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PUBLIC SERVICE  
COMMISSION

**OWEN** *Electric*

A Touchstone Energy Cooperative



**Case No.  
2015-00213**

**COMMISSION STAFF'S INITIAL REQUEST FOR  
INFORMATION**

**OWEN ELECTRIC COOPERATIVE, INC.**

**8205 Hwy 127 N**

**PO Box 400**

**Owenton, KY 40359**

**502-484-3471**

**CRAWFORD & BAXTER, P.S.C.**

ATTORNEYS AT LAW

523 Highland Avenue  
P.O. Box 353  
Carrollton, Kentucky 41008

James M. Crawford  
Ruth H. Baxter

Phone: (502) 732-6688  
1-800-442-8680  
Fax: (502) 732-6920  
Email: CBJ523@AOL.COM

August 10, 2015

Mr. Jeffrey Derouen  
Executive Director  
Kentucky Public Service Commission  
211 Sower Boulevard  
P.O. Box 615  
Frankfort, Kentucky 40602-0615

Re: Case No. 2015-00213

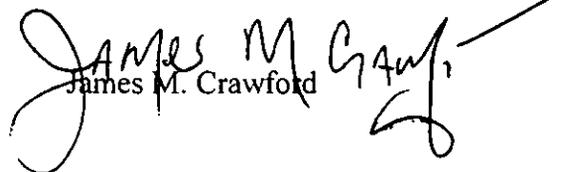
Dear Mr. Derouen:

Please find enclosed for filing with the Commission in the above-referenced case, and original and ten redacted copies of the responses of Owen Electric Cooperative, Inc. ("Owen Electric") to the Commission Staff's Initial Request for Information, dated July 30, 2015. Also enclosed are an original and ten copies of Owen Electric's Motion for Confidential Treatment regarding the response to Request No. 11. One unredacted copy of the designated confidential portions of the response to Request No. 11 is enclosed in a sealed envelope.

Additionally, please find enclosed for filing with the Commission in the above-referenced case, an original and ten copies of the responses of Owen Electric to the Attorney General's Initial Data Requests, dated July 30, 2015.

Respectfully yours,

CRAWFORD & BAXTER, P.S.C.

  
James M. Crawford

Enclosures

cc: Hon. Jennifer Hans  
Hon. Mike Kurtz

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF OWEN ELECTRIC )  
COOPERATIVE, INC. FOR A CERTIFICATE OF )  
PUBLIC CONVENIENCE AND NECESSITY FOR ) CASE NO. 2015-00213  
THE CONSTRUCTION OF A TWO MEGAWATT )  
DISTRIBUTED GENERATION FACILITY IN )  
OWEN COUNTY, KENTUCKY )

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**MOTION FOR CONFIDENTIAL TREATMENT**

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Comes now Owen Electric Cooperative, Inc. ("Owen Electric"), by and through counsel, pursuant to KRS 61.878, 807 KAR 5:001, Section 13 and other applicable law, and for its Motion requesting that the Kentucky Public Service Commission ("Commission") afford confidential treatment to certain responses to one request for information in the above-captioned proceeding, respectfully states as follows:

1. On June 26, 2015, Owen Electric filed its Application for a Certificate of Public Convenience and Necessity ("CPCN") for the Construction of a Two Megawatt Distributed Generation Facility in Owen County, Kentucky ("Application.")
2. As stated in the Application, the energy sourced from this distributed generation facility will displace two megawatts of energy purchased from Owen Electric's power supplier, East Kentucky Power Cooperative, Inc. ("EKPC") The displacement of this purchase will save Owen Electric approximately \$9.4 million over the next twenty years.
3. The Commission issued its Initial Request for Information in this proceeding on July 30, 2015.
4. Request No. 11 states as follows:
  11. Refer to Exhibit MAS-1. For each of the 20 years shown, provide all information and calculations supporting the amounts shown for EKPC Savings and Annual Operating Costs. The information provided should be in sufficient detail to show all assumptions and source materials with regard

to expected commodity gas cost, Texas Gas Transmission (“TGT”) pipeline transportation charges, and future rates from Carrollton Utilities.

