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The City of Minneapolis welcomes the opportunity to provide comments on the Use Cases submitted by participants to the Customer Energy Usage Data (CEUD) workgroup. These comments reflect the opinion of the Minneapolis staff acting as official participants in the workgroup process, and are not necessarily the official position of the City or its elected officials.

Access to usage data by utility customers, service providers, building owners, researchers and local units of government is critical to meeting both state and locally-adopted, but complimentary, energy and climate goals. The Public Utilities Commission recognized the potential importance of this data to state energy goals when directing the formation of the CEUD workgroup. Two use cases that we feel are particularly important to meet state and local energy and climate goals are:

- **Access to aggregated data at the citywide or sub-city geography by local governments or organizations**. Energy usage data at the citywide scale is critical for dozens of cities in Minnesota who are choosing to measure their climate and energy impact and plan local actions to reduce energy use, save money and mitigate climate change. This data is most useful when aggregated by customer type and sub-city geography to enable cities to understand energy usage trends in their community across building types and usage, and to plan actions accordingly. Applicable state energy goals include 216B.2401, 216C.05, and 216H.02.

- **Access to monthly aggregated whole-building data by commercial and residential building owners and managers**. The first step in reducing building energy use is to understand the current performance of the building, a process often called benchmarking. Collecting monthly energy usage data is a first step in the benchmarking process. Gathering dozens or hundreds of release forms from tenants in a large residential or commercial building in order to understand whole-building energy use may present a significant barrier to many building owners. Enabling utilities to provide whole-building aggregated data directly to building owners or managers would speed the benchmarking process and allow more buildings to engage in energy-savings activities. Applicable state energy goals include 216B.2401, 216C.05, and 216H.02.

Comments on Use Cases (including the two above) are organized into two groups:

1. Use cases in which the data being requested includes information identifiable as belonging to an individual customer, or is associated with such information.

2. Use cases in which the data being requested does not, or does not need to include or be associated with information identifiable as belonging to an individual customer.

A discussion of potential risks associated with use cases and potential risk mitigation measures is included in 1 and 2.

Additional comments related to the Use Cases include:

3. Examples of data aggregation practices adopted by other utilities to address risks.

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4. Examples of utility usage data currently being made available at an individual customer level where a low level of risk is perceived.

1. Use cases including disclosure of customer-specific information

We agree with much of the discussion by workgroup members that usage data for a single customer, or data that can be associated with a single customer, presents the greatest level of potential risk, and thus, deserves the greatest level of protection by the Commission and/or utilities.

Use cases previously identified that would fall into this category include numbers 1, 3, 5, 6, 7, 8, and 27-37.

Risks and risk-mitigation measures

Measures exist to minimize risk for individual customer data. Temporal aggregation of individual customer data is an example. Aggregating usage data to annual totals may mitigate risks that have been identified by workgroup members – the ability of a third party to determine if a customer is at home at a particular time - for example. To our knowledge, the workgroup has not discussed what risks are likely from a third party accessing *total annual* usage data from residential or commercial customers. Additional risk mitigation measures for individual data include statistical summarization (calculating a monthly average or median across multiple years or months of data for example) and anonymization (disclosing individual usage data, but not including information that can tie that usage to a customer name or address).

We have heard from workgroup members that a customer's desire not to have their information disclosed could be considered a risk, but have not heard from workgroup members whether this applies specifically to temporarily aggregated data, summarized data, anonymized data, or some other set.

Disclosure of individual customer data without consent, whether it can be connected to an individual customer or is anonymized, may present special risks for industrial customers, where process load accounts for a majority of their energy use. Comments from workgroup members reflect this position. In this case, we feel that sufficient aggregation of industrial customers and/or annual averaging over multiple years of data would be sufficient to mitigate potential risks. Little risk has been presented from many years of customer data being aggregated at the city and utility-level in Minnesota, and as is discussed more in section 4, public access to individual customer data has not proven to present significant risks.

2. Use cases not including disclosure of customer-specific information

Use cases that do not include individual customer data include cases where multiple customers information, aggregated together, defines the use case. We believe that appropriate aggregation in these cases can significantly limit any risk faced by an individual customer from access to the data by a third party.

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Use cases previously identified that would fall into this category include numbers 2, 4, and 9 -26.

