839,821	0.599	38.6	1490	0	0	0	1						
03/03/16	473,071	30.9	839,821	0.563	34.1	1163	0	0	0	1						
03/04/16	462,937	33.1	839,821	0.551	31.9	1018	0	0	0	1						
03/05/16	421,111	33.2	839,821	0.501	31.8	1011	0	0	0	1						
03/06/16	263,251	48.0	839,821	0.313	17.0	289	0	0	0	1						
03/07/16	162,870	58.2	839,821	0.194	6.8	46	0	0	0	1						
03/08/16	209,168	49.3	839,821	0.249	15.7	246	0	0	0	1						
03/09/16	366,032	37.5	839,821	0.436	27.5	756	0	0	0	1						
03/10/16	351,183	39.2	839,821	0.418	25.8	666	0	0	0	1						
03/11/16	184,191	55.8	839,821	0.219	9.2	85	0	0	0	1						
03/12/16	138,386	56.8	839,821	0.165	8.2	67	0	0	0	1						
03/13/16	211,457	51.4	839,821	0.252	13.6	185	0	0	0	1						
03/14/16	176,403	53.6	839,821	0.210	11.4	130	0	0	0	1						
03/15/16	240,550	48.1	839,821	0.286	16.9	286	0	0	0	1						
03/16/16	343,811	41.0	839,821	0.409	24.0	576	0	0	0	1						
03/17/16	395,690	36.0	839,821	0.471	29.0	841	0	0	0	1						
03/18/16	437,428	32.0	839,821	0.521	33.0	1089	0	0	0	1						
03/19/16	416,289	33.7	839,821	0.496	31.3	980	0	0	0	1						
03/20/16	386,858	35.3	839,821	0.461	29.7	882	0	0	0	1						
03/21/16	302,660	44.3	839,821	0.360	20.7	428	0	0	0	1						
03/22/16	305,767	41.8	839,821	0.364	23.2	538	0	0	0	1						
03/23/16	468,691	30.7	839,821	0.558	34.3	1176	0	0	0	1						
03/24/16	366,263	36.2	839,821	0.436	28.8	829	0	0	0	1						
03/25/16	305,318	42.4	839,821	0.364	22.6	511	0	0	0	1						
03/26/16	295,649	44.3	839,821	0.352	20.7	428	0	0	0	1						
03/27/16	371,481	36.2	839,821	0.442	28.8	829	0	0	0	1						
03/28/16	235,553	48.1	839,821	0.280	16.9	286	0	0	0	1						
03/29/16	196,464	52.5	839,821	0.234	12.5	156	0	0	0	1						
03/30/16	281,201	44.3	839,821	0.335	20.7	428	0	0	0	1						
03/31/16	288,851	42.5	839,821	0.344	22.5	506	0	0	0	1						
11/01/16	175,112	51.1	844,030	0.207	13.9	193	1	0	0	0						
11/02/16	186,457	52.1	844,030	0.221	12.9	166	1	0	0	0						
11/03/16	172,606	52.3	844,030	0.205	12.7	161	1	0	0	0						
11/04/16	156,495	55.0	844,030	0.185	10.0	100	1	0	0	0						
11/05/16	136,107	57.5	844,030	0.161	7.5	56	1	0	0	0						
11/06/16	132,000	56.2	844,030	0.156	8.8	77	1	0	0	0						
11/07/16	162,791	54.3	844,030	0.193	10.7	114	1	0	0	0						
11/08/16	215,220	47.0	844,030	0.255	18.0	324	1	0	0	0						
11/09/16	190,901	51.7	844,030	0.226	13.3	177	1	0	0	0						
11/10/16	174,519	53.0	844,030	0.207	12.0	144	1	0	0	0						
11/11/16	276,877	40.8	844,030	0.328	24.2	586	1	0	0	0						
11/12/16	241,979	46.9	844,030	0.287	18.1	328	1	0	0	0						
11/13/16	194,288	50.8	844,030	0.230	14.2	202	1	0	0	0						
11/14/16	270,644	43.8	844,030	0.321	21.2	449	1	0	0	0						
11/15/16	243,154	52.8	844,030	0.288	12.2	149	1	0	0	0						
11/16/16	189,559	49.1	844,030	0.225	15.9	253	1	0	0	0						
11/17/16	213,639	50.8	844,030	0.253	14.2	202	1	0	0	0						
11/18/16	415,754	34.0	844,030	0.493	31.0	961	1	0	0	0						
11/19/16	478,629	22.6	844,030	0.567	42.4	1798	1	0	0	0						
11/20/16	491,226	23.2	844,030	0.582	41.8	1747	1	0	0	0						
11/21/16	418,800	34.5	844,030	0.496	30.5	930	1	0	0	0						
11/22/16	430,520	34.7	844,030	0.510	30.3	918	1	0	0	0						
11/23/16	399,971	34.5	844,030	0.474	30.5	930	1	0	0	0						
11/24/16	379,035	34.7	844,030	0.449	30.3	918	1	0	0	0						
11/25/16	416,991	33.2	844,030	0.494	31.8	1011	1	0	0	0						

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11/26/16	367,075	36.7	844,030	0.435	28.3	801	1	0	0	0						
11/27/16	353,286	42.6	844,030	0.419	22.4	502	1	0	0	0						
11/28/16	307,191	43.1	844,030	0.364	21.9	480	1	0	0	0						
11/29/16	383,639	36.5	844,030	0.455	28.5	812	1	0	0	0						
11/30/16	378,645	36.8	844,030	0.449	28.2	795	1	0	0	0						
12/01/16	412,205	34.3	846,190	0.487	30.7	942	0	1	0	0						
12/02/16	449,261	31.0	846,190	0.531	34.0	1156	0	1	0	0						
12/03/16	431,996	31.1	846,190	0.511	33.9	1149	0	1	0	0						
12/04/16	433,045	33.7	846,190	0.512	31.3	980	0	1	0	0						
12/05/16	443,207	34.7	846,190	0.524	30.3	918	0	1	0	0						
12/06/16	649,187	19.8	846,190	0.767	45.2	2043	0	1	0	0						
12/07/16	692,149	17.7	846,190	0.818	47.3	2237	0	1	0	0						
12/08/16	667,661	19.2	846,190	0.789	45.8	2098	0	1	0	0						
12/09/16	722,310	11.5	846,190	0.854	53.5	2862	0	1	0	0						
12/10/16	747,781	12.7	846,190	0.884	52.3	2735	0	1	0	0						
12/11/16	675,130	14.0	846,190	0.798	51.0	2601	0	1	0	0						
12/12/16	810,749	0.8	846,190	0.958	64.2	4122	0	1	0	0						
12/13/16	816,375	6.7	846,190	0.965	58.3	3399	0	1	0	0						
12/14/16	906,821	(0.7)	846,190	1.072	65.7	4316	0	1	0	0						
12/15/16	858,236	2.4	846,190	1.014	62.6	3919	0	1	0	0						
12/16/16	748,004	10.3	846,190	0.884	54.7	2992	0	1	0	0						
12/17/16	924,144	(5.5)	846,190	1.092	70.5	4970	0	1	0	0	(15.8)	15.8	0.014059253	0.222136196	847652	188,294
12/18/16	949,490	(3.5)	846,190	1.122	68.5	4692	0	1	0	0	(2.0)	2	0.014059253	0.028118506	847652	23,835
12/19/16	653,564	22.9	846,190	0.772	42.1	1772	0	1	0	0						
12/20/16	504,791	30.2	846,190	0.597	34.8	1211	0	1	0	0						
12/21/16	481,764	32.1	846,190	0.569	32.9	1082	0	1	0	0						
12/22/16	469,187	33.0	846,190	0.554	32.0	1024	0	1	0	0						
12/23/16	441,706	34.0	846,190	0.522	31.0	961	0	1	0	0						
12/24/16	433,442	33.5	846,190	0.512	31.5	992	0	1	0	0						
12/25/16	479,853	34.0	846,190	0.567	31.0	961	0	1	0	0						
12/26/16	675,647	19.3	846,190	0.798	45.7	2088	0	1	0	0						
12/27/16	600,180	21.7	846,190	0.709	43.3	1875	0	1	0	0						
12/28/16	492,010	31.6	846,190	0.581	33.4	1116	0	1	0	0						
12/29/16	573,787	25.6	846,190	0.678	39.4	1552	0	1	0	0						
12/30/16	542,298	27.7	846,190	0.641	37.3	1391	0	1	0	0						
12/31/16	549,247	24.0	846,190	0.649	41.0	1681	0	1	0	0						
01/01/17	508,549	28.5	847,652	0.600	36.5	1332	0	0	0	0						
01/02/17	511,975	30.8	847,652	0.604	34.2	1170	0	0	0	0						
01/03/17	846,397	5.0	847,652	0.999	60.0	3600	0	0	0	0						
01/04/17	940,088	(1.0)	847,652	1.109	66.0	4356	0	0	0	0	(6.0)	6	0.014059253	0.084355518	847652	71,504
01/05/17	978,992	(4.5)	847,652	1.155	69.5	4830	0	0	0	0	3.5	3.5	0.014059253	0.049207385	847652	41,711
01/06/17	909,219	0.7	847,652	1.073	64.3	4134	0	0	0	0						
01/07/17	890,812	2.0	847,652	1.051	63.0	3969	0	0	0	0						
01/08/17	774,840	13.8	847,652	0.914	51.2	2621	0	0	0	0						
01/09/17	632,193	24.7	847,652	0.746	40.3	1624	0	0	0	0						
01/10/17	754,989	11.4	847,652	0.891	53.6	2873	0	0	0	0						
01/11/17	807,324	6.4	847,652	0.952	58.6	3434	0	0	0	0						
01/12/17	885,827	1.2	847,652	1.045	63.8	4070	0	0	0	0						
01/13/17	854,130	5.0	847,652	1.008	60.0	3600	0	0	0	0						
01/14/17	720,174	12.5	847,652	0.850	52.5	2756	0	0	0	0						
01/15/17	615,127	21.5	847,652	0.726	43.5	1892	0	0	0	0						
01/16/17	545,308	21.5	847,652	0.643	43.5	1892	0	0	0	0						
01/17/17	506,063	31.0	847,652	0.597	34.0	1156	0	0	0	0						
01/18/17	428,538	34.4	847,652	0.506	30.6	936	0	0	0	0						
01/19/17	394,181	35.5	847,652	0.465	29.5	870	0	0	0	0						
01/20/17	413,798	35.3	847,652	0.488	29.7	882	0	0	0	0						
01/21/17	402,944	36.3	847,652	0.475	28.7	824	0	0	0	0						
01/22/17	416,013	36.1	847,652	0.491	28.9	835	0	0	0	0						
01/23/17	456,659	33.4	847,652	0.539	31.6	999	0	0	0	0						
01/24/17	482,833	31.8	847,652	0.570	33.2	1102	0	0	0	0						
01/25/17	526,128	29.2	847,652	0.623	35.8	1282	0	0	0	0						
01/26/17	572,306	24.6	847,652	0.675	40.4	1632	0	0	0	0						
01/27/17	542,634	25.6	847,652	0.640	39.4	1552	0	0	0	0						
01/28/17	565,296	25.8	847,652	0.667	39.2	1537	0	0	0	0						
01/29/17	573,423	22.5	847,652	0.676	42.5	1806	0	0	0	0						
01/30/17	464,225	39.3	847,652	0.548	25.7	660	0	0	0	0						
01/31/17	500,505	30.8	847,652	0.590	34.2	1170	0	0	0	0						
02/01/17	721,539	12.8	848,051	0.851	52.2	2725	0	0	1	0						
02/02/17	765,685	11.8	848,051	0.901	53.2	2830	0	0	1	0						
02/03/17	669,541	18.3	848,051	0.790	46.7	2181	0	0	1	0						