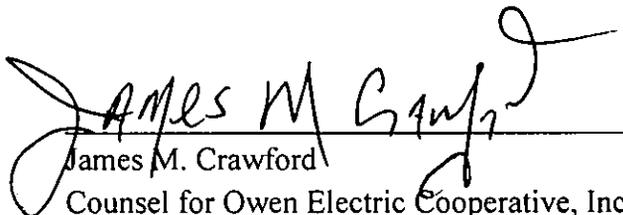
5. In its response to Request No. 11, Owen Electric is providing portions of the EKPC financial forecast, which includes information that is responsive to the request for information. Use of EKPC’s 2015 financial forecast was necessary to establish the basis for the cost savings associated with constructing the distributed generation unit. EKPC’s financial forecast is hereinafter referred to as the “Confidential Information.”
6. The Kentucky Open Records Act exempts from disclosure certain confidential and proprietary commercial information. See KRS 61.878(1)(c). To qualify for this exemption from public disclosure and, therefore, to maintain the confidentiality of the information, a party must establish that disclosure of the confidential and proprietary commercial information would permit an unfair advantage to competitors of that party. Public disclosure of the Confidential Information described above would lead to such a result.
7. The Confidential Information was developed internally by EKPC personnel and was provided to Owen Electric on a confidential basis for this proceeding. The Confidential Information is not on file with any public agency, and is not available from any commercial or other source. The Confidential Information is distributed within EKPC and Owen Electric only to those employees who must have access for business reasons, and is generally recognized as confidential and proprietary in the energy industry.
8. The Commission granted confidential treatment for EKPC’s financial forecast in Case No. 2014-00292, recognizing that EKPC was a party to that proceeding.
9. In accordance with 807 KAR 5:001, Section 13(3), Owen Electric is filing one copy of the response to Request No. 11 with the Confidential Information, under seal, which identifies the Confidential Information, and an original and ten copies of the response to Request No. 11 with the Confidential Information redacted.
10. In accordance with 807 KAR 5:001, Section 13(2), Owen Electric respectfully requests that the Confidential Information be treated as confidential under the Commission’s regulations for a period of ten years.

WHEREFORE, on the basis of the foregoing, Owen Electric respectfully requests the Commission to enter an Order granting this Motion and to so afford such protection from public

disclosure to the unredacted copies of the Confidential Information, which are filed herewith under seal, for a period of ten years.

This 10 day of August 2015.

Respectfully submitted,

A handwritten signature in black ink that reads "James M. Crawford". The signature is written in a cursive style with a large, looping initial "J".

James M. Crawford  
Counsel for Owen Electric Cooperative, Inc.  
Crawford & Baxter, P.S.C.  
P.O. Box 353  
Carrollton, Kentucky 41008  
Phone: (502) 732-6688  
Fax: (502) 732-8303  
CBJ523@aol.com



**OWEN ELECTRIC COOPERATIVE, INC.**

**PSC CASE NO. 2015-00213**

**CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY**

**RESPONSE TO INFORMATION REQUEST**

**COMMISSION STAFF'S INITIAL REQUEST FOR INFORMATION TO OWEN  
ELECTRIC COOPERATIVE, INC. DATED 7/30/2015**

**REQUEST 1**

**RESPONSIBLE PARTY: Mark A. Stallons**

**Request 1:** Refer to page 1 of the application. Explain why Owen Electric chooses to build generation at the two MW level.

**Response 1:** Owen Electric analyzed the minimum/maximum loading on EKPC's Bromley substation. The historical minimum substation loading was examined to aid the goals of operating the distributed generation unit for 85% of the year, while not allowing the unit to flow power back out onto the transmission system during lower demand intervals. Please see the load duration curves provided in the response to Request 4a. A two MW unit was determined to be the optimal rating to achieve these goals. Additionally, the two MW unit resulted in the most economical size.