Risks and risk-mitigation measures

We do not believe that sufficiently aggregated data presents significant risk to customers or utilities. By its nature, aggregated data does not lend itself to the types of risks previously identified by the workgroup, such as the ability of a bad actor or marketer to use individual data to target customers or the ability of law enforcement to conduct extra-legal or expansive investigations. Aggregated data also avoids the concern expressed by workgroup members about customers' expectations that individual data not be shared without consent.

While it may be impossible to ever prove a total lack of risk, the experience of other utilities across the country that currently provide aggregated data to third parties has not to date demonstrated significant risk. The workgroup has not heard any examples of significant events in these utility territories that have raised alarm. If there are specific examples from these territories, we encourage other workgroup members to identify them at subsequent meetings. Additional discussion of existing aggregation thresholds adopted by utilities is presented in section 3.

Besides the aggregation of multiple customers, additional risk mitigation measures for these use cases include temporal aggregation (monthly or annual aggregation for an aggregated group of customers) or statistical summarization (calculating a monthly average or median across multiple years or months of data for example).

All the use cases identified above include at least two methods of risk mitigation: customer aggregation and temporal aggregation. No usage data at a unit of time shorter than monthly is requested in any of these cases. In some cases, data is requested on an annual basis. Combining these measures could be a powerful risk mitigation tool. An example might be a request for total usage by census block group by a city, neighborhood group, or research organization. Since this is a small geography, and may contain only dozens of customers, combining customer aggregation with a temporal aggregation of data over one year would likely ensure that there is very little risk to individual data.

3. Data aggregation practices currently in use by utilities

Table 1 below shows current energy utility aggregation thresholds in use across the country. The threshold indicates the smallest number of customers that can be aggregated before individual customers must provide consent for data release.

Table 1. Utility Thresholds for Account Aggregation

Utility Company or PUC	Account Aggregation Threshold Number of accounts/maximum percentage of total energy usage one account can contribute

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Avista (WA)	No threshold[1]
Consolidated Edison (NY)	No threshold
Seattle City Light (WA)	No threshold
Commonwealth Edison (IL)	4
Austin Energy (TX)	4/80[2]
Puget Sound Energy (WA)	5
Pepco (DC)	5
Colorado PUC	15/15 (proposed)
Xcel (MN)	15/15 (proposed)
California PUC	TBD

[1] If the threshold in the chart is listed as "No threshold," that signifies that the utility will release whole-building energy consumption data to a building owner without tenant consent regardless of the number of accounts in a building.
[2] Only applies to commercial buildings, there is no threshold for residential properties.

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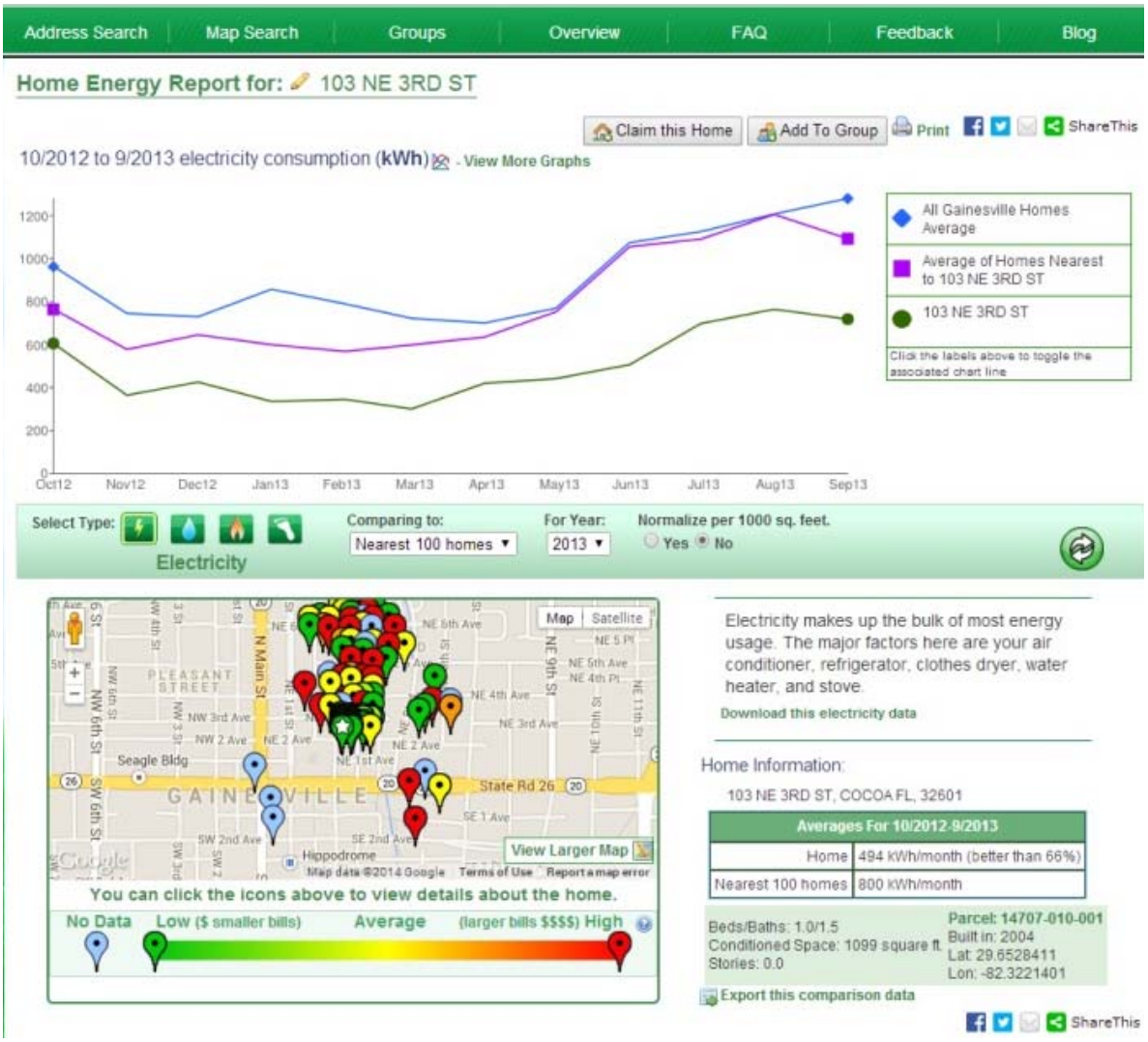
4. Current examples of disclosure of individual customer usage data