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02/04/17	539,715	29.4	848,051	0.636	35.6	1267	0	0	1	0						
02/05/17	585,156	21.7	848,051	0.690	43.3	1875	0	0	1	0						
02/06/17	517,575	30.1	848,051	0.610	34.9	1218	0	0	1	0						
02/07/17	709,681	15.3	848,051	0.837	49.7	2470	0	0	1	0						
02/08/17	800,453	7.8	848,051	0.944	57.2	3272	0	0	1	0						
02/09/17	666,837	18.3	848,051	0.786	46.7	2181	0	0	1	0						
02/10/17	388,460	39.8	848,051	0.458	25.2	635	0	0	1	0						
02/11/17	383,677	38.1	848,051	0.452	26.9	724	0	0	1	0						
02/12/17	459,685	33.1	848,051	0.542	31.9	1018	0	0	1	0						
02/13/17	391,559	38.6	848,051	0.462	26.4	697	0	0	1	0						
02/14/17	470,812	31.3	848,051	0.555	33.7	1136	0	0	1	0						
02/15/17	467,071	29.8	848,051	0.551	35.2	1239	0	0	1	0						
02/16/17	408,163	34.6	848,051	0.481	30.4	924	0	0	1	0						
02/17/17	261,660	47.3	848,051	0.309	17.7	313	0	0	1	0						
02/18/17	276,223	45.1	848,051	0.326	19.9	396	0	0	1	0						
02/19/17	227,757	51.6	848,051	0.269	13.4	180	0	0	1	0						
02/20/17	299,261	45.5	848,051	0.353	19.5	380	0	0	1	0						
02/21/17	250,255	48.5	848,051	0.295	16.5	272	0	0	1	0						
02/22/17	301,485	43.5	848,051	0.356	21.5	462	0	0	1	0						
02/23/17	480,684	30.7	848,051	0.567	34.3	1176	0	0	1	0						
02/24/17	613,915	21.8	848,051	0.724	43.2	1866	0	0	1	0						
02/25/17	527,030	26.7	848,051	0.621	38.3	1467	0	0	1	0						
02/26/17	475,282	30.2	848,051	0.560	34.8	1211	0	0	1	0						
02/27/17	391,770	38.6	848,051	0.462	26.4	697	0	0	1	0						
02/28/17	415,622	35.7	848,051	0.490	29.3	858	0	0	1	0						
03/01/17	528,965	26.7	848,081	0.624	38.3	1467	0	0	0	1						
03/02/17	579,692	21.5	848,081	0.684	43.5	1892	0	0	0	1						
03/03/17	532,827	26.0	848,081	0.628	39.0	1521	0	0	0	1						
03/04/17	400,350	37.4	848,081	0.472	27.6	762	0	0	0	1						
03/05/17	231,850	51.9	848,081	0.273	13.1	172	0	0	0	1						
03/06/17	289,212	46.9	848,081	0.341	18.1	328	0	0	0	1						
03/07/17	453,101	37.4	848,081	0.534	27.6	762	0	0	0	1						
03/08/17	510,583	28.2	848,081	0.602	36.8	1354	0	0	0	1						
03/09/17	621,838	20.0	848,081	0.733	45.0	2025	0	0	0	1						
03/10/17	696,918	12.6	848,081	0.824	52.4	2746	0	0	0	1						
03/11/17	645,254	16.0	848,081	0.761	49.0	2401	0	0	0	1						
03/12/17	677,954	18.6	848,081	0.799	46.4	2153	0	0	0	1						
03/13/17	620,783	18.4	848,081	0.732	46.6	2172	0	0	0	1						
03/14/17	589,024	20.1	848,081	0.695	44.9	2016	0	0	0	1						
03/15/17	516,866	24.5	848,081	0.609	40.5	1640	0	0	0	1						
03/16/17	434,161	34.7	848,081	0.512	30.3	918	0	0	0	1						
03/17/17	440,258	36.2	848,081	0.519	28.8	829	0	0	0	1						
03/18/17	404,543	34.1	848,081	0.477	30.9	955	0	0	0	1						
03/19/17	325,956	44.3	848,081	0.384	20.7	428	0	0	0	1						
03/20/17	314,144	43.7	848,081	0.370	21.3	454	0	0	0	1						
03/21/17	461,027	28.7	848,081	0.544	36.3	1318	0	0	0	1						
03/22/17	422,408	35.8	848,081	0.498	29.2	853	0	0	0	1						
03/23/17	396,536	38.7	848,081	0.470	26.3	692	0	0	0	1						
03/24/17	363,440	40.1	848,081	0.429	24.9	620	0	0	0	1						
03/25/17	363,158	39.3	848,081	0.428	25.7	660	0	0	0	1						
03/26/17	354,334	39.9	848,081	0.418	25.1	630	0	0	0	1						
03/27/17	245,911	46.4	848,081	0.290	18.6	346	0	0	0	1						
03/28/17	204,380	52.4	848,081	0.241	12.6	159	0	0	0	1						
03/29/17	291,246	44.6	848,081	0.343	20.4	416	0	0	0	1						
03/30/17	324,302	42.1	848,081	0.382	22.9	524	0	0	0	1						
03/31/17	256,875	45.9	848,081	0.303	19.1	365	0	0	0	1						
11/01/17	426,597	34.8	855,050	0.501	30.2	912	1	0	0	0						
11/02/17	416,399	35.5	855,050	0.489	29.5	870	1	0	0	0						
11/03/17	433,449	33.3	855,050	0.507	31.7	1005	1	0	0	0						
11/04/17	368,746	40.1	855,050	0.431	24.9	620	1	0	0	0						
11/05/17	495,995	28.0	855,050	0.580	37.0	1369	1	0	0	0						
11/06/17	489,445	29.7	855,050	0.572	35.3	1246	1	0	0	0						
11/07/17	467,421	30.3	855,050	0.547	34.7	1204	1	0	0	0						
11/08/17	449,583	32.0	855,050	0.526	33.0	1089	1	0	0	0						
11/09/17	669,935	15.8	855,050	0.784	49.2	2421	1	0	0	0						
11/10/17	624,991	24.5	855,050	0.731	40.5	1640	1	0	0	0						
11/11/17	436,294	33.6	855,050	0.510	31.4	986	1	0	0	0						
11/12/17	485,793	30.4	855,050	0.568	34.6	1197	1	0	0	0						
11/13/17	384,127	40.3	855,050	0.449	24.7	610	1	0	0	0						
11/14/17	337,252	43.4	855,050	0.394	21.6	467	1	0	0	0						

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11/15/17	496,824	30.3	855,050	0.583	34.7	1204	1	0	0	0						
11/16/17	486,085	33.2	855,050	0.568	31.8	1011	1	0	0	0						
11/17/17	407,557	36.4	855,050	0.477	28.6	818	1	0	0	0						
11/18/17	522,775	25.7	855,050	0.611	39.3	1544	1	0	0	0						
11/19/17	457,568	33.7	855,050	0.535	31.3	980	1	0	0	0						
11/20/17	429,713	39.2	855,050	0.503	25.8	666	1	0	0	0						
11/21/17	597,454	21.4	855,050	0.699	43.6	1501	1	0	0	0						
11/22/17	558,880	26.7	855,050	0.654	38.3	1467	1	0	0	0						
11/23/17	340,811	43.3	855,050	0.399	21.7	471	1	0	0	0						
11/24/17	307,989	45.4	855,050	0.360	19.6	384	1	0	0	0						
11/25/17	431,187	32.7	855,050	0.504	32.3	1043	1	0	0	0						
11/26/17	370,194	40.8	855,050	0.433	24.2	586	1	0	0	0						
11/27/17	265,442	51.9	855,050	0.310	13.1	172	1	0	0	0						
11/28/17	387,768	39.2	855,050	0.454	25.8	666	1	0	0	0						
11/29/17	386,018	41.0	855,050	0.451	24.0	576	1	0	0	0						
11/30/17	390,279	37.7	855,050	0.456	27.3	745	1	0	0	0						
12/01/17	382,372	40.6	856,876	0.446	24.4	595	0	1	0	0						
12/02/17	388,443	36.7	856,876	0.453	28.3	801	0	1	0	0						
12/03/17	307,255	48.0	856,876	0.359	17.0	289	0	1	0	0						
12/04/17	398,602	37.3	856,876	0.465	27.7	767	0	1	0	0						
12/05/17	660,869	18.5	856,876	0.771	46.5	2162	0	1	0	0						
12/06/17	705,302	15.5	856,876	0.823	49.5	2450	0	1	0	0						
12/07/17	648,376	18.5	856,876	0.757	46.5	2162	0	1	0	0						
12/08/17	551,970	26.6	856,876	0.644	38.4	1475	0	1	0	0						
12/09/17	582,148	22.0	856,876	0.679	43.0	1849	0	1	0	0						
12/10/17	530,736	27.0	856,876	0.619	38.0	1444	0	1	0	0						
12/11/17	617,570	20.7	856,876	0.721	44.3	1962	0	1	0	0						
12/12/17	603,958	22.1	856,876	0.705	42.9	1840	0	1	0	0						
12/13/17	620,320	21.4	856,876	0.724	43.6	1901	0	1	0	0						
12/14/17	612,968	22.3	856,876	0.715	42.7	1823	0	1	0	0						
12/15/17	517,128	27.3	856,876	0.604	37.7	1421	0	1	0	0						
12/16/17	527,550	27.8	856,876	0.616	37.2	1384	0	1	0	0						
12/17/17	525,645	27.0	856,876	0.613	38.0	1444	0	1	0	0						
12/18/17	441,579	36.5	856,876	0.515	28.5	812	0	1	0	0						
12/19/17	520,642	27.0	856,876	0.608	38.0	1444	0	1	0	0						
12/20/17	646,688	19.3	856,876	0.755	45.7	2088	0	1	0	0						
12/21/17	632,128	21.2	856,876	0.738	43.8	1918	0	1	0	0						
12/22/17	623,734	18.5	856,876	0.728	46.5	2162	0	1	0	0						
12/23/17	637,218	17.8	856,876	0.744	47.2	2228	0	1	0	0						
12/24/17	726,520	11.3	856,876	0.848	53.7	2884	0	1	0	0						
12/25/17	947,340	(4.3)	856,876	1.106	69.3	4802	0	1	0	0						
12/26/17	1,001,324	(4.0)	856,876	1.169	69.0	4761	0	1	0	0						
12/27/17	908,634	2.4	856,876	1.060	62.6	3919	0	1	0	0						
12/28/17	887,583	6.2	856,876	1.012	58.8	3457	0	1	0	0						
12/29/17	981,199	(3.5)	856,876	1.145	68.5	4692	0	1	0	0						
12/30/17	1,050,356	(9.3)	856,876	1.226	74.3	5520	0	1	0	0						
12/31/17	1,069,678	(10.6)	856,876	1.248	75.6	5715	0	1	0	0	(1.3)	1.3	0.014059253	0.018277029	856876	15,661
01/01/18	1,017,366	(6.1)	858,061	1.186	71.1	5055	0	0	0	0	(4.5)	4.5	0.014059253	0.063266638	858061	54,287
01/02/18	892,468	7.4	858,061	1.040	57.6	3318	0	0	0	0						
01/03/18	914,926	0.3	858,061	1.066	64.7	4186	0	0	0	0						
01/04/18	977,462	(3.5)	858,061	1.139	68.5	4692	0	0	0	0						
01/05/18	988,962	(4.2)	858,061	1.153	69.2	4789	0	0	0	0	(0.7)	0.7	0.014059253	0.009841477	858061	8,445
01/06/18	841,628	9.2	858,061	0.981	55.8	3114	0	0	0	0						
01/07/18	600,410	26.3	858,061	0.700	38.7	1498	0	0	0	0						
01/08/18	515,050	30.3	858,061	0.600	34.7	1204	0	0	0	0						
01/09/18	450,965	37.0	858,061	0.526	28.0	784	0	0	0	0						
01/10/18	501,264	32.4	858,061	0.584	32.6	1063	0	0	0	0						
01/11/18	918,470	2.7	858,061	1.070	62.3	3881	0	0	0	0						
01/12/18	973,045	(4.0)	858,061	1.134	69.0	4761	0	0	0	0						
01/13/18	961,403	(2.4)	858,061	1.120	67.4	4543	0	0	0	0	(1.6)	1.6	0.014059253	0.022494805	858061	19,302
01/14/18	843,461	10.7	858,061	0.983	54.3	2948	0	0	0	0						
01/15/18	936,841	2.1	858,061	1.092	62.9	3956	0	0	0	0						
01/16/18	895,714	2.5	858,061	1.044	62.5	3906	0	0	0	0						
01/17/18	665,777	22.8	858,061	0.776	42.2	1781	0	0	0	0						
01/18/18	490,168	33.5	858,061	0.571	31.5	992	0	0	0	0						
01/19/18	445,276	34.9	858,061	0.519	30.1	906	0	0	0	0						
01/20/18	428,985	35.7	858,061	0.500	29.3	858	0	0	0	0						
01/21/18	462,826	35.5	858,061	0.539	29.5	870	0	0	0	0						
01/22/18	593,688	23.5	858,061	0.692	41.5	1722	0	0	0	0						
01/23/18	597,524	19.8	858,061	0.696	45.2	2043	0	0	0	0						

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01/24/18	588,941	24.4	858,061	0.686	40.6	1648	0	0	0	0						
01/25/18	561,082	28.1	858,061	0.654	36.9	1362	0	0	0	0						
01/26/18	443,951	36.5	858,061	0.517	28.5	812	0	0	0	0						
01/27/18	572,644	24.0	858,061	0.667	41.0	1681	0	0	0	0						
01/28/18	729,437	14.0	858,061	0.850	51.0	2601	0	0	0	0						
01/29/18	784,298	8.8	858,061	0.914	56.2	3158	0	0	0	0						
01/30/18	669,658	23.8	858,061	0.780	41.2	1697	0	0	0	0						
01/31/18	684,177	15.2	858,061	0.797	49.8	2480	0	0	0	0						
02/01/18	924,503	(0.8)	858,899	1.076	65.8	4330	0	0	1	0						
02/02/18	795,858	9.2	858,899	0.927	55.8	3114	0	0	1	0						
02/03/18	791,799	9.4	858,899	0.922	55.6	3091	0	0	1	0						
02/04/18	904,104	(0.9)	858,899	1.053	65.9	4343	0	0	1	0						
02/05/18	873,296	4.4	858,899	1.017	60.6	3672	0	0	1	0						
02/06/18	831,065	5.4	858,899	0.968	59.6	3552	0	0	1	0						
02/07/18	783,792	8.8	858,899	0.913	56.2	3158	0	0	1	0						
02/08/18	773,103	10.3	858,899	0.900	54.7	2992	0	0	1	0						
02/09/18	810,309	6.0	858,899	0.943	59.0	3481	0	0	1	0						
02/10/18	809,382	5.0	858,899	0.942	60.0	3600	0	0	1	0						
02/11/18	787,931	9.4	858,899	0.917	55.6	3091	0	0	1	0						
02/12/18	814,313	8.4	858,899	0.948	56.6	3204	0	0	1	0						
02/13/18	638,828	24.0	858,899	0.744	41.0	1681	0	0	1	0						
02/14/18	453,784	34.6	858,899	0.528	30.4	924	0	0	1	0						
02/15/18	626,134	21.6	858,899	0.729	43.4	1884	0	0	1	0						
02/16/18	682,067	17.4	858,899	0.794	47.6	2266	0	0	1	0						
02/17/18	562,836	26.6	858,899	0.655	38.4	1475	0	0	1	0						
02/18/18	543,577	31.8	858,899	0.633	33.2	1102	0	0	1	0						
02/19/18	682,355	21.3	858,899	0.794	43.7	1910	0	0	1	0						
02/20/18	751,568	12.5	858,899	0.875	52.5	2756	0	0	1	0						
02/21/18	735,885	13.1	858,899	0.857	51.9	2694	0	0	1	0						
02/22/18	604,466	26.0	858,899	0.704	39.0	1521	0	0	1	0						
02/23/18	586,230	20.8	858,899	0.683	44.2	1954	0	0	1	0						
02/24/18	615,694	22.8	858,899	0.717	42.2	1781	0	0	1	0						
02/25/18	584,096	21.8	858,899	0.680	43.2	1866	0	0	1	0						
02/26/18	458,431	33.1	858,899	0.534	31.9	1018	0	0	1	0						
02/27/18	431,689	36.8	858,899	0.503	28.2	795	0	0	1	0						
02/28/18	419,102	36.3	858,899	0.488	28.7	824	0	0	1	0						
03/01/18	478,463	29.4	859,491	0.557	35.6	1267	0	0	0	1						
03/02/18	447,032	35.1	859,491	0.520	29.9	894	0	0	0	1						
03/03/18	377,607	39.8	859,491	0.439	25.2	635	0	0	0	1						
03/04/18	433,688	37.8	859,491	0.505	27.2	740	0	0	0	1						
03/05/18	553,936	30.8	859,491	0.644	34.2	1170	0	0	0	1						
03/06/18	570,471	24.9	859,491	0.664	40.1	1608	0	0	0	1						
03/07/18	590,839	20.6	859,491	0.687	44.4	1971	0	0	0	1						
03/08/18	543,573	23.3	859,491	0.632	41.7	1739	0	0	0	1						
03/09/18	475,311	27.4	859,491	0.553	37.6	1414	0	0	0	1						
03/10/18	446,403	32.3	859,491	0.519	32.7	1069	0	0	0	1						
03/11/18	496,528	31.4	859,491	0.578	33.6	1129	0	0	0	1						
03/12/18	464,853	31.6	859,491	0.541	33.4	1116	0	0	0	1						
03/13/18	472,171	29.6	859,491	0.549	35.4	1253	0	0	0	1						
03/14/18	396,192	36.0	859,491	0.461	29.0	841	0	0	0	1						
03/15/18	454,229	31.1	859,491	0.528	33.9	1149	0	0	0	1						
03/16/18	445,927	32.9	859,491	0.519	32.1	1030	0	0	0	1						
03/17/18	365,217	38.1	859,491	0.425	26.9	724	0	0	0	1						
03/18/18	399,080	38.3	859,491	0.464	26.7	713	0	0	0	1						
03/19/18	416,885	36.0	859,491	0.485	29.0	841	0	0	0	1						
03/20/18	510,583	27.1	859,491	0.594	37.9	1436	0	0	0	1						
03/21/18	432,152	34.1	859,491	0.503	30.9	955	0	0	0	1						
03/22/18	419,388	35.6	859,491	0.488	29.4	864	0	0	0	1						
03/23/18	436,289	37.2	859,491	0.508	27.8	773	0	0	0	1						
03/24/18	443,657	33.7	859,491	0.516	31.3	980	0	0	0	1						
03/25/18	388,072	37.9	859,491	0.452	27.1	734	0	0	0	1						
03/26/18	452,500	34.4	859,491	0.526	30.6	936	0	0	0	1						
03/27/18	373,151	37.2	859,491	0.434	27.8	773	0	0	0	1						
03/28/18	390,628	37.8	859,491	0.454	27.2	740	0	0	0	1						
03/29/18	432,204	32.4	859,491	0.503	32.6	1063	0	0	0	1						
03/30/18	443,890	33.8	859,491	0.516	31.2	973	0	0	0	1						
03/31/18	591,270	19.0	859,491	0.688	46.0	2116	0	0	0	1						