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**REQUEST 2**

**RESPONSIBLE PARTY: Mark A. Stallons**

**Request 2:** Refer to page 3 of the application which states that the estimated capital cost of the distributed generation facility ("DG facility") is \$2.6 million.

- a. Provide a breakdown of the \$2.6 million.
- b. Provide the expected capacity factor of the DG facility and the estimated annual kWh to be produced.
- c. Provide the estimated Mcf of natural gas to be burned at the DG facility annually.
- d. Provide the proposed construction period and anticipated in-service date.

**Response 2a:** Please see the breakdown of the \$2.6 million provided on page 3 of this response.

**Response 2b:** The expected capacity factor of the DG facility is 85.5% and the estimated annual kWh to be produced are 14,889,000.

**Response 2c:** Owen Electric estimates burning 120,869 MMbtu of natural gas at the DG facility annually.

**Response 2d:** If Owen Electric receives a favorable Order from the Commission in this proceeding in October or November 2015, the current lead time from Caterpillar for the generator set and switchgear is 26-34 weeks. Because this is a turnkey project, the installation can be completed in 30 days. That said, the anticipated in-service date is between May and August 2016.

**Capital Cost Breakdown:**

Harshaw Trane Consulting	\$764,297.00
Whayne Power Systems--Caterpillar Model G3516H Natural Gas Fueled Electric Set, 1988 KW	\$1,485,000.00
Automatic Fire Suppression System Installed	\$28,750.00
Enclosure Sound Attenuation 75dBA @ 23 feet	\$23,750.00
Methane Detection Installed	\$3,500.00
CO Detection Installed	\$1,200.00
Heat Detection Installed	\$2,000.00
Strobe Lights (4) to activate on Methane, Heat & CO	\$1,875.00
E-Stop Pushbutton (2)	\$ 2,500.00
	<hr/>
	\$2,312,872.00
3% adder on above options	\$2,000.00
3% adder on Harshaw Trane	\$23,000.00
3% adder on Whayne Supply	\$45,000.00
Owen Interconnect & SCADA Costs	\$250,000.00
	<hr/>
Total Capital Costs	<u><u>\$2,632,872.00</u></u>

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**REQUEST 3**

**RESPONSIBLE PARTY: Mark A. Stallons**

**Request 3:** Refer to page 3 of the Prepared Testimony of Mark A. Stallons ("Stallons Testimony"), line 9. Is approval of Owen Electric's generation notice letter by East Kentucky Power Cooperative, Inc's ("EKPC") Board of Directors the only requirement Owen Electric must satisfy through EKPC?

**Response 3:** The only other requirement that Owen Electric must satisfy through EKPC is coordinating the overcurrent protection between the generator set and the Bromley substation.

OWEN ELECTRIC COOPERATIVE, INC.

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REQUEST 4

RESPONSIBLE PARTY:

**Request 4:** Refer to page 3 of the Stallons Testimony, lines 20-21.

- a. Provide the Request for Proposal that Owen Electric issued to build its DG facility.
- b. Provide a recap of all bids received, including the amount of each bid.
- c. Explain Owen Electric's decision process that resulted in the selection of Harshaw Trane's bid.

**Response 4a:** The Request for Proposal is provided on pages 2 through 8 of this response.

**Response 4b:** A recap of all bids received, including the amount of each bid, is provided on page 9 of this response.

**Response 4c:** Harshaw Trane was selected as the preferred vendor based upon their depth of knowledge and experience as indicated by our field visit to their project at Fort Knox, the completeness of their RFP response, the low heat rate of their recommended solution CAT 3516H, low O&M costs, and the resulting project simple payback of 5.42 years.



A Touchstone Energy Cooperative 

## ***Distributed Generation Feasibility Study***

### **Project Scope of Work**

**Site 