The discussion at the workgroup has focused on use cases for data and the potential risks associated with data release. To put the discussion of risk into context, we believe it is useful to provide examples of utility data release that is already occurring at different scales.

Gainesville Green

Gainesville Green presents the monthly energy usage data (electricity, natural gas and water) for individual households in the Gainesville, Florida area served by Gainesville Regional Utilities. This tool helps residents track their energy use and compare themselves to their neighbors, similar to utility programs in Minnesota provided by OPower. This data is publicly accessible at the website http://gainesville-green.com.



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Madison Gas and Electric

Madison Gas and Electric (MG&E) serves 140,000 electric customers and 145,000 gas customers in Dane County, Wisconsin. MG&E allows the public to search by address for high, low and average monthly energy use over the last 12 months and high, low and average monthly bill amounts over the last 12 months for residential addresses in their service territory.

This data is publicly accessible at http://www.mge.com/customer-service/home/average-use-cost/.

Average Energy Use and Cost for
1519 Madison Street, Madison

	Meter: Gas	Therms	Cost	Number of Days in Billing Period	Heating
1	High:	407 therms	$377	32 days	Yes
	Low:	24 therms	$28	29 days	
	Monthly Average:	**159 therms**	**$140**	**Last 12 months**	
	Meter: Electric	**Kilowatt Hours**	**Cost**	**Number of Days in Billing Period**	**Heating**
1	High:	850 kWh	$133	32 days	No
	Low:	479 kWh	$86	30 days	
	Monthly Average:	**653 kWh**	**$107**	**Last 12 months**	

Notes:

- **Projected Budget Payment Plan Amount is $276.** The Monthly Average(s) may differ from the Projected Budget Payment Plan Amount. Get information about MGE's Budget Payment Plan.
- Energy use for this address will vary depending on a number of factors, including lifestyle, the type, age and condition of appliances and equipment used, weather (wind, amount of sunshine, etc.), number of people living here and conservation measures.
- Normal billing periods are between 28 and 34 days (short and long billing periods are not included in the Highs and Lows shown above).
- Costs include utility service charges, but do not include sales tax.
- How the monthly average is calculated
- Provision of this information is neither a breach of confidentiality nor a guarantee or contract as to future energy use levels for this address.

Back New Search

Data from the U.S. Energy Information Administration

The Energy Information Administration (EIA) is part of the U.S. Department of Energy, and is charged with collecting, analyzing, and disseminating independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment.

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Since 1990, EIA has been conducting a survey of utilities in the United States that includes questions about peak load, generation, electric purchases sales, revenues, customer counts, and demand-side management programs (File EIA-861).