Date	Firm Throughput	Temperature	Firm Customer	UPC	HDD	HDDx2	No.	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
11/01/12	307,225	35.9	811,114	0.379	29.1	847	1	0	0	0						
11/02/12	323,801	37.5	811,114	0.399	27.5	756	1	0	0	0						
11/03/12	309,667	37.5	811,114	0.382	27.5	756	1	0	0	0						
11/04/12	286,563	41.4	811,114	0.353	23.6	557	1	0	0	0						
11/05/12	293,718	41.3	811,114	0.362	23.7	562	1	0	0	0						
11/06/12	300,748	39.8	811,114	0.371	25.2	635	1	0	0	0						
11/07/12	287,479	39.9	811,114	0.354	25.1	630	1	0	0	0						
11/08/12	249,963	43.3	811,114	0.308	21.7	471	1	0	0	0						
11/09/12	224,816	47.3	811,114	0.277	17.7	313	1	0	0	0						
11/10/12	174,624	53.8	811,114	0.215	11.2	125	1	0	0	0						
11/11/12	449,010	24.9	811,114	0.554	40.1	1608	1	0	0	0						
11/12/12	524,323	22.4	811,114	0.646	42.6	1815	1	0	0	0						
11/13/12	349,460	36.9	811,114	0.431	28.1	790	1	0	0	0						
11/14/12	263,688	43.6	811,114	0.325	21.4	458	1	0	0	0						
11/15/12	330,197	35.9	811,114	0.407	29.1	847	1	0	0	0						
11/16/12	329,654	36.8	811,114	0.406	28.2	795	1	0	0	0						
11/17/12	219,862	49.0	811,114	0.271	16.0	256	1	0	0	0						
11/18/12	196,852	50.4	811,114	0.242	14.6	213	1	0	0	0						
11/19/12	215,001	46.3	811,114	0.265	18.7	350	1	0	0	0						
11/20/12	247,642	45.0	811,114	0.305	20.0	400	1	0	0	0						
11/21/12	161,947	56.5	811,114	0.200	8.5	72	1	0	0	0						
11/22/12	360,375	31.7	811,114	0.444	33.3	1109	1	0	0	0						
11/23/12	551,707	18.5	811,114	0.680	46.5	2162	1	0	0	0						
11/24/12	478,911	27.3	811,114	0.590	37.7	1421	1	0	0	0						
11/25/12	498,388	23.1	811,114	0.614	41.9	1756	1	0	0	0						
11/26/12	569,345	18.1	811,114	0.702	46.9	2200	1	0	0	0						
11/27/12	474,521	29.3	811,114	0.585	35.7	1274	1	0	0	0						
11/28/12	417,455	30.7	811,114	0.515	34.3	1176	1	0	0	0						
11/29/12	395,313	34.5	811,114	0.487	30.5	930	1	0	0	0						
11/30/12	383,381	35.3	811,114	0.473	29.7	882	1	0	0	0						
12/01/12	322,331	39.3	812,553	0.397	25.7	660	0	1	0	0						
12/02/12	327,142	40.9	812,553	0.403	24.1	581	0	1	0	0						
12/03/12	281,835	44.3	812,553	0.347	20.7	428	0	1	0	0						
12/04/12	462,568	25.3	812,553	0.569	39.7	1576	0	1	0	0						
12/05/12	406,844	37.8	812,553	0.501	27.2	740	0	1	0	0						
12/06/12	367,630	33.4	812,553	0.452	31.6	999	0	1	0	0						
12/07/12	444,670	28.0	812,553	0.547	37.0	1369	0	1	0	0						
12/08/12	409,188	30.8	812,553	0.504	34.2	1170	0	1	0	0						
12/09/12	505,871	22.9	812,553	0.623	42.1	1772	0	1	0	0						
12/10/12	624,225	9.3	812,553	0.708	55.7	3102	0	1	0	0						
12/11/12	607,940	17.0	812,553	0.748	48.0	2304	0	1	0	0						
12/12/12	417,427	37.4	812,553	0.514	27.6	782	0	1	0	0						
12/13/12	455,817	27.5	812,553	0.561	37.5	1406	0	1	0	0						
12/14/12	395,568	33.5	812,553	0.487	31.5	992	0	1	0	0						
12/15/12	380,605	34.7	812,553	0.468	30.3	918	0	1	0	0						
12/16/12	516,676	21.7	812,553	0.636	43.3	1875	0	1	0	0						
12/17/12	507,739	23.8	812,553	0.625	41.2	1697	0	1	0	0						
12/18/12	471,763	27.8	812,553	0.581	37.2	1384	0	1	0	0						
12/19/12	460,079	27.0	812,553	0.566	38.0	1444	0	1	0	0						
12/20/12	620,644	16.8	812,553	0.764	48.2	2323	0	1	0	0						
12/21/12	625,145	13.7	812,553	0.769	51.3	2632	0	1	0	0						
12/22/12	561,124	19.1	812,553	0.691	45.9	2107	0	1	0	0						
12/23/12	599,746	16.4	812,553	0.738	48.6	2362	0	1	0	0						
12/24/12	668,095	9.0	812,553	0.822	56.0	3136	0	1	0	0						
12/25/12	715,967	7.2	812,553	0.881	57.8	3341	0	1	0	0						
12/26/12	673,635	12.5	812,553	0.829	52.5	2756	0	1	0	0						
12/27/12	606,782	18.8	812,553	0.747	46.2	2134	0	1	0	0						
12/28/12	559,126	19.4	812,553	0.688	45.6	2079	0	1	0	0						
12/29/12	664,060	8.6	812,553	0.817	56.4	3181	0	1	0	0						
12/30/12	621,446	16.9	812,553	0.765	48.1	2314	0	1	0	0						
12/31/12	730,350	4.0	812,553	0.899	61.0	3721	0	1	0	0						
01/01/13	688,935	13.7	813,605	0.847	51.3	2632	0	0	0	0						
01/02/13	617,490	16.8	813,605	0.759	48.2	2323	0	0	0	0						
01/03/13	639,791	15.3	813,605	0.786	49.7	2470	0	0	0	0						
01/04/13	545,654	20.3	813,605	0.671	44.7	1998	0	0	0	0						
01/05/13	572,764	18.3	813,605	0.704	46.7	2181	0	0	0	0						
01/06/13	570,140	21.5	813,605	0.701	43.5	1892	0	0	0	0						
01/07/13	476,479	27.2	813,605	0.586	37.8	1429	0	0	0	0						
01/08/13	462,921	31.3	813,605	0.569	33.7	1136	0	0	0	0						
01/09/13	444,889	29.5	813,605	0.547	35.5	1260	0	0	0	0						
01/10/13	397,847	35.5	813,605	0.489	29.5	870	0	0	0	0						
01/11/13	413,862	32.4	813,605	0.509	32.6	1063	0	0	0	0						
01/12/13	705,978	7.4	813,605	0.868	57.6	3318	0	0	0	0						
01/13/13	777,312	6.0	813,605	0.955	59.0	3481	0	0	0	0						
01/14/13	710,666	11.7	813,605	0.873	53.3	2841	0	0	0	0						
01/15/13	550,828	26.3	813,605	0.677	38.7	1498	0	0	0	0						
01/16/13	594,587	19.8	813,605	0.731	45.2	2043	0	0	0	0						
01/17/13	631,806	17.4	813,605	0.777	47.6	2266	0	0	0	0						
01/18/13	434,528	33.7	813,605	0.534	31.3	980	0	0	0	0						
01/19/13	676,182	12.8	813,605	0.831	52.2	2725	0	0	0	0						
01/20/13	852,848	(0.1)	813,605	1.048	65.1	4238	0	0	0	0						
01/21/13	961,134	(6.9)	813,605	1.181	71.9	5170	0	0	0	0						
01/22/13	841,471	3.0	813,605	1.034	62.0	3844	0	0	0	0						
01/23/13	839,349	1.9	813,605	1.032	63.1	3982	0	0	0	0						
01/24/13	801,212	10.1	813,605	0.985	54.9	3014	0	0	0	0						
01/25/13	737,493	10.2	813,605	0.906	54.8	3003	0	0	0	0						
01/26/13	630,692	22.2	813,605	0.775	42.8	1832	0	0	0	0						
01/27/13	486,825	31.2	813,605	0.598	33.8	1142	0	0	0	0						
01/28/13	435,624	31.0	813,605	0.535	34.0	1156	0	0	0	0						
01/29/13	483,077	27.1	813,605	0.594	37.9	1436	0	0	0	0						
01/30/13	738,758	5.1	813,605	0.898	55.9	3125	0	0	0	0						
01/31/13	919,319	(5.9)	813,605	1.130	70.9	5027	0	0	0	0						
02/01/13	816,844	0.3	814,223	1.003	64.7	4186	0	0	0	0						
02/02/13	708,072	7.2	814,223	0.870	57.8	3341	0	0	0	0						
02/03/13	692,681	9.7	814,223	0.851	55.3	3058	0	0	0	0						
02/04/13	647,045	15.3	814,223	0.795	49.7	2470	0	0								

Date	Firm Thoughtput	Temperature	Firm Customer	UPC	HDD	HDDx2	Nor	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
02/14/13	554,503	19.2	814,223	0.681	45.8	2098	0	0	1	0						
02/15/13	661,122	9.9	814,223	0.812	55.1	3036	0	0	1	0						
02/16/13	631,804	12.5	814,223	0.776	52.5	2756	0	0	1	0						
02/17/13	508,693	27.9	814,223	0.625	37.1	1376	0	0	1	0						
02/18/13	674,176	14.9	814,223	0.828	50.1	2510	0	0	1	0						
02/19/13	808,222	2.8	814,223	0.993	62.2	3869	0	0	1	0						
02/20/13	706,152	12.0	814,223	0.867	53.0	2809	0	0	1	0						
02/21/13	602,844	20.6	814,223	0.740	44.4	1971	0	0	1	0						
02/22/13	524,048	24.0	814,223	0.644	41.0	1681	0	0	1	0						
02/23/13	520,587	21.6	814,223	0.639	43.4	1884	0	0	1	0						
02/24/13	476,977	28.3	814,223	0.586	36.7	1347	0	0	1	0						
02/25/13	472,546	27.5	814,223	0.580	37.5	1406	0	0	1	0						
02/26/13	464,870	32.3	814,223	0.571	32.7	1069	0	0	1	0						
02/27/13	431,229	32.2	814,223	0.530	32.8	1076	0	0	1	0						
02/28/13	515,657	26.9	814,223	0.633	38.1	1452	0	0	1	0						
03/01/13	533,662	22.0	814,551	0.655	49.0	1849	0	0	0	1						
03/02/13	484,756	23.6	814,551	0.595	41.4	1734	0	0	0	1						
03/03/13	470,739	28.2	814,551	0.578	36.8	1354	0	0	0	1						
03/04/13	535,388	25.5	814,551	0.657	39.5	1560	0	0	0	1						
03/05/13	504,327	25.4	814,551	0.619	39.6	1568	0	0	0	1						
03/06/13	545,786	20.0	814,551	0.670	45.0	2025	0	0	0	1						
03/07/13	486,969	24.7	814,551	0.598	40.3	1624	0	0	0	1						
03/08/13	387,185	35.0	814,551	0.475	30.0	900	0	0	0	1						
03/09/13	393,953	36.1	814,551	0.484	28.9	835	0	0	0	1						
03/10/13	482,549	31.7	814,551	0.592	33.3	1109	0	0	0	1						
03/11/13	507,328	26.6	814,551	0.623	38.4	1475	0	0	0	1						
03/12/13	539,477	23.2	814,551	0.662	41.8	1747	0	0	0	1						
03/13/13	468,207	26.8	814,551	0.575	38.2	1459	0	0	0	1						
03/14/13	371,041	33.8	814,551	0.456	31.2	973	0	0	0	1						
03/15/13	471,024	28.1	814,551	0.578	36.9	1362	0	0	0	1						
03/16/13	547,044	18.0	814,551	0.672	47.0	2209	0	0	0	1						
03/17/13	523,983	25.8	814,551	0.643	39.2	1537	0	0	0	1						
03/18/13	643,074	15.3	814,551	0.789	49.7	2470	0	0	0	1						
03/19/13	658,246	13.4	814,551	0.808	51.6	2663	0	0	0	1						
03/20/13	644,459	14.0	814,551	0.791	51.0	2601	0	0	0	1						
03/21/13	545,252	21.0	814,551	0.669	44.0	1936	0	0	0	1						
03/22/13	441,787	27.9	814,551	0.542	37.1	1376	0	0	0	1						
03/23/13	411,784	32.1	814,551	0.506	32.9	1082	0	0	0	1						
03/24/13	466,804	29.6	814,551	0.573	35.4	1253	0	0	0	1						
03/25/13	407,250	32.2	814,551	0.500	32.8	1076	0	0	0	1						
03/26/13	408,283	31.6	814,551	0.501	33.4	1116	0	0	0	1						
03/27/13	366,039	34.3	814,551	0.449	30.7	942	0	0	0	1						
03/28/13	323,700	37.1	814,551	0.405	27.9	778	0	0	0	1						
03/29/13	380,746	42.8	814,551	0.345	22.2	493	0	0	0	1						
03/30/13	278,436	42.6	814,551	0.342	22.4	502	0	0	0	1						
03/31/13	435,064	29.8	814,551	0.534	35.2	1239	0	0	0	1						
11/01/13	260,159	42.3	818,523	0.318	22.7	515	1	0	0	0						
11/02/13	289,097	42.3	818,523	0.353	22.7	515	1	0	0	0						
11/03/13	236,978	49.2	818,523	0.290	15.8	250	1	0	0	0						
11/04/13	314,108	39.9	818,523	0.384	25.1	630	1	0	0	0						
11/05/13	352,238	36.6	818,523	0.430	28.4	807	1	0	0	0						
11/06/13	370,632	32.9	818,523	0.453	32.1	1030	1	0	0	0						
11/07/13	422,025	29.7	818,523	0.516	35.3	1246	1	0	0	0						
11/08/13	340,633	42.8	818,523	0.416	22.2	493	1	0	0	0						
11/09/13	346,247	38.6	818,523	0.423	26.4	697	1	0	0	0						
11/10/13	355,609	35.8	818,523	0.434	29.2	853	1	0	0	0						
11/11/13	558,987	19.0	818,523	0.683	46.0	2116	1	0	0	0						
11/12/13	519,267	24.8	818,523	0.634	40.2	1616	1	0	0	0						
11/13/13	320,620	42.1	818,523	0.392	22.9	524	1	0	0	0						
11/14/13	316,502	40.3	818,523	0.387	24.7	610	1	0	0	0						
11/15/13	249,500	47.0	818,523	0.305	18.0	324	1	0	0	0						
11/16/13	265,288	45.3	818,523	0.324	19.7	388	1	0	0	0						
11/17/13	380,344	36.0	818,523	0.465	29.0	841	1	0	0	0						
11/18/13	452,662	28.9	818,523	0.553	36.1	1303	1	0	0	0						
11/19/13	343,053	43.2	818,523	0.419	21.8	475	1	0	0	0						
11/20/13	332,804	38.8	818,523	0.407	26.2	686	1	0	0	0						
11/21/13	509,198	25.3	818,523	0.622	39.7	1576	1	0	0	0						
11/22/13	374,041	19.3	818,523	0.701	45.7	2088	1	0	0	0						
11/23/13	663,634	12.7	818,523	0.811	52.3	2735	1	0	0	0						
11/24/13	521,897	28.3	818,523	0.650	36.7	1347	1	0	0	0						
11/25/13	461,092	31.8	818,523	0.563	33.2	1102	1	0	0	0						
11/26/13	632,752	16.5	818,523	0.773	48.5	2352	1	0	0	0						
11/27/13	565,510	22.4	818,523	0.691	42.6	1815	1	0	0	0						
11/28/13	565,579	20.2	818,523	0.691	44.8	2007	1	0	0	0						
11/29/13	505,603	28.4	818,523	0.618	36.6	1340	1	0	0	0						
11/30/13	427,827	31.7	818,523	0.523	33.3	1109	1	0	0	0						
12/01/13	451,675	30.5	820,313	0.551	34.5	1190	0	1	0	0						
12/02/13	410,717	35.1	820,313	0.501	29.9	894	0	1	0	0						
12/03/13	422,560	32.9	820,313	0.515	32.1	1030	0	1	0	0						
12/04/13	569,447	19.6	820,313	0.694	45.4	2061	0	1	0	0						
12/05/13	786,137	2.0	820,313	0.958	63.0	3969	0	1	0	0						
12/06/13	865,403	(3.7)	820,313	1.055	68.7	4720	0	1	0	0						
12/07/13	850,293	(0.4)	820,313	1.037	65.4	4277	0	1	0	0						
12/08/13	745,786	8.3	820,313	0.909	56.7	3215	0	1	0	0						
12/09/13	826,831	1.8	820,313	1.008	63.2	3994	0	1	0	0						
12/10/13	804,486	3.2	820,313	0.981	61.8	3819	0	1	0	0						
12/11/13	847,431	1.3	820,313	1.033	63.7	4058	0	1	0	0						
12/12/13	658,704	16.3	820,313	0.803	48.7	2372	0	1	0	0						
12/13/13	695,246	12.8	820,313	0.848	52.2	2725	0	1	0	0						
12/14/13	747,492	5.8	820,313	0.911	59.2	3505	0	1	0	0						
12/15/13	798,126	2.4	820,313	0.973	62.6	3919	0	1	0	0						
12/16/13	669,197	20.2	820,313	0.816	44.8	2007	0	1	0	0						
12/17/13	636,442	17.4	820,313	0.764	47.6	2366	0	1	0	0						
12/18/13	525,856	27.1	820,313	0.641	37.9	1436	0	1	0	0						
12/19/13	653,216	17.3	820,313	0.796	47.7	2275	0	1	0	0						
12/20/13	615,169	18.4	820,313	0.750	46.6	2172	0	1	0	0						
12/21/13	602,408	19.0	820,313	0.73												

Date	Firm Thoughtput	Temperature	Firm Customer	UPC	HDD	HDDx2	Nor	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
12/30/13	903,236	(2.7)	820,313	1.101	67.7	4583	0	1	0	0						
12/31/13	926,621	(5.0)	820,313	1.130	70.0	4900	0	1	0	0						
01/01/14	892,852	(1.9)	821,220	1.087	66.9	4476	0	0	0	0						
01/02/14	902,940	(2.7)	821,220	1.100	67.7	4583	0	0	0	0						
01/03/14	674,191	22.5	821,220	0.821	42.5	1806	0	0	0	0						
01/04/14	783,780	2.8	821,220	0.954	62.2	3869	0	0	0	0						
01/05/14	1,045,732	(14.5)	821,220	1.273	79.5	6320	0	0	0	0						
01/06/14	1,086,130	(13.8)	821,220	1.323	78.8	6209	0	0	0	0						
01/07/14	909,815	(2.6)	821,220	1.108	67.6	4570	0	0	0	0						
01/08/14	898,060	(1.4)	821,220	1.094	66.4	4409	0	0	0	0						
01/09/14	695,186	17.4	821,220	0.847	47.6	2266	0	0	0	0						
01/10/14	528,248	28.3	821,220	0.643	36.7	1347	0	0	0	0						
01/11/14	520,417	27.3	821,220	0.634	37.7	1421	0	0	0	0						
01/12/14	444,652	34.8	821,220	0.541	30.2	912	0	0	0	0						
01/13/14	484,290	26.9	821,220	0.590	38.1	1452	0	0	0	0						
01/14/14	687,622	10.8	821,220	0.797	54.2	2398	0	0	0	0						
01/15/14	629,869	21.8	821,220	0.797	43.2	1886	0	0	0	0						
01/16/14	755,215	9.0	821,220	0.920	56.0	3136	0	0	0	0						
01/17/14	710,891	9.9	821,220	0.865	55.1	3036	0	0	0	0						
01/18/14	593,127	20.3	821,220	0.722	44.7	1998	0	0	0	0						
01/19/14	458,959	31.6	821,220	0.559	33.4	1116	0	0	0	0						
01/20/14	807,551	0.9	821,220	0.983	64.1	4109	0	0	0	0						
01/21/14	859,867	1.5	821,220	1.047	63.5	4032	0	0	0	0						
01/22/14	939,132	(5.8)	821,220	1.144	70.8	5013	0	0	0	0						
01/23/14	903,346	1.7	821,220	1.100	63.3	4007	0	0	0	0						
01/24/14	623,215	21.9	821,220	0.759	43.1	1858	0	0	0	0						
01/25/14	740,592	6.3	821,220	0.902	58.7	3446	0	0	0	0						
01/26/14	896,955	(1.8)	821,220	1.052	66.8	4462	0	0	0	0	8.1	8.1	0.01484921	0.120278602	821220	98,775
01/27/14	1,013,460	(11.3)	821,220	1.234	76.3	5822	0	0	0	0	9.5	9.5	0.01484921	0.141067496	821220	115,847
01/28/14	934,603	(3.5)	821,220	1.138	68.5	4692	0	0	0	0	(7.8)	7.8	0.01484921	0.115823839	821220	95,117
01/29/14	622,124	23.8	821,220	0.758	41.2	1697	0	0	0	0	(27.3)	27.3	0.01484921	0.405383437	821220	332,909
01/30/14	765,957	3.2	821,220	0.933	61.8	3819	0	0	0	0						
01/31/14	767,161	4.3	821,220	0.934	60.7	3684	0	0	0	0						
02/01/14	742,210	6.2	821,951	0.903	58.8	3457	0	0	1	0						
02/02/14	767,201	4.6	821,951	0.933	60.4	3648	0	0	1	0						
02/03/14	747,100	7.8	821,951	0.909	57.2	3272	0	0	1	0						
02/04/14	813,285	3.5	821,951	0.989	61.5	3782	0	0	1	0						
02/05/14	903,288	(2.6)	821,951	1.099	67.6	4570	0	0	1	0	6.1	6.1	0.01484921	0.090580182	821951	74,452
02/06/14	875,965	(0.8)	821,951	1.066	65.8	4330	0	0	1	0	(1.8)	1.8	0.01484921	0.026728578	821951	21,970
02/07/14	802,105	5.0	821,951	0.976	60.0	3600	0	0	1	0						
02/08/14	762,332	7.4	821,951	0.927	57.6	3318	0	0	1	0						
02/09/14	863,250	(2.7)	821,951	1.050	67.7	4583	0	0	1	0	10.1	10.1	0.01484921	0.149977022	821951	123,274
02/10/14	878,879	(2.0)	821,951	1.089	67.0	4489	0	0	1	0	(0.7)	0.7	0.01484921	0.010394447	821951	8,544
02/11/14	747,125	11.3	821,951	0.909	53.7	2884	0	0	1	0						
02/12/14	599,842	20.4	821,951	0.730	44.6	1989	0	0	1	0						
02/13/14	713,019	10.6	821,951	0.867	54.4	2959	0	0	1	0						
02/14/14	726,273	7.5	821,951	0.884	57.5	3306	0	0	1	0						
02/15/14	680,208	14.8	821,951	0.828	50.2	2520	0	0	1	0						
02/16/14	621,395	19.0	821,951	0.756	46.0	2116	0	0	1	0						
02/17/14	552,739	22.9	821,951	0.672	42.1	1772	0	0	1	0						
02/18/14	438,311	31.5	821,951	0.533	33.5	1122	0	0	1	0						
02/19/14	407,689	34.4	821,951	0.496	30.6	936	0	0	1	0						
02/20/14	551,513	21.8	821,951	0.671	43.2	1866	0	0	1	0						
02/21/14	682,078	11.0	821,951	0.830	54.0	2916	0	0	1	0						
02/22/14	691,246	8.6	821,951	0.841	56.4	3181	0	0	1	0						
02/23/14	716,126	8.3	821,951	0.871	56.7	3215	0	0	1	0						
02/24/14	763,209	5.0	821,951	0.929	60.0	3600	0	0	1	0						
02/25/14	861,631	(2.4)	821,951	1.048	67.4	4543	0	0	1	0	(7.4)	7.4	0.01484921	0.109884155	821951	90,319
02/26/14	857,478	(3.2)	821,951	1.043	68.2	4651	0	0	1	0	0.8	0.8	0.01484921	0.011879368	821951	9,764
02/27/14	883,960	(5.0)	821,951	1.075	70.0	4900	0	0	1	0	1.8	1.8	0.01484921	0.026728578	821951	21,970
02/28/14	797,741	6.5	821,951	0.971	58.5	3422	0	0	1	0	(11.5)	11.5	0.01484921	0.170765916	821951	140,361
03/01/14	931,911	(6.3)	822,177	1.133	71.3	5084	0	0	0	1	12.8	12.8	0.01484921	0.19006889	822177	156,271
03/02/14	893,144	(3.8)	822,177	1.086	68.8	4733	0	0	0	1	(2.5)	2.5	0.01484921	0.037123025	822177	30,522
03/03/14	793,372	6.7	822,177	0.965	58.3	3399	0	0	0	1						
03/04/14	654,645	16.0	822,177	0.796	49.0	2401	0	0	0	1						
03/05/14	598,914	18.0	822,177	0.728	47.0	2209	0	0	0	1						
03/06/14	564,977	24.3	822,177	0.687	40.7	1606	0	0	0	1						
03/07/14	540,896	25.2	822,177	0.688	39.8	1584	0	0	0	1						
03/08/14	500,163	22.9	822,177	0.608	42.1	1772	0	0	0	1						
03/09/14	393,788	38.0	822,177	0.479	27.0	729	0	0	0	1						
03/10/14	291,729	44.0	822,177	0.355	21.0	441	0	0	0	1						
03/11/14	431,105	32.3	822,177	0.524	32.7	1069	0	0	0	1						
03/12/14	483,403	24.8	822,177	0.588	40.2	1616	0	0	0	1						
03/13/14	307,016	42.7	822,177	0.373	22.3	497	0	0	0	1						
03/14/14	418,521	31.3	822,177	0.509	33.7	1136	0	0	0	1						
03/15/14	526,833	22.5	822,177	0.641	42.5	1806	0	0	0	1						
03/16/14	531,181	22.6	822,177	0.646	42.4	1798	0	0	0	1						
03/17/14	450,154	31.5	822,177	0.548	33.5	1122	0	0	0	1						
03/18/14	454,709	30.7	822,177	0.553	34.3	1176	0	0	0	1						
03/19/14	463,131	29.8	822,177	0.563	35.2	1239	0	0	0	1						
03/20/14	351,375	35.7	822,177	0.427	29.3	858	0	0	0	1						
03/21/14	495,618	27.0	822,177	0.603	38.0	1444	0	0	0	1						
03/22/14	621,205	15.1	822,177	0.756	49.9	2490	0	0	0	1						
03/23/14	577,846	21.0	822,177	0.703	44.0	1936	0	0	0	1						
03/24/14	573,786	21.6	822,177	0.698	43.4	1884	0	0	0	1						
03/25/14	602,373	18.6	822,177	0.733	46.4	2153	0	0	0	1						
03/26/14	414,848	36.9	822,177	0.505	28.1	790	0	0	0	1						
03/27/14	439,292	32.6	822,177	0.534	32.4	1050	0	0	0	1						
03/28/14	429,334	30.5	822,177	0.522	34.5	1190	0	0	0	1						
03/29/14	334,433	38.4	822,177	0.487	26.8	708	0	0	0	1						
03/30/14	225,216	50.6	822,177	0.274	14.4	297	0	0	0	1						
03/31/14	327,421	39.3	822,177	0.												