When responding to this survey, utilities send to EIA customer count, total electricity sales and total revenue for residential, commercial and industrial sectors. Each year, in hundreds of instances, utilities provide to EIA total annual consumption data for customer classes that include only one customer. In these cases, the reported electricity sales in MWhs identifies the total consumption of one individual customer in that year. This most often occurs in the industrial customer class, but can also be found in other classes.

Data from file EIA-861 going back over a decade (1990 – 2012) is available on the EIA's website at http://www.eia.gov/electricity/data/eia861/

A sample of this data that includes only one industrial customer and their usage from 2011 is in Table 2 below.

Table 2. Utilities Reporting Individual Industrial Customer Annual Usage Data in 2011

Year	Utility Name	State	Ownership	Industrial Revenues (thousand $)	Industrial Sales (MWhs)	Industrial Customers
2011	G & K, Inc	AK	Investor Owned	113	169	1
2011	Arab Electric Coop Inc	AL	Cooperative	655	6969	1
2011	City of Evergreen	AL	Municipal	622	9014	1
2011	City of Russellville - (AL)	AL	Municipal	1082	13060	1
2011	Wiregrass Electric Coop, Inc	AL	Cooperative	411	5062	1
2011	DTE Energy Services	AL	Unregulated	7808	458868	1
2011	City of Prescott - (AR)	AR	Municipal	3249.8	54779	1
2011	Riceland Foods Inc.	AR	Unregulated	849	18864	1
2011	Ajo Improvement Co	AZ	Investor Owned	145	1292	1
2011	Tohono O'Odham Utility Auth	AZ	Political Subdivision	223	2511	1
2011	FRV SI Transport Solar LP	AZ	Unregulated	579	1720	1
2011	RV CSU Power II LLC	AZ	Unregulated	885	4949	1
2011	Applied Energy Inc	CA	Unregulated	821	13877	1
2011	Los Medanos Energy Center LLC	CA	Unregulated	11667	326008	1
2011	CPKelco U S Inc	CA	Unregulated	4	66	1
2011	Midway-Sunset Cogeneration Co	CA	Unregulated	7493	122997	1
2011	City & County of San Francisco	CA	Municipal	299	5894	1
2011	Sierra Pacific Industries Inc	CA	Unregulated	328	3277	1
2011	Trinity Public Utilities Dist	CA	Political Subdivision	398	6625	1

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Year	Utility Name	State	Ownership	Industrial Revenues (thousand $)	Industrial Sales (MWhs)	Industrial Customers
2011	Eel River Power, LLC	CA	Unregulated	1942	14813	1
2011	SunE M5 Holdings LLC	CA	Unregulated	287	2509	1
2011	Biofuels Point Loma, LLC	CA	Unregulated	2950	22811	1
2011	Foundation AB Owner, LLC	CA	Unregulated	8	138	1
2011	City of Fort Morgan	CO	Municipal	2519	56901	1
2011	Colorado Golden Energy Corp	CO	Unregulated	1258	33987	1
2011	Colorado Energy Nations Company LLLP	CO	Unregulated	16586	179940	1
2011	Deseret Generation & Tran Coop	CO	Cooperative	3316.6	32595	1
2011	Colorado State University	CO	Unregulated	843	3457	1
2011	Farmington River Power Company	CT	Investor Owned	3690.8	49561	1
2011	Harford Steam Co	CT	Unregulated	1869	17730	1
2011	City of Jewett City - (CT)	CT	Municipal	39	269	1
2011	MidAmerican Energy Co	DC	Investor Owned	608	7332	1
2011	Constellation NewEnergy, Inc	DC	Retail Power Marketer	751	10161	1
2011	Potomac Electric Power Co	DC	Investor Owned	2891.3	216244	1
2011	Amerada Hess Corporation	DC	Retail Power Marketer	15871	252477	1
2011	Linde Energy Services, Inc.	DE	Retail Power Marketer	15398	227413	1
2011	City of Lewes - (DE)	DE	Municipal	470	7879	1
2011	Tenaska Power Services	DE	Retail Power Marketer	2305	42868	1
2011	APN Starfirst, L.P.	DE	Retail Power Marketer	309	4507	1
2011	Choctawhatche Elec Coop, Inc	FL	Cooperative	1160	15484	1
2011	City of Clewiston	FL	Municipal	886	2650	1
2011	Teton Operating Services LLC	FL	Unregulated	24	636	1
2011	City of Quincy - (FL)	FL	Municipal	1616.3	19764	1
2011	City of Vero Beach	FL	Municipal	1521	13383	1
2011	West Florida El Coop Assn, Inc	FL	Cooperative	5584	84145	1
2011	City of Barnesville	GA	Municipal	1301	17453	1
2011	City of Chattanooga - (TN)	GA	Municipal	435	4409	1
2011	City of Chickamauga	GA	Municipal	638	7785	1
2011	City of Ellaville	GA	Municipal	836	8875	1
2011	City of Mansfield - (GA)	GA	Municipal	228	2152	1
2011	Newnan Wtr, Sewer & Light Comm	GA	Municipal	6459	96223	1
2011	City of Palmetto - (GA)	GA	Municipal	315	3122	1