Date	Firm Thoughtput	Temperature	Firm Customer	UPC	HDD	HDDx2	Nov	Dec	Jan	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
11/14/14	613,431	13.3	827,395	0.741	51.7	2673	1	0	0	0	0						
11/15/14	585,907	18.0	827,395	0.708	47.0	2209	1	0	0	0	0						
11/16/14	659,920	10.8	827,395	0.798	54.2	2938	1	0	0	0	0						
11/17/14	714,806	10.5	827,395	0.864	54.5	2970	1	0	0	0	0						
11/18/14	644,371	16.5	827,395	0.779	48.5	2352	1	0	0	0	0						
11/19/14	626,852	17.6	827,395	0.758	47.4	2247	1	0	0	0	0						
11/20/14	681,400	10.6	827,395	0.824	54.4	2959	1	0	0	0	0						
11/21/14	517,790	30.3	827,395	0.626	34.7	1204	1	0	0	0	0						
11/22/14	372,244	40.0	827,395	0.450	25.0	625	1	0	0	0	0						
11/23/14	384,723	35.6	827,395	0.465	29.4	864	1	0	0	0	0						
11/24/14	651,368	15.9	827,395	0.787	49.1	2411	1	0	0	0	0						
11/25/14	573,152	22.3	827,395	0.693	42.7	1823	1	0	0	0	0						
11/26/14	632,391	14.1	827,395	0.764	50.9	2591	1	0	0	0	0						
11/27/14	691,455	7.9	827,395	0.836	57.1	3280	1	0	0	0	0						
11/28/14	576,828	21.9	827,395	0.697	43.1	1858	1	0	0	0	0						
11/29/14	495,652	24.8	827,395	0.599	40.2	1616	1	0	0	0	0						
11/30/14	759,517	6.8	827,395	0.918	58.2	3187	1	0	0	0	0						
12/01/14	790,337	6.0	829,243	0.953	59.0	3481	0	1	0	0	0						
12/02/14	667,030	17.8	829,243	0.804	47.2	2228	0	1	0	0	0						
12/03/14	624,334	17.8	829,243	0.753	47.2	2228	0	1	0	0	0						
12/04/14	499,938	29.0	829,243	0.603	36.0	1296	0	1	0	0	0						
12/05/14	498,939	26.8	829,243	0.602	38.2	1459	0	1	0	0	0						
12/06/14	500,326	26.3	829,243	0.603	38.7	1498	0	1	0	0	0						
12/07/14	458,325	33.6	829,243	0.553	31.4	986	0	1	0	0	0						
12/08/14	557,999	23.2	829,243	0.673	41.8	1747	0	1	0	0	0						
12/09/14	577,244	21.3	829,243	0.697	43.7	1910	0	1	0	0	0						
12/10/14	518,127	26.9	829,243	0.625	38.1	1452	0	1	0	0	0						
12/11/14	467,898	31.1	829,243	0.564	33.9	1149	0	1	0	0	0						
12/12/14	400,232	35.9	829,243	0.483	29.1	847	0	1	0	0	0						
12/13/14	284,196	45.8	829,243	0.343	19.2	369	0	1	0	0	0						
12/14/14	258,361	48.3	829,243	0.312	16.7	279	0	1	0	0	0						
12/15/14	405,457	33.9	829,243	0.489	31.1	967	0	1	0	0	0						
12/16/14	638,372	16.4	829,243	0.770	48.6	2362	0	1	0	0	0						
12/17/14	652,468	15.5	829,243	0.787	49.5	2450	0	1	0	0	0						
12/18/14	596,151	20.5	829,243	0.719	44.5	1980	0	1	0	0	0						
12/19/14	501,724	28.4	829,243	0.605	36.6	1340	0	1	0	0	0						
12/20/14	459,592	31.6	829,243	0.554	33.4	1116	0	1	0	0	0						
12/21/14	410,299	36.5	829,243	0.495	28.5	812	0	1	0	0	0						
12/22/14	406,959	35.3	829,243	0.491	29.7	882	0	1	0	0	0						
12/23/14	412,973	34.9	829,243	0.498	30.1	906	0	1	0	0	0						
12/24/14	412,651	32.5	829,243	0.498	32.5	1056	0	1	0	0	0						
12/25/14	414,740	32.7	829,243	0.490	32.3	1043	0	1	0	0	0						
12/26/14	481,652	28.3	829,243	0.581	36.7	1347	0	1	0	0	0						
12/27/14	590,972	15.2	829,243	0.713	49.8	2480	0	1	0	0	0						
12/28/14	663,340	12.7	829,243	0.800	52.3	2735	0	1	0	0	0						
12/29/14	854,543	0.7	829,243	1.031	64.3	4134	0	1	0	0	0						
12/30/14	940,053	(2.4)	829,243	1.134	67.4	4543	0	1	0	0	0						
12/31/14	776,560	11.7	829,243	0.936	53.3	2841	0	1	0	0	0						
01/01/15	618,564	18.6	821,220	0.753	46.4	2153	0	0	0	0	0						
01/02/15	586,794	24.1	830,376	0.707	40.9	1673	0	0	0	0	0						
01/03/15	663,484	15.6	830,376	0.799	49.4	2440	0	0	0	0	0						
01/04/15	950,644	(5.9)	830,376	1.145	70.9	5027	0	0	0	0	0	(21.5)	21.5	0.01484921	0.319258018	830376	265,104
01/05/15	944,214	(2.8)	830,376	1.137	67.8	4597	0	0	0	0	0	(3.1)	3.1	0.01484921	0.046032551	830376	38,224
01/06/15	939,937	(0.4)	830,376	1.132	65.4	4277	0	0	0	0	0	(2.4)	2.4	0.01484921	0.035638104	830376	29,593
01/07/15	949,471	(2.4)	830,376	1.143	67.4	4543	0	0	0	0	0	2.0	2	0.01484921	0.02969842	830376	24,661
01/08/15	879,746	5.1	830,376	1.059	59.9	3588	0	0	0	0	0						
01/09/15	876,851	0.7	830,376	1.056	64.3	4134	0	0	0	0	0						
01/10/15	772,023	9.8	830,376	0.930	55.2	3047	0	0	0	0	0						
01/11/15	783,629	6.7	830,376	0.944	58.3	3399	0	0	0	0	0						
01/12/15	911,739	(2.5)	830,376	1.098	67.5	4556	0	0	0	0	0						
01/13/15	756,958	13.4	830,376	0.912	51.6	2663	0	0	0	0	0						
01/14/15	590,481	22.5	830,376	0.711	42.5	1806	0	0	0	0	0						
01/15/15	507,661	29.2	830,376	0.611	35.8	1282	0	0	0	0	0						
01/16/15	514,955	28.1	830,376	0.620	36.9	1362	0	0	0	0	0						
01/17/15	466,621	32.9	830,376	0.562	32.1	1030	0	0	0	0	0						
01/18/15	454,265	30.5	830,376	0.547	34.5	1190	0	0	0	0	0						
01/19/15	441,767	32.4	830,376	0.537	32.6	1083	0	0	0	0	0						
01/20/15	491,325	29.0	830,376	0.593	36.0	1286	0	0	0	0	0						
01/21/15	525,076	26.6	830,376	0.632	38.4	1475	0	0	0	0	0						
01/22/15	541,206	26.7	830,376	0.652	38.3	1467	0	0	0	0	0						
01/23/15	427,079	32.6	830,376	0.514	32.4	1050	0	0	0	0	0						
01/24/15	402,152	33.5	830,376	0.494	31.5	992	0	0	0	0	0						
01/25/15	521,748	24.6	830,376	0.628	40.4	1632	0	0	0	0	0						
01/26/15	395,529	37.1	830,376	0.476	27.9	778	0	0	0	0	0						
01/27/15	456,665	30.9	830,376	0.550	34.1	1163	0	0	0	0	0						
01/28/15	485,348	30.6	830,376	0.584	34.4	1183	0	0	0	0	0						
01/29/15	611,743	19.9	830,376	0.737	45.1	2034	0	0	0	0	0						
01/30/15	560,072	23.0	830,376	0.674	42.0	1764	0	0	0	0	0						
01/31/15	593,192	22.4	830,376	0.714	42.6	1815	0	0	0	0	0						
02/01/15	762,696	8.6	831,145	0.918	56.4	3181	0	0	1	0	0						
02/02/15	749,680	9.5	831,145	0.902	55.5	3080	0	0	1	0	0						
02/03/15	702,139	13.5	831,145	0.845	51.5	2652	0	0	1	0	0						
02/04/15	795,294	3.7	831,145	0.957	61.3	3758	0	0	1	0	0						
02/05/15	701,447	14.8	831,145	0.844	50.2	2520	0	0	1	0	0						
02/06/15	531,220	23.8	831,145	0.639	41.2	1697	0	0	1	0	0						
02/07/15	456,349	30.8	831,145	0.549	34.2	1170	0	0	1	0	0						
02/08/15	537,857	25.2	831,145	0.647	39.8	1584	0	0	1	0	0						
02/09/15	500,250	25.6	831,145	0.602	39.4	1552	0	0	1	0	0						
02/10/15	581,851	24.5	831,145	0.700	40.5	1640	0	0	1	0	0						
02/11/15	772,821	6.5	831,145	0.930	58.5	3422	0	0	1	0	0						
02/12/15	768,543	8.4	831,145	0.925	56.8	3294	0										

Date	Firm Thoughtput	Temperature	Firm Customer	UPC	HDD	HDDx2	Nor	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
02/27/15	774,493	6.7	831,145	0.932	58.3	3399	0	0	1	0						
02/28/15	685,372	15.5	831,145	0.825	49.5	2450	0	0	1	0						
03/01/15	627,674	19.5	831,261	0.755	45.5	2070	0	0	0	1						
03/02/15	570,691	22.1	831,261	0.687	42.9	1840	0	0	0	1						
03/03/15	691,313	12.7	831,261	0.832	52.3	2735	0	0	0	1						
03/04/15	842,930	1.8	831,261	1.014	63.2	3994	0	0	0	1						
03/05/15	725,944	10.7	831,261	0.873	54.3	2948	0	0	0	1						
03/06/15	470,830	31.8	831,261	0.566	33.2	1102	0	0	0	1						
03/07/15	881,236	35.9	831,261	0.459	29.1	847	0	0	0	1						
03/08/15	355,291	39.5	831,261	0.427	25.5	650	0	0	0	1						
03/09/15	298,854	46.8	831,261	0.360	18.2	331	0	0	0	1						
03/10/15	262,695	46.4	831,261	0.316	18.6	346	0	0	0	1						
03/11/15	252,506	46.0	831,261	0.304	19.0	361	0	0	0	1						
03/12/15	212,362	53.5	831,261	0.255	11.5	132	0	0	0	1						
03/13/15	231,551	46.7	831,261	0.279	18.3	335	0	0	0	1						
03/14/15	219,062	50.3	831,261	0.264	14.7	216	0	0	0	1						
03/15/15	173,085	58.2	831,261	0.208	6.8	46	0	0	0	1						
03/16/15	291,340	42.7	831,261	0.351	22.3	497	0	0	0	1						
03/17/15	355,797	37.0	831,261	0.428	28.0	784	0	0	0	1						
03/18/15	354,330	40.0	831,261	0.435	25.0	625	0	0	0	1						
03/19/15	312,948	43.3	831,261	0.376	22.7	515	0	0	0	1						
03/20/15	300,948	41.1	831,261	0.362	23.9	571	0	0	0	1						
03/21/15	395,428	33.2	831,261	0.476	31.8	1011	0	0	0	1						
03/22/15	457,962	31.0	831,261	0.551	34.0	1156	0	0	0	1						
03/23/15	451,317	28.5	831,261	0.543	36.5	1332	0	0	0	1						
03/24/15	419,337	33.0	831,261	0.504	32.0	1024	0	0	0	1						
03/25/15	459,571	33.5	831,261	0.553	31.5	992	0	0	0	1						
03/26/15	489,174	28.1	831,261	0.588	36.9	1362	0	0	0	1						
03/27/15	436,770	27.8	831,261	0.525	37.2	1384	0	0	0	1						
03/28/15	359,926	36.7	831,261	0.433	28.3	801	0	0	0	1						
03/29/15	321,955	44.0	831,261	0.387	21.0	441	0	0	0	1						
03/30/15	270,307	44.5	831,261	0.325	20.5	420	0	0	0	1						
03/31/15	180,486	54.0	831,261	0.217	11.0	121	0	0	0	1						
11/01/15	186,784	50.7	835,774	0.223	14.3	204	1	0	0	0						
11/02/15	138,970	56.5	835,774	0.166	8.5	72	1	0	0	0						
11/03/15	109,063	57.6	835,774	0.130	7.4	55	1	0	0	0						
11/04/15	115,379	60.4	835,774	0.138	4.6	21	1	0	0	0						
11/05/15	183,702	48.6	835,774	0.220	16.4	269	1	0	0	0						
11/06/15	276,913	40.7	835,774	0.331	24.3	590	1	0	0	0						
11/07/15	259,975	44.8	835,774	0.311	20.2	408	1	0	0	0						
11/08/15	203,064	51.0	835,774	0.240	14.0	196	1	0	0	0						
11/09/15	184,528	49.3	835,774	0.221	15.7	246	1	0	0	0						
11/10/15	182,491	50.5	835,774	0.218	14.5	210	1	0	0	0						
11/11/15	241,315	46.1	835,774	0.289	18.9	357	1	0	0	0						
11/12/15	350,921	37.4	835,774	0.420	27.6	762	1	0	0	0						
11/13/15	325,752	37.6	835,774	0.390	27.4	751	1	0	0	0						
11/14/15	239,847	47.4	835,774	0.287	17.6	310	1	0	0	0						
11/15/15	173,240	53.7	835,774	0.207	11.3	128	1	0	0	0						
11/16/15	219,808	48.8	835,774	0.263	16.2	262	1	0	0	0						
11/17/15	182,261	53.7	835,774	0.218	11.3	128	1	0	0	0						
11/18/15	299,903	40.3	835,774	0.359	24.7	610	1	0	0	0						
11/19/15	483,830	30.3	835,774	0.579	34.7	1204	1	0	0	0						
11/20/15	508,067	24.5	835,774	0.608	40.5	1640	1	0	0	0						
11/21/15	512,731	22.3	835,774	0.613	42.7	1823	1	0	0	0						
11/22/15	460,295	28.6	835,774	0.551	36.4	1325	1	0	0	0						
11/23/15	376,597	35.5	835,774	0.451	29.5	870	1	0	0	0						
11/24/15	349,079	39.3	835,774	0.418	25.7	660	1	0	0	0						
11/25/15	312,036	41.6	835,774	0.373	23.4	548	1	0	0	0						
11/26/15	479,519	25.6	835,774	0.574	39.4	1552	1	0	0	0						
11/27/15	552,812	20.1	835,774	0.661	44.9	2016	1	0	0	0						
11/28/15	508,314	24.0	835,774	0.608	41.0	1681	1	0	0	0						
11/29/15	451,483	30.7	835,774	0.540	34.3	1176	1	0	0	0						
11/30/15	437,944	33.0	835,774	0.524	32.0	1024	1	0	0	0						
12/01/15	442,535	29.5	837,760	0.528	35.5	1260	0	1	0	0						
12/02/15	447,929	30.4	837,760	0.535	34.8	1197	0	1	0	0						
12/03/15	472,297	28.2	837,760	0.564	36.8	1394	0	1	0	0						
12/04/15	368,145	39.1	837,760	0.499	25.9	671	0	1	0	0						
12/05/15	328,862	41.1	837,760	0.393	23.9	571	0	1	0	0						
12/06/15	403,379	33.8	837,760	0.481	31.2	973	0	1	0	0						
12/07/15	374,391	37.3	837,760	0.447	27.7	767	0	1	0	0						
12/08/15	381,841	36.8	837,760	0.456	28.2	795	0	1	0	0						
12/09/15	327,136	42.7	837,760	0.390	22.3	497	0	1	0	0						
12/10/15	334,222	41.0	837,760	0.399	24.0	576	0	1	0	0						
12/11/15	363,681	36.8	837,760	0.434	28.2	795	0	1	0	0						
12/12/15	343,595	39.6	837,760	0.410	25.4	645	0	1	0	0						
12/13/15	368,992	38.5	837,760	0.440	26.5	702	0	1	0	0						
12/14/15	437,799	33.2	837,760	0.523	31.8	1011	0	1	0	0						
12/15/15	436,476	34.2	837,760	0.521	30.8	949	0	1	0	0						
12/16/15	488,553	29.6	837,760	0.583	35.4	1253	0	1	0	0						
12/17/15	603,595	20.8	837,760	0.720	44.2	1954	0	1	0	0						
12/18/15	698,006	13.1	837,760	0.833	51.9	2694	0	1	0	0						
12/19/15	566,103	25.3	837,760	0.676	39.7	1576	0	1	0	0						
12/20/15	434,205	34.4	837,760	0.518	30.6	936	0	1	0	0						
12/21/15	458,336	31.3	837,760	0.547	33.7	1136	0	1	0	0						
12/22/15	447,446	33.7	837,760	0.534	31.3	980	0	1	0	0						
12/23/15	471,586	29.4	837,760	0.563	35.6	1267	0	1	0	0						
12/24/15	512,214	25.7	837,760	0.611	39.3	1544	0	1	0	0						
12/25/15	475,231	28.4	837,760	0.567	36.6	1340	0	1	0	0						
12/26/15	508,144	27.1	837,760	0.607	37.9	1436	0	1	0	0						
12/27/15	640,955	15.6	837,760	0.765	49.4	2440	0	1	0	0						
12/28/15	638,266	21.7	837,760	0.762	43.3	1875	0	1	0	0						
12/29/15	564,844	22.7	837,760	0.674	42.3	1789	0	1	0	0						
12/30/15	595,136	18.7	837,760	0.710	46.3	2144	0	1	0	0						
12/31/15	642,391	16.6	837,760	0.767	48.4	2343	0	1	0	0						
01/01/16	572,008	21.3	838,290	0.682	42.7	1910	0	0	0	0						
01/02/16	523,491	26.5	838,290	0.624	38.5	1482	0	0	0	0	</					

Date	Firm Thoughtput	Temperature	Firm Customer	UPC	HDD	HDDx2	Nor	Dec	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
01/12/16	888,242	(1.4)	839,290	1.058	66.4	4409	0	0	0	0						
01/13/16	670,113	17.6	839,290	0.798	47.4	2247	0	0	0	0						
01/14/16	586,633	23.5	839,290	0.699	41.5	1722	0	0	0	0						
01/15/16	707,301	12.6	839,290	0.843	52.4	2746	0	0	0	0						
01/16/16	955,546	(6.7)	839,290	1.139	71.7	5141	0	0	0	0	(19.3)	19.3	0.01484921	0.286589756	839290	240,532
01/17/16	994,146	(8.2)	839,290	1.185	73.2	5358	0	0	0	0	1.5	1.5	0.01484921	0.022273815	839290	18,694
01/18/16	958,427	(2.8)	839,290	1.142	67.8	4597	0	0	0	0	(5.4)	5.4	0.01484921	0.080185735	839290	67,299
01/19/16	824,586	7.2	839,290	0.982	57.8	3341	0	0	0	0	(10.0)	10	0.01484921	0.148492101	839290	124,628
01/20/16	647,507	20.3	839,290	0.771	44.7	1998	0	0	0	0						
01/21/16	620,688	20.9	839,290	0.740	44.1	1945	0	0	0	0						
01/22/16	617,111	20.6	839,290	0.735	44.4	1971	0	0	0	0						
01/23/16	593,340	22.8	839,290	0.707	42.2	1781	0	0	0	0						
01/24/16	508,263	28.5	839,290	0.606	36.5	1332	0	0	0	0						
01/25/16	535,877	26.9	839,290	0.638	38.1	1452	0	0	0	0						
01/26/16	595,250	22.1	839,290	0.709	42.9	1840	0	0	0	0						
01/27/16	485,924	36.0	839,290	0.679	29.0	841	0	0	0	0						
01/28/16	547,422	24.7	839,290	0.652	40.3	1624	0	0	0	0						
01/29/16	481,940	31.0	839,290	0.574	34.0	1156	0	0	0	0						
01/30/16	408,721	36.7	839,290	0.487	28.3	801	0	0	0	0						
01/31/16	435,251	31.9	839,290	0.519	33.1	1096	0	0	0	0						
02/01/16	490,305	29.7	839,679	0.584	35.3	1246	0	0	1	0						
02/02/16	579,907	24.7	839,679	0.691	40.3	1624	0	0	1	0						
02/03/16	630,886	15.3	839,679	0.751	49.7	2470	0	0	1	0						
02/04/16	653,631	16.4	839,679	0.778	48.6	2362	0	0	1	0						
02/05/16	571,112	24.8	839,679	0.680	40.2	1616	0	0	1	0						
02/06/16	453,128	34.3	839,679	0.540	30.7	942	0	0	1	0						
02/07/16	563,434	24.3	839,679	0.671	40.7	1656	0	0	1	0						
02/08/16	754,508	11.9	839,679	0.899	53.1	2820	0	0	1	0						
02/09/16	758,905	9.7	839,679	0.904	55.3	3058	0	0	1	0						
02/10/16	776,442	8.5	839,679	0.925	56.5	3192	0	0	1	0						
02/11/16	719,315	13.0	839,679	0.857	52.0	2704	0	0	1	0						
02/12/16	834,719	2.5	839,679	0.994	62.5	3906	0	0	1	0						
02/13/16	763,627	7.8	839,679	0.909	57.2	3272	0	0	1	0						
02/14/16	672,416	18.0	839,679	0.801	47.0	2209	0	0	1	0						
02/15/16	486,405	30.3	839,679	0.579	34.7	1204	0	0	1	0						
02/16/16	541,235	24.4	839,679	0.645	40.6	1648	0	0	1	0						
02/17/16	538,297	26.9	839,679	0.641	38.1	1452	0	0	1	0						
02/18/16	435,593	37.4	839,679	0.519	27.6	762	0	0	1	0						
02/19/16	382,817	40.3	839,679	0.456	24.7	610	0	0	1	0						
02/20/16	427,988	33.4	839,679	0.510	31.6	999	0	0	1	0						
02/21/16	460,019	31.7	839,679	0.548	33.3	1109	0	0	1	0						
02/22/16	444,186	33.0	839,679	0.529	32.0	1024	0	0	1	0						
02/23/16	433,803	35.7	839,679	0.517	29.3	898	0	0	1	0						
02/24/16	456,317	32.7	839,679	0.543	32.3	1043	0	0	1	0						
02/25/16	487,889	28.7	839,679	0.581	36.3	1318	0	0	1	0						
02/26/16	383,094	36.2	839,679	0.456	28.8	829	0	0	1	0						
02/27/16	561,306	47.0	839,679	0.311	18.0	324	0	0	1	0						
02/28/16	469,182	32.8	839,679	0.559	32.2	1037	0	0	1	0						
02/29/16	571,942	20.6	839,679	0.681	44.4	1971	0	0	1	0						
03/01/16	604,214	18.7	839,821	0.719	46.3	2144	0	0	0	1						
03/02/16	503,024	26.4	839,821	0.599	38.6	1490	0	0	0	1						
03/03/16	473,071	30.9	839,821	0.563	34.1	1163	0	0	0	1						
03/04/16	462,937	33.1	839,821	0.551	31.9	1018	0	0	0	1						
03/05/16	421,111	33.2	839,821	0.501	31.8	1011	0	0	0	1						
03/06/16	263,251	48.0	839,821	0.313	17.0	289	0	0	0	1						
03/07/16	162,870	58.2	839,821	0.194	6.8	46	0	0	0	1						
03/08/16	209,168	49.3	839,821	0.249	15.7	246	0	0	0	1						
03/09/16	366,032	37.5	839,821	0.436	27.5	756	0	0	0	1						
03/10/16	351,183	39.2	839,821	0.418	25.8	666	0	0	0	1						
03/11/16	184,191	55.8	839,821	0.219	9.2	85	0	0	0	1						
03/12/16	138,386	56.8	839,821	0.165	8.2	67	0	0	0	1						
03/13/16	211,457	51.4	839,821	0.252	13.6	185	0	0	0	1						
03/14/16	176,403	53.6	839,821	0.210	11.4	130	0	0	0	1						
03/15/16	240,550	48.1	839,821	0.286	16.9	286	0	0	0	1						
03/16/16	343,811	41.0	839,821	0.409	24.0	576	0	0	0	1						
03/17/16	395,690	36.0	839,821	0.471	29.0	841	0	0	0	1						
03/18/16	437,428	32.0	839,821	0.521	33.0	1089	0	0	0	1						
03/19/16	416,389	31.7	839,821	0.486	31.3	980	0	0	0	1						
03/20/16	386,858	35.3	839,821	0.461	29.7	882	0	0	0	1						
03/21/16	302,660	44.3	839,821	0.360	20.7	428	0	0	0	1						
03/22/16	305,767	41.8	839,821	0.364	23.2	538	0	0	0	1						
03/23/16	468,691	30.7	839,821	0.558	34.3	1176	0	0	0	1						
03/24/16	366,263	36.2	839,821	0.436	28.8	829	0	0	0	1						
03/25/16	305,318	42.4	839,821	0.364	22.6	511	0	0	0	1						
03/26/16	295,649	44.3	839,821	0.352	20.7	428	0	0	0	1						
03/27/16	371,481	36.2	839,821	0.442	28.8	829	0	0	0	1						
03/28/16	235,553	48.1	839,821	0.280	16.9	286	0	0	0	1						
03/29/16	196,464	52.5	839,821	0.234	12.5	156	0	0	0	1						
03/30/16	281,201	44.3	839,821	0.335	20.7	428	0	0	0	1						
03/31/16	288,851	42.5	839,821	0.344	22.5	506	0	0	0	1						
11/01/16	175,112	51.1	844,030	0.207	13.9	193	1	0	0	0						
11/02/16	186,457	52.1	844,030	0.221	12.9	166	1	0	0	0						
11/03/16	172,006	52.3	844,030	0.205	12.7	161	1	0	0	0						
11/04/16	156,495	55.0	844,030	0.185	10.0	100	1	0	0	0						
11/05/16	136,107	57.5	844,030	0.161	7.5	56	1	0	0	0						
11/06/16	132,000	56.2	844,030	0.156	8.8	77	1	0	0	0						
11/07/16	162,791	54.3	844,030	0.193	10.7	114	1	0	0	0						
11/08/16	215,220	47.0	844,030	0.255	18.0	324	1	0	0	0						
11/09/16	190,901	51.7	844,030	0.226	13.3	177	1	0	0	0						
11/10/16	174,519	53.0	844,030	0.207	12.0	144	1	0	0	0						
11/11/16	276,877	46.8	844,030	0.328	24.2	586	1	0	0	0						
11/12/16	240,979	46.9	844,030	0.287	18.1	328	1	0	0	0						
11/13/16	194,389	50.8	844,030	0.230	14.2	202	1	0	0	0						
11/14/16	270,644	43.8	844,030	0.321	21.2	449	1	0	0	0						
11/15/16	243,154	52.8	844,030													