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2011	Pataula Electric Member Corp	GA	Cooperative	2188	38505	1
2011	Amana Society Service Co	IA	Investor Owned	5757	62734	1
2011	City of Anthon	IA	Municipal	0.8	4	1
2011	Atlantic Municipal Utilities	IA	Municipal	482	11556	1
2011	Clarke Electric Coop Inc - (IA)	IA	Cooperative	307.5	3698	1
2011	City of Dayton - (IA)	IA	Municipal	10	75	1
2011	City of Dike	IA	Municipal	81	960	1
2011	City of Forest City- (IA)	IA	Municipal	2071.1	23488	1
2011	Franklin Rural Electric Coop - (IA)	IA	Cooperative	103.9	767	1
2011	City of Greenfield	IA	Municipal	1530.4	18075	1
2011	Harrison County Rrl Elec Coop	IA	Cooperative	1667.2	32916	1
2011	Humboldt County R E C	IA	Cooperative	640	7704	1
2011	City of Manning	IA	Municipal	964	19962	1
2011	City of Montezuma - (IA)	IA	Municipal	952.5	13077	1
2011	City of Panora	IA	Municipal	45	1225	1
2011	City of Rockford- (IA)	IA	Municipal	32	235	1
2011	City of Stanton - (IA)	IA	Municipal	13	108	1
2011	City of Sibley	IA	Municipal	320	5476	1
2011	City of Wall Lake	IA	Municipal	43	357	1
2011	City of West Liberty	IA	Municipal	2354	31954	1
2011	Clear Lake Cogeneration LP	ID	Unregulated	3953	151660	1
2011	City of Rupert - (ID)	ID	Municipal	402	10878	1
2011	City of Weiser	ID	Municipal	484.8	10062	1
2011	Cairo Public Utility Company	IL	Municipal	2589.4	38948	1
2011	City of Casey	IL	Municipal	408	3852	1
2011	McDonough Power Coop	IL	Cooperative	283.3	3425	1
2011	City of Metropolis - (IL)	IL	Municipal	1597	16265	1
2011	Village of Ladd- (IL)	IL	Municipal	551	6382	1
2011	APN Starfirst, L.P.	IL	Retail Power Marketer	2509	68635	1
2011	Morris Cogeneration LLC	IL	Unregulated	9782	394966	1
2011	EDF Industrial Power Services (IL), LLC	IL	Retail Power Marketer	270.1	5600	1
2011	AGC Division of APG Inc	IN	Investor Owned	174991	4584697	1
2011	Dublin Municipal Electric Util	IN	Municipal	3	26	1
2011	Town of Middletown - (IN)	IN	Municipal	0.4	5	1
2011	Paulding-Putman Elec Coop, Inc	IN	Cooperative	797	10521	1
2011	Portside Energy Corp	IN	Unregulated	710	298493	1
2011	Town of Straughn	IN	Municipal	0.6	5	1