Date	Firm Thoughtput	Temperature	Firm Customer	UPC	HDD	HDDx2	Nov	Dec	Jan	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
11/26/16	367,075	36.7	844,030	0.435	28.3	801	1	0	0	0							
11/27/16	353,286	42.6	844,030	0.419	22.4	502	1	0	0	0							
11/28/16	307,191	43.1	844,030	0.364	21.9	480	1	0	0	0							
11/29/16	383,639	36.5	844,030	0.455	28.5	812	1	0	0	0							
11/30/16	378,645	36.8	844,030	0.449	28.2	795	1	0	0	0							
12/01/16	412,205	34.3	846,190	0.487	30.7	942	0	1	0	0							
12/02/16	449,261	31.0	846,190	0.531	34.0	1156	0	1	0	0							
12/03/16	431,996	31.1	846,190	0.511	33.9	1149	0	1	0	0							
12/04/16	433,045	33.7	846,190	0.512	31.3	980	0	1	0	0							
12/05/16	443,207	34.7	846,190	0.524	30.3	918	0	1	0	0							
12/06/16	649,187	19.8	846,190	0.767	45.2	2043	0	1	0	0							
12/07/16	692,149	17.7	846,190	0.818	47.3	2237	0	1	0	0							
12/08/16	667,661	19.2	846,190	0.789	45.8	2098	0	1	0	0							
12/09/16	722,310	11.5	846,190	0.854	53.5	2862	0	1	0	0							
12/10/16	747,781	12.7	846,190	0.894	52.3	2735	0	1	0	0							
12/11/16	675,130	14.0	846,190	0.798	51.0	2601	0	1	0	0							
12/12/16	810,749	0.8	846,190	0.958	64.2	4122	0	1	0	0							
12/13/16	816,375	6.7	846,190	0.985	58.3	3399	0	1	0	0							
12/14/16	906,821	(0.7)	846,190	1.072	65.7	4316	0	1	0	0							
12/15/16	858,236	2.4	846,190	1.014	62.6	3919	0	1	0	0							
12/16/16	748,094	10.3	846,190	0.884	54.7	2992	0	1	0	0							
12/17/16	924,144	(5.5)	846,190	1.092	70.5	4970	0	1	0	0		(15.8)	15.8	0.01484921	0.23461752	846190	198,531
12/18/16	949,490	(3.5)	846,190	1.122	68.5	4692	0	1	0	0		(2.0)	2	0.01484921	0.02969842	846190	25,131
12/19/16	653,564	22.9	846,190	0.772	42.1	1772	0	1	0	0							
12/20/16	504,791	30.2	846,190	0.597	34.8	1211	0	1	0	0							
12/21/16	481,764	32.1	846,190	0.569	32.9	1082	0	1	0	0							
12/22/16	469,187	33.0	846,190	0.554	32.0	1024	0	1	0	0							
12/23/16	441,706	34.0	846,190	0.522	31.0	961	0	1	0	0							
12/24/16	433,442	33.5	846,190	0.512	31.5	992	0	1	0	0							
12/25/16	479,853	34.0	846,190	0.567	31.0	961	0	1	0	0							
12/26/16	675,647	19.3	846,190	0.798	45.7	2088	0	1	0	0							
12/27/16	600,180	21.7	846,190	0.709	43.3	1875	0	1	0	0							
12/28/16	492,010	31.6	846,190	0.581	33.4	1116	0	1	0	0							
12/29/16	573,787	25.6	846,190	0.678	39.4	1552	0	1	0	0							
12/30/16	542,298	27.7	846,190	0.641	37.3	1391	0	1	0	0							
12/31/16	549,247	24.0	846,190	0.649	41.0	1681	0	1	0	0							
01/01/17	508,549	28.5	847,652	0.600	36.5	1332	0	0	0	0							
01/02/17	511,975	30.8	847,652	0.604	34.2	1170	0	0	0	0							
01/03/17	846,397	5.0	847,652	0.999	60.0	3600	0	0	0	0							
01/04/17	940,889	(1.0)	847,652	1.109	66.0	4356	0	0	0	0		(6.0)	6	0.01484921	0.089095261	847652	75,522
01/05/17	978,992	(4.5)	847,652	1.155	69.5	4830	0	0	0	0		3.5	3.5	0.01484921	0.051972235	847652	44,054
01/06/17	909,219	0.7	847,652	1.073	64.3	4194	0	0	0	0							
01/07/17	899,812	2.0	847,652	1.051	63.0	3969	0	0	0	0							
01/08/17	774,840	13.8	847,652	0.914	51.2	2621	0	0	0	0							
01/09/17	632,193	24.7	847,652	0.746	40.3	1634	0	0	0	0							
01/10/17	754,989	11.4	847,652	0.891	53.6	2873	0	0	0	0							
01/11/17	807,324	6.4	847,652	0.952	58.6	3434	0	0	0	0							
01/12/17	885,827	1.2	847,652	1.045	63.8	4070	0	0	0	0							
01/13/17	854,130	5.0	847,652	1.008	60.0	3600	0	0	0	0							
01/14/17	720,174	12.5	847,652	0.850	52.5	2756	0	0	0	0							
01/15/17	615,127	21.5	847,652	0.726	43.5	1892	0	0	0	0							
01/16/17	545,308	21.5	847,652	0.643	43.5	1892	0	0	0	0							
01/17/17	506,063	31.0	847,652	0.597	34.0	1156	0	0	0	0							
01/18/17	428,538	34.4	847,652	0.506	30.6	936	0	0	0	0							
01/19/17	394,181	35.5	847,652	0.465	29.5	870	0	0	0	0							
01/20/17	413,798	35.3	847,652	0.488	29.7	882	0	0	0	0							
01/21/17	402,944	36.3	847,652	0.475	28.7	824	0	0	0	0							
01/22/17	416,013	36.1	847,652	0.491	28.9	835	0	0	0	0							
01/23/17	456,659	33.4	847,652	0.539	31.6	999	0	0	0	0							
01/24/17	482,833	31.8	847,652	0.570	33.2	1102	0	0	0	0							
01/25/17	528,128	29.2	847,652	0.623	35.8	1282	0	0	0	0							
01/26/17	572,306	24.6	847,652	0.675	40.4	1632	0	0	0	0							
01/27/17	542,634	25.6	847,652	0.640	39.4	1552	0	0	0	0							
01/28/17	565,296	25.8	847,652	0.667	39.2	1537	0	0	0	0							
01/29/17	573,423	22.5	847,652	0.676	42.5	1806	0	0	0	0							
01/30/17	464,225	39.3	847,652	0.548	25.7	660	0	0	0	0							
01/31/17	500,405	30.8	847,652	0.590	34.2	1170	0	0	0	0							
02/01/17	721,339	12.8	848,051	0.851	52.2	2735	0	0	1	0							
02/02/17	763,685	11.8	848,051	0.901	53.2	2830	0	0	1	0							
02/03/17	669,541	18.3	848,051	0.790	46.7	2181	0	0	1	0							
02/04/17	539,715	29.4	848,051	0.636	35.6	1267	0	0	1	0							
02/05/17	585,156	21.7	848,051	0.690	43.3	1875	0	0	1	0							
02/06/17	517,575	30.1	848,051	0.610	34.9	1218	0	0	1	0							
02/07/17	709,681	15.3	848,051	0.837	49.7	2470	0	0	1	0							
02/08/17	800,453	7.8	848,051	0.944	57.2	3272	0	0	1	0							
02/09/17	666,837	18.3	848,051	0.786	46.7	2181	0	0	1	0							
02/10/17	388,460	39.8	848,051	0.458	25.2	635	0	0	1	0							
02/11/17	383,677	38.1	848,051	0.452	26.9	724	0	0	1	0							
02/12/17	459,685	33.1	848,051	0.542	31.9	1018	0	0	1	0							
02/13/17	391,559	38.6	848,051	0.462	26.4	697	0	0	1	0							
02/14/17	470,812	31.3	848,051	0.555	33.7	1136	0	0	1	0							
02/15/17	467,071	29.8	848,051	0.551	35.2	1239	0	0	1	0							
02/16/17	408,163	34.6	848,051	0.481	30.4	924	0	0	1	0							
02/17/17	261,660	47.3	848,051	0.309	17.7	313	0	0	1	0							
02/18/17	276,223	45.1	848,051	0.326	19.9	396	0	0	1	0							
02/19/17	227,757	51.6	848,051	0.269	13.4	180	0	0	1	0							
02/20/17	299,261	45.5	848,051	0.353	19.5	380	0	0	1	0							
02/21/17	250,255	48.5	848,051	0.295	16.5	272	0	0	1	0							
02/22/17	301,485	43.5	848,051	0.354	21.5	462	0	0	1	0							
02/23/17	480,684	30.7	848,051	0.587	34.3	1176	0	0	1	0							
02/24/17	613,915	21.8	848,051	0.724	43.2	1886	0	0	1	0							
02/25/17	527,090	26.7	848,0														

Date	Firm Throughput	Temperature	Firm Customer	UPC	HDD	HDDx2	Nov	Dec	Jan	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
03/11/17	645,254	16.0	848,081	0.761	49.0	2401	0	0	0	0	1						
03/12/17	677,354	18.6	848,081	0.799	46.4	2153	0	0	0	0	1						
03/13/17	620,783	18.4	848,081	0.732	46.6	2172	0	0	0	0	1						
03/14/17	589,024	20.1	848,081	0.695	44.9	2016	0	0	0	0	1						
03/15/17	516,866	24.5	848,081	0.609	40.5	1640	0	0	0	0	1						
03/16/17	434,161	34.7	848,081	0.512	30.3	918	0	0	0	0	1						
03/17/17	440,258	36.2	848,081	0.519	28.8	829	0	0	0	0	1						
03/18/17	404,543	34.1	848,081	0.477	30.9	955	0	0	0	0	1						
03/19/17	325,956	44.3	848,081	0.384	20.7	428	0	0	0	0	1						
03/20/17	314,144	43.7	848,081	0.370	21.3	454	0	0	0	0	1						
03/21/17	461,027	28.7	848,081	0.544	36.3	1318	0	0	0	0	1						
03/22/17	422,408	35.8	848,081	0.498	29.2	853	0	0	0	0	1						
03/23/17	398,536	38.7	848,081	0.470	26.3	692	0	0	0	0	1						
03/24/17	363,440	40.1	848,081	0.429	24.9	620	0	0	0	0	1						
03/25/17	363,158	39.3	848,081	0.426	25.7	660	0	0	0	0	1						
03/26/17	354,324	39.9	848,081	0.418	25.1	630	0	0	0	0	1						
03/27/17	245,911	46.4	848,081	0.290	18.6	346	0	0	0	0	1						
03/28/17	204,380	52.4	848,081	0.241	12.6	159	0	0	0	0	1						
03/29/17	291,246	44.6	848,081	0.343	20.4	416	0	0	0	0	1						
03/30/17	324,302	42.1	848,081	0.382	22.9	534	0	0	0	0	1						
03/31/17	256,875	45.9	848,081	0.303	19.1	365	0	0	0	0	1						
11/01/17	428,597	34.8	855,050	0.501	30.2	912	1	0	0	0	0						
11/02/17	418,399	35.5	855,050	0.489	29.5	870	1	0	0	0	0						
11/03/17	433,449	33.3	855,050	0.507	31.7	1005	1	0	0	0	0						
11/04/17	368,746	40.1	855,050	0.431	24.9	620	1	0	0	0	0						
11/05/17	495,995	28.0	855,050	0.580	37.0	1369	1	0	0	0	0						
11/06/17	489,445	29.7	855,050	0.572	35.3	1246	1	0	0	0	0						
11/07/17	467,421	30.3	855,050	0.547	34.7	1204	1	0	0	0	0						
11/08/17	449,583	32.0	855,050	0.526	33.0	1089	1	0	0	0	0						
11/09/17	669,935	15.8	855,050	0.784	49.2	2421	1	0	0	0	0						
11/10/17	624,991	24.5	855,050	0.731	40.5	1640	1	0	0	0	0						
11/11/17	436,294	33.6	855,050	0.510	31.4	986	1	0	0	0	0						
11/12/17	485,793	30.4	855,050	0.568	34.6	1197	1	0	0	0	0						
11/13/17	384,127	40.3	855,050	0.449	24.7	610	1	0	0	0	0						
11/14/17	337,252	43.4	855,050	0.394	21.6	467	1	0	0	0	0						
11/15/17	498,824	30.3	855,050	0.583	34.7	1204	1	0	0	0	0						
11/16/17	486,085	33.2	855,050	0.568	31.8	1011	1	0	0	0	0						
11/17/17	407,557	36.4	855,050	0.477	28.6	818	1	0	0	0	0						
11/18/17	522,775	25.7	855,050	0.611	39.3	1544	1	0	0	0	0						
11/19/17	457,568	33.7	855,050	0.535	31.3	980	1	0	0	0	0						
11/20/17	429,713	39.2	855,050	0.503	25.8	666	1	0	0	0	0						
11/21/17	597,454	21.4	855,050	0.699	43.6	1991	1	0	0	0	0						
11/22/17	558,880	26.7	855,050	0.654	38.3	1467	1	0	0	0	0						
11/23/17	340,811	43.3	855,050	0.399	21.7	471	1	0	0	0	0						
11/24/17	307,989	45.4	855,050	0.360	19.6	384	1	0	0	0	0						
11/25/17	431,187	32.7	855,050	0.504	32.3	1043	1	0	0	0	0						
11/26/17	370,194	40.8	855,050	0.433	24.2	586	1	0	0	0	0						
11/27/17	265,442	51.9	855,050	0.310	13.1	172	1	0	0	0	0						
11/28/17	387,768	39.2	855,050	0.454	25.8	666	1	0	0	0	0						
11/29/17	386,018	41.0	855,050	0.451	24.0	576	1	0	0	0	0						
11/30/17	390,279	37.7	855,050	0.456	27.3	745	1	0	0	0	0						
12/01/17	382,372	40.6	856,876	0.446	24.4	595	0	1	0	0	0						
12/02/17	388,443	36.7	856,876	0.453	28.3	801	0	1	0	0	0						
12/03/17	307,255	48.0	856,876	0.359	17.0	289	0	1	0	0	0						
12/04/17	398,602	37.3	856,876	0.465	27.7	767	0	1	0	0	0						
12/05/17	660,869	18.5	856,876	0.771	46.5	2162	0	1	0	0	0						
12/06/17	705,302	15.5	856,876	0.823	49.5	2450	0	1	0	0	0						
12/07/17	648,376	18.5	856,876	0.757	46.5	2162	0	1	0	0	0						
12/08/17	551,970	26.6	856,876	0.644	38.4	1475	0	1	0	0	0						
12/09/17	582,148	22.0	856,876	0.679	43.0	1849	0	1	0	0	0						
12/10/17	530,736	27.0	856,876	0.619	38.0	1444	0	1	0	0	0						
12/11/17	617,570	20.7	856,876	0.721	44.3	1962	0	1	0	0	0						
12/12/17	603,958	22.1	856,876	0.705	42.9	1840	0	1	0	0	0						
12/13/17	620,320	21.4	856,876	0.724	43.6	1901	0	1	0	0	0						
12/14/17	612,968	22.3	856,876	0.715	42.7	1823	0	1	0	0	0						
12/15/17	517,128	27.3	856,876	0.604	37.7	1421	0	1	0	0	0						
12/16/17	527,590	27.8	856,876	0.616	37.2	1384	0	1	0	0	0						
12/17/17	525,645	27.0	856,876	0.613	38.0	1444	0	1	0	0	0						
12/18/17	441,579	36.5	856,876	0.515	28.5	812	0	1	0	0	0						
12/19/17	520,642	27.0	856,876	0.608	38.0	1444	0	1	0	0	0						
12/20/17	646,688	19.3	856,876	0.755	45.7	2088	0	1	0	0	0						
12/21/17	632,128	21.2	856,876	0.738	43.8	1918	0	1	0	0	0						
12/22/17	623,734	18.5	856,876	0.728	46.5	2162	0	1	0	0	0						
12/23/17	637,218	17.8	856,876	0.744	47.2	2228	0	1	0	0	0						
12/24/17	726,520	11.3	856,876	0.848	53.7	2884	0	1	0	0	0						
12/25/17	947,340	(4.3)	856,876	1.106	69.3	4802	0	1	0	0	0						
12/26/17	1,001,324	(4.0)	856,876	1.169	69.0	4761	0	1	0	0	0						
12/27/17	908,634	2.4	856,876	1.060	62.6	3919	0	1	0	0	0						
12/28/17	867,583	6.2	856,876	1.012	58.8	3457	0	1	0	0	0						
12/29/17	981,199	(3.5)	856,876	1.145	68.5	4692	0	1	0	0	0						
12/30/17	1,050,356	(9.3)	856,876	1.226	74.3	5520	0	1	0	0	0						
12/31/17	1,069,678	(10.6)	856,876	1.248	75.6	5715	0	1	0	0	0	(1.3)	1.3	0.01484921	0.019303973	856876	16,541
01/01/18	1,017,366	(6.1)	858,061	1.186	71.1	5055	0	0	0	0	0	(4.5)	4.5	0.01484921	0.066821446	858061	57,337
01/02/18	892,468	7.4	858,061	1.040	57.6	3318	0	0	0	0	0						
01/03/18	914,926	0.3	858,061	1.066	64.7	4186	0	0	0	0	0						
01/04/18	977,462	(3.5)	858,061	1.139	68.5	4692	0	0	0	0	0						
01/05/18	988,962	(4.2)	858,061	1.153	69.2	4789	0	0	0	0	0	(0.7)	0.7	0.01484921	0.010394447	858061	8,919
01/06/18	841,628	9.2	858,061	0.981	55.8	3114	0	0	0	0	0						
01/07/18	600,410	26.3	858,061	0.700	38.7	1498	0	0	0	0	0						
01/08/18	515,950	30.3	858,061	0.600	34.7	1294	0	0	0	0	0						
01/09/18	450,965	37.0	858,061	0.526	28.0	794	0	0	0	0	0						
0																	