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2011	City of Washington - (IN)	IN	Municipal	1558	21794	1
2011	City of Burlington - (KS)	KS	Municipal	63	678	1
2011	City of Elsmore	KS	Municipal	1.5	3	1
2011	City of Eudora	KS	Municipal	504	6898	1
2011	City of Osawatomie - (KS)	KS	Municipal	10	83	1
2011	Radiant Electric Coop, Inc	KS	Cooperative	452	6987	1
2011	City of Benton - (KY)	KY	Municipal	932	9858	1
2011	Big Sandy Rural Elec Coop Corp	KY	Cooperative	351	5133	1
2011	Clark Energy Coop Inc - (KY)	KY	Cooperative	898	10482	1
2011	Electric Energy Inc	KY	Investor Owned	56704	1328546	1
2011	Grayson Rural Electric Coop Corp	KY	Cooperative	1262	19512	1
2011	Entergy Solutions, Ltd	MA	Retail Power Marketer	567.2	8703	1
2011	Nantucket Electric Co	MA	Investor Owned	47	1019	1
2011	Allegheny Energy Supply Co LLC	MD	Retail Power Marketer	2395.9	44290	1
2011	Linde Energy Services, Inc.	ME	Retail Power Marketer	6216	92314	1
2011	CECG Maine, LLC	ME	Retail Power Marketer	11492	191860	1
2011	American PowerNet	ME	Retail Power Marketer	1340	38897	1
2011	Backyard Farms Energy, LLC	ME	Retail Power Marketer	2739	56919	1
2011	CMS Energy Resource Management	MI	Retail Power Marketer	6494	193453	1
2011	MidAmerican Energy Co	MI	Investor Owned	887	13247	1
2011	Midland Cogeneration Venture	MI	Unregulated	26159	460641	1
2011	City of Norway	MI	Municipal	480	4864	1
2011	City of Stephenson - (MI)	MI	Municipal	10.7	105	1
2011	Spartan Renewable Energy, Inc	MI	Retail Power Marketer	5493	62607	1
2011	UP Power Marketing, LLC	MI	Retail Power Marketer	1654	19493	1
2011	City of Austin - (TX)	MN	Municipal	7965.9	125243	1
2011	City of Baudette	MN	Municipal	597	5912	1
2011	Cleveland Cliffs Inc	MN	Unregulated	30505	680316	1
2011	Cooperative L&P Assn Lake Cnty	MN	Cooperative	1188	15803	1
2011	Federated Rural Electric Assn	MN	Cooperative	1.8	18	1
2011	Kenyon Municipal Utilities	MN	Municipal	364	3590	1
2011	Lyon-Lincoln Electric Coop Inc	MN	Cooperative	93	1074	1

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2011	North Itasca Electric Coop Inc	MN	Cooperative	7.2	6	1
2011	City of Pierz- (MN)	MN	Municipal	3	31	1
2011	Proctor Public Utilities Comm	MN	Municipal	386	4865	1
2011	City of Randall	MN	Municipal	0.8	10	1
2011	City of Rushford - (MN)	MN	Municipal	25	165	1
2011	City of Spring Grove	MN	Municipal	160	3010	1
2011	City of St James - (MN)	MN	Municipal	1170	17933	1
2011	Traverse Electric Coop, Inc	MN	Cooperative	66	852	1
2011	Wild Rice Electric Coop, Inc	MN	Cooperative	146	2499	1
2011	City of Round Lake	MN	Municipal	218	2052	1
2011	Koda Energy LLC	MN	Unregulated	2068	33492	1
2011	Co-Mo Electric Coop Inc	MO	Cooperative	765.9	10025	1
2011	City of Kirkwood - (MO)	MO	Municipal	903	8534	1
2011	City of Milan - (MO)	MO	Municipal	626	11256	1
2011	Ozark Electric Coop Inc - (MO)	MO	Cooperative	763.9	10508	1
2011	Ralls County Electric Coop	MO	Cooperative	604	9820	1
2011	City of Macon	MS	Municipal	595	5353	1
2011	City of Okolona	MS	Municipal	256	2018	1
2011	City of Oxford - (MS)	MS	Municipal	889	10476	1
2011	City of Water Valley	MS	Municipal	1936	28691	1
2011	City of West Point - (MS)	MS	Municipal	938	9104	1
2011	Big Horn Rural Electric Co	MT	Cooperative	1526	11880	1
2011	Bonneville Power Admin	MT	Federal	634	4281	1
2011	Hinson Power Company LLC	MT	Retail Power Marketer	503.4	8760	1
2011	Ravalli County Elec Coop, Inc	MT	Cooperative	165	2914	1
2011	Town of Ayden	NC	Municipal	2749	27785	1
2011	Town of Cornelius- (NC)	NC	Municipal	312.2	4925	1
2011	Town of Enfield	NC	Municipal	1218	14942	1
2011	Town of Huntersville- (NC)	NC	Municipal	2729.9	73008	1
2011	Town of Landis - (NC)	NC	Municipal	209	3350	1
2011	Town of Louisburg - (NC)	NC	Municipal	299	2327	1
2011	Piedmont Electric Member Corp	NC	Cooperative	292	6359	1
2011	Town of Red Springs - (NC)	NC	Municipal	283	2216	1
2011	City of Robersonville - (NC)	NC	Municipal	702	9600	1
2011	Town of Walstonburg	NC	Municipal	24	125	1
2011	Town of Waynesville	NC	Municipal	88.8	1020	1
2011	Basin Electric Power Coop	ND	Cooperative	58152	1022542	1
2011	Mor-Gran-Sou Electric Coop Inc	ND	Cooperative	669.9	9384	1

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2011	City of Northwood - (ND)	ND	Municipal	133.5	1031	1
2011	City of Valley City	ND	Municipal	456	5876	1
2011	City of Cambridge	NE	Municipal	1876	31948	1
2011	Village of Campbell - (NE)	NE	Municipal	1	21	1
2011	Village of De Witt	NE	Municipal	25	286	1
2011	Village of Greenwood	NE	Municipal	88.3	577	1
2011	City of Hubbell- (NE)	NE	Municipal	37.4	319	1
2011	City of Madison - (NE)	NE	Municipal	2315	42722	1
2011	City of Plainview - (NE)	NE	Municipal	44	500	1
2011	Village of Polk - (NE)	NE	Municipal	102	817	1
2011	Seward County Rrl Pub Pwr Dist	NE	Political Subdivision	63	498	1
2011	City of Wakefield - (NE)	NE	Municipal	2334	38559	1
2011	Noble Americas Energy Solutions LLC	NH	Retail Power Marketer	13.7	183	1
2011	Tillotson Rubber Co Inc	NH	Unregulated	59	417	1
2011	US Operating Services Company	NJ	Unregulated	14592	147148	1
2011	PBF Power Marketing LLC	NJ	Retail Power Marketer	4789	50670	1
2011	Mora-San Miguel Elec Coop	NM	Cooperative	366	3369	1
2011	Navopache Electric Coop, Inc	NM	Cooperative	5.7	70	1
2011	Shell Energy North America (US), L.P.	NV	Retail Power Marketer	47492	1065306	1
2011	Linde Energy Services, Inc.	NY	Retail Power Marketer	2811	66223	1
2011	Mohawk Municipal Comm	NY	Municipal	77	1694	1
2011	Nissequoque Cogen Partners	NY	Unregulated	23128	229776	1
2011	Village of Sherburne- (NY)	NY	Municipal	130	2882	1
2011	Village of Wellsville	NY	Municipal	386	11472	1
2011	EDF Industrial Power Services (NY), LLC	NY	Retail Power Marketer	548	11044	1
2011	Village of Cygnet	OH	Municipal	27	118	1
2011	City of Custar	OH	Municipal	79	947	1
2011	City of Hubbard	OH	Municipal	155	2110	1
2011	Village of Milan	OH	Municipal	211	2622	1
2011	Ohio Valley Electric Corp	OH	Investor Owned	11643	248586	1
2011	Village of Republic - (OH)	OH	Municipal	11	62	1
2011	Village of Sycamore	OH	Municipal	28	393	1
2011	Washington Electric Coop - (OH)	OH	Cooperative	259.2	3196	1
2011	Village of Waynesfield	OH	Municipal	80	827	1
2011	Village of Wharton	OH	Municipal	24	237	1