Date	Firm Thoughtput	Temperature	Firm Customer	UPC	HDD	HDD*2	Nov	Dec	Jan	Feb	Mar	Change in Temperature	Absolute Temp Change	Coefficient for Weather	Impact of Weather	Customer Count	Estimated Impact of Weather in Dkt
01/24/18	588,941	24.4	858,061	0.686	40.6	1648	0	0	0	0	0						
01/25/18	561,082	28.1	858,061	0.654	36.9	1362	0	0	0	0	0						
01/26/18	443,951	36.5	858,061	0.517	28.5	812	0	0	0	0	0						
01/27/18	572,644	24.0	858,061	0.647	41.0	1681	0	0	0	0	0						
01/28/18	729,437	14.0	858,061	0.850	51.0	2601	0	0	0	0	0						
01/29/18	784,298	8.8	858,061	0.914	56.2	3158	0	0	0	0	0						
01/30/18	669,658	23.8	858,061	0.780	41.2	1697	0	0	0	0	0						
01/31/18	684,177	15.2	858,061	0.797	49.8	2480	0	0	0	0	0						
02/01/18	924,503	(0.8)	858,899	1.076	65.8	4330	0	0	1	0	0						
02/02/18	795,858	9.2	858,899	0.927	55.8	3114	0	0	1	0	0						
02/03/18	791,799	9.4	858,899	0.922	55.6	3091	0	0	1	0	0						
02/04/18	904,104	(0.9)	858,899	1.053	65.9	4343	0	0	1	0	0						
02/05/18	873,296	4.4	858,899	1.017	60.6	3672	0	0	1	0	0						
02/06/18	831,065	5.4	858,899	0.968	59.6	3552	0	0	1	0	0						
02/07/18	783,792	8.8	858,899	0.913	56.2	3158	0	0	1	0	0						
02/08/18	773,103	10.3	858,899	0.900	54.7	2992	0	0	1	0	0						
02/09/18	810,309	6.0	858,899	0.943	59.0	3481	0	0	1	0	0						
02/10/18	809,382	5.0	858,899	0.942	60.0	3600	0	0	1	0	0						
02/11/18	787,591	9.4	858,899	0.917	55.6	3091	0	0	1	0	0						
02/12/18	814,313	8.4	858,899	0.948	56.8	3204	0	0	1	0	0						
02/13/18	639,828	24.0	858,899	0.744	41.0	1681	0	0	1	0	0						
02/14/18	453,784	34.6	858,899	0.528	30.4	924	0	0	1	0	0						
02/15/18	626,134	21.6	858,899	0.729	43.4	1884	0	0	1	0	0						
02/16/18	882,987	17.4	858,899	0.794	47.6	2286	0	0	1	0	0						
02/17/18	562,836	26.6	858,899	0.655	38.4	1475	0	0	1	0	0						
02/18/18	543,577	31.8	858,899	0.633	33.2	1102	0	0	1	0	0						
02/19/18	682,355	21.3	858,899	0.794	43.7	1910	0	0	1	0	0						
02/20/18	751,568	12.5	858,899	0.875	52.5	2756	0	0	1	0	0						
02/21/18	735,885	13.1	858,899	0.857	51.9	2694	0	0	1	0	0						
02/22/18	604,466	26.0	858,899	0.704	39.0	1521	0	0	1	0	0						
02/23/18	586,230	20.8	858,899	0.683	44.2	1954	0	0	1	0	0						
02/24/18	615,694	22.8	858,899	0.717	42.2	1781	0	0	1	0	0						
02/25/18	584,096	21.8	858,899	0.680	43.2	1866	0	0	1	0	0						
02/26/18	458,431	33.1	858,899	0.534	31.9	1018	0	0	1	0	0						
02/27/18	431,689	36.8	858,899	0.503	28.2	795	0	0	1	0	0						
02/28/18	419,102	36.3	858,899	0.488	28.7	824	0	0	1	0	0						
03/01/18	478,463	29.4	859,491	0.557	35.6	1267	0	0	0	1	0						
03/02/18	447,032	35.1	859,491	0.520	29.9	894	0	0	0	1	0						
03/03/18	377,607	39.8	859,491	0.439	25.2	635	0	0	0	1	0						
03/04/18	433,688	37.8	859,491	0.505	27.2	740	0	0	0	1	0						
03/05/18	553,936	30.8	859,491	0.644	34.2	1170	0	0	0	1	0						
03/06/18	570,471	24.9	859,491	0.664	40.1	1608	0	0	0	1	0						
03/07/18	590,839	20.6	859,491	0.687	44.4	1971	0	0	0	1	0						
03/08/18	543,573	23.3	859,491	0.632	41.7	1739	0	0	0	1	0						
03/09/18	475,311	27.4	859,491	0.553	37.6	1414	0	0	0	1	0						
03/10/18	446,403	32.3	859,491	0.519	32.7	1069	0	0	0	1	0						
03/11/18	496,528	31.4	859,491	0.578	33.6	1129	0	0	0	1	0						
03/12/18	464,853	31.6	859,491	0.541	33.4	1116	0	0	0	1	0						
03/13/18	472,171	29.6	859,491	0.549	35.4	1253	0	0	0	1	0						
03/14/18	396,192	36.0	859,491	0.461	29.0	841	0	0	0	1	0						
03/15/18	454,229	31.1	859,491	0.528	33.9	1149	0	0	0	1	0						
03/16/18	445,927	32.9	859,491	0.519	32.1	1030	0	0	0	1	0						
03/17/18	365,217	38.1	859,491	0.425	26.9	724	0	0	0	1	0						
03/18/18	399,080	38.3	859,491	0.464	26.7	713	0	0	0	1	0						
03/19/18	416,885	36.0	859,491	0.485	29.0	841	0	0	0	1	0						
03/20/18	510,583	27.1	859,491	0.594	37.9	1436	0	0	0	1	0						
03/21/18	432,152	34.1	859,491	0.503	30.9	955	0	0	0	1	0						
03/22/18	419,388	35.6	859,491	0.488	29.4	864	0	0	0	1	0						
03/23/18	436,289	37.2	859,491	0.508	27.8	773	0	0	0	1	0						
03/24/18	443,657	33.7	859,491	0.516	31.3	980	0	0	0	1	0						
03/25/18	388,072	37.9	859,491	0.452	27.1	734	0	0	0	1	0						
03/26/18	452,900	34.4	859,491	0.526	30.6	936	0	0	0	1	0						
03/27/18	373,151	37.2	859,491	0.434	27.8	773	0	0	0	1	0						
03/28/18	390,628	37.8	859,491	0.454	27.2	740	0	0	0	1	0						
03/29/18	432,204	32.4	859,491	0.503	32.6	1063	0	0	0	1	0						
03/30/18	443,890	33.8	859,491	0.516	31.2	973	0	0	0	1	0						
03/31/18	591,270	19.0	859,491	0.688	46.0	2116	0	0	0	1	0						

TRADE SECRET DATA---ATTACHMENT EXCISED
IN ITS ENTIRETY

Department Attachment 10
Docket No. G008/M-18-462
CenterPoint Rate Impacts

	Last Rate Case (G008/MR-17- 591 & GR-17- 285)	Last Demand Change (G008/M-17- 533) (Nov 2017)	October 2018 PGA	November 2018 PGA *	Change From Last Rate Case	Change From Last Demand Change	Percent Change (%) From Most Recent PGA	Change (\$) From Most Recent PGA
Residential								
Commodity Cost of Gas (WACOG)	\$3.2426	\$3.0003	\$2.8937	\$2.8937	-10.76%	-3.55%	0.00%	\$0.0000
Demand Cost of Gas (1)	\$0.7984	\$0.8022	\$0.7996	\$0.8597	7.68%	7.17%	7.52%	\$0.0601
Commodity Margin (2) (3)	\$2.2201	\$2.2201	\$2.1089	\$2.1089	-5.01%	-5.01%	0.00%	\$0.0000
Total Cost of Gas	\$6.2611	\$6.0226	\$5.8022	\$5.8623	-6.37%	-2.66%	1.04%	\$0.0601
Average Annual Usage (Dk)	100	100	100	100				
Average Annual Total Cost of Gas	\$626.11	\$602.26	\$580.22	\$586.23	-6.37%	-2.66%	1.04%	\$6.01
Average Annual Total Demand Cost of Gas								\$6.01

	Last Rate Case (G008/MR-17- 591 & GR-17- 285)	Last Demand Change (G008/M-17- 533) (Nov 2017)	October 2018 PGA	November 2018 PGA *	Change From Last Rate Case	Change From Last Demand Change	Percent Change (%) From Most Recent PGA	Change (\$) From Most Recent PGA
Commercial/Industrial Firm - A								
Commodity Cost of Gas (WACOG)	\$3.2426	\$3.0003	\$2.8937	\$2.8937	-10.76%	-3.55%	0.00%	\$0.0000
Demand Cost of Gas (1)	\$0.7984	\$0.8022	\$0.7996	\$0.8597	7.68%	7.17%	7.52%	\$0.0601
Commodity Margin	\$2.0658	\$2.1679	\$2.2211	\$2.2211	7.52%	2.45%	0.00%	\$0.0000
Total Cost of Gas	\$6.1068	\$5.9704	\$5.9144	\$5.9745	-2.17%	0.07%	1.02%	\$0.0601
Average Annual Usage (Dk)	80	80	80	80				
Average Annual Total Cost of Gas	\$488.54	\$477.63	\$473.15	\$477.96	-2.17%	0.07%	1.02%	\$4.81
Average Annual Total Demand Cost of Gas								\$4.81

	Last Rate Case (G008/MR-17- 591 & GR-17- 285)	Last Demand Change (G008/M-17- 533) (Nov 2017)	October 2018 PGA	November 2018 PGA *	Change From Last Rate Case	Change From Last Demand Change	Percent Change (%) From Most Recent PGA	Change (\$) From Most Recent PGA
Commercial/Industrial Firm - B								
Commodity Cost of Gas (WACOG)	\$3.2426	\$3.0003	\$2.8937	\$2.8937	-10.76%	-3.55%	0.00%	\$0.0000
Demand Cost of Gas (1)	\$0.7984	\$0.8022	\$0.7996	\$0.8597	7.68%	7.17%	7.52%	\$0.0601
Commodity Margin	\$1.6740	\$1.7761	\$1.8293	\$1.8293	9.28%	3.00%	0.00%	\$0.0000
Total Cost of Gas	\$5.7150	\$5.5786	\$5.5226	\$5.5827	-2.31%	0.07%	1.09%	\$0.0601
Average Annual Usage (Dk)	2,860	2,860	2,860	2,860				
Average Annual Total Cost of Gas	\$16,344.90	\$15,954.80	\$15,794.64	\$15,966.52	-2.31%	0.07%	1.09%	\$171.89
Average Annual Total Demand Cost of Gas								\$171.89

	Last Rate Case (G008/MR-17- 591 & GR-17- 285)	Last Demand Change (G008/M-17- 533) (Nov 2017)	October 2018 PGA	November 2018 PGA *	Change From Last Rate Case	Change From Last Demand Change	Percent Change (%) From Most Recent PGA	Change (\$) From Most Recent PGA
Commercial/Industrial Firm - C								
Commodity Cost of Gas (WACOG)	\$3.2426	\$3.0003	\$2.8937	\$2.8937	-10.76%	-3.55%	0.00%	\$0.0000
Demand Cost of Gas (1)	\$0.7984	\$0.8022	\$0.7996	\$0.8597	7.68%	7.17%	7.52%	\$0.0601
Commodity Margin	\$1.5429	\$1.6450	\$1.6982	\$1.6982	10.07%	3.23%	0.00%	\$0.0000
Total Cost of Gas	\$5.5839	\$5.4475	\$5.3915	\$5.4516	-2.37%	0.08%	1.11%	\$0.0601
Average Annual Usage (Dk)	14,300	14,300	14,300	14,300				
Average Annual Total Cost of Gas	\$79,849.77	\$77,899.25	\$77,098.45	\$77,957.88	-2.37%	0.08%	1.11%	\$859.43
Average Annual Total Demand Cost of Gas								\$859.43

Summary of Most Recent PGA

Customer Class	Commodity Change (\$/Dk)	Commodity Change (Percent)	Demand Change (\$/Dk)	Demand Change (Percent)	Demand Annual Change (\$/Dk)	Total Annual Change (\$/Dk)	Total Annual Change (Percent)
Residential	\$0.0000	0.00%	\$0.0601	7.52%	\$6.01	\$6.01	1.04%
Commercial/Industrial Firm A	\$0.0000	0.00%	\$0.0601	7.52%	\$4.81	\$4.81	1.02%
Commercial/Industrial Firm B	\$0.0000	0.00%	\$0.0601	7.52%	\$171.89	\$171.89	1.09%
Commercial/Industrial Firm C	\$0.0000	0.00%	\$0.0601	7.52%	\$859.43	\$859.43	1.11%

* Commodity costs held constant

(1) Does not include Demand Smoothing.

(2) Reflects Decoupling Factor and CCRA. Does not reflect GAP, Interim or GCR Factors.

(3) Reflects decrease in CCRA of (\$0.0767 per DT effective November 1, 2013 (Docket No. G008/M-13-373).