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Year	Utility Name	State	Ownership	Industrial Revenues (thousand $)	Industrial Sales (MWhs)	Industrial Customers
2011	City of Kingfisher	OK	Municipal	125.7	1659	1
2011	Town of Mannford - (OK)	OK	Municipal	828	14259	1
2011	Prague Public Works Authority	OK	Municipal	73	1039	1
2011	City of Sallisaw - (OK)	OK	Municipal	650	10156	1
2011	Town of South Coffeyville - (OK)	OK	Municipal	66	813	1
2011	City of Tonkawa	OK	Municipal	207	2172	1
2011	Lane Electric Coop Inc	OR	Cooperative	208.5	2709	1
2011	JP Morgan	OR	Retail Power Marketer	3876.4	154773	1
2011	Borough of Berlin - (PA)	PA	Municipal	332	3570	1
2011	Mont Alto Borough	PA	Municipal	23	167	1
2011	Borough of Pitcairn - (PA)	PA	Municipal	18	147	1
2011	Borough of Smethport - (PA)	PA	Municipal	6	40	1
2011	Central Electric Coop, Inc - (PA)	PA	Cooperative	1423	16874	1
2011	The Hankin Group Util	PA	Unregulated	13	167	1
2011	Air Products & Chemicals Inc	PA	Unregulated	3309	119611	1
2011	City of Aurora	SD	Municipal	74	795	1
2011	Bon Homme Yankton El Assn, Inc	SD	Cooperative	614.7	6878	1
2011	Otter Tail Power Co	SD	Investor Owned	1831.7	32115	1
2011	Traverse Electric Coop, Inc	SD	Cooperative	658	9972	1
2011	City of White	SD	Municipal	4.8	17	1
2011	City of Harriman	TN	Municipal	575	6521	1
2011	Forked Deer Electric Coop, Inc	TN	Cooperative	953	8409	1
2011	City of Bowie- (TX)	TX	Municipal	1145	12548	1
2011	City of Brady	TX	Municipal	543	5501	1
2011	Channel Energy Center	TX	Unregulated	39707	986587	1
2011	Cherokee County Elec Coop Assn	TX	Cooperative	271	1356	1
2011	Corpus Christi Cogeneration LP	TX	Unregulated	18735	482187	1
2011	Shell Energy North America (US), L.P.	TX	Retail Power Marketer	1042	28429	1
2011	Dow Chemical Company-Oyster Creek VIII	TX	Unregulated	138415	2001992	1
2011	E I DuPont De Nemours & Co	TX	Unregulated	16963	381558	1
2011	City of Gonzales	TX	Municipal	1615	23482	1
2011	City of Liberty	TX	Municipal	5258.8	83560	1
2011	City of Sanger	TX	Municipal	1476.1	14054	1
2011	Sabine Cogen LP	TX	Unregulated	16894	173581	1
2011	City of Weimar	TX	Municipal	703	7545	1
2011	Sweeny Cogeneration LP	TX	Unregulated	79314	994496	1
2011	City of San Saba	TX	Municipal	64	4105	1

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2011	APN Starfirst, L.P.	TX	Retail Power Marketer	9230	173866	1
2011	DPS Gregory LLC	TX	Unregulated	8876	215644	1
2011	Withheld	TX	Retail Power Marketer	923.6	4313	1
2011	City of Bountiful	UT	Municipal	2381	36678	1
2011	Brigham City Corporation	UT	Municipal	2289	44007	1
2011	Garkane Energy Coop, Inc	UT	Cooperative	1508	22115	1
2011	Hyrum City Corporation	UT	Municipal	2406	37369	1
2011	Kaysville City Corporation	UT	Municipal	87	1178	1
2011	City of Murray - (UT)	UT	Municipal	2610	43990	1
2011	Nephi City Corporation	UT	Municipal	1685.2	35366	1
2011	Provo City Corp	UT	Municipal	6846	136032	1
2011	Salem City Corporation - (UT)	UT	Municipal	43	843	1
2011	City of Washington - (UT)	UT	Municipal	24.6	279	1
2011	Village of Johnson - (VT)	VT	Municipal	671.1	4150	1
2011	Village of Orleans - (VT)	VT	Municipal	1039.4	6912	1
2011	Town of Stowe- (VT)	VT	Municipal	1143.6	10511	1
2011	Bonneville Power Admin	WA	Federal	1405	313843	1
2011	Clearwater Power Company	WA	Cooperative	46	1092	1
2011	City of Ellensburg - (WA)	WA	Municipal	537.4	8992	1
2011	Kootenai Electric Cooperative	WA	Cooperative	0.5	5	1
2011	PUD No 3 of Mason County	WA	Political Subdivision	2302	49032	1
2011	Sierra Pacific Industries Inc	WA	Unregulated	3456	39026	1
2011	Sempra Energy Trading LLC	WA	Retail Power Marketer	14131.8	225501	1
2011	PUD No 1 of Whatcom County	WA	Political Subdivision	8753.2	219958	1
2011	City of Argyle	WI	Municipal	50	575	1
2011	City of Columbus	WI	Municipal	1194.8	14844	1
2011	Consolidated Water Power Co	WI	Investor Owned	61829	1090365	1
2011	Village of Prairie Du Sac	WI	Municipal	1356	13780	1
2011	City of Princeton - (WI)	WI	Municipal	88.5	783	1
2011	City of Sturgeon Bay - (WI)	WI	Municipal	578.3	6752	1
2011	Wonewoc Electric & Water Util	WI	Municipal	23.5	266	1
2011	Wyrulec Company	WY	Cooperative	123	1112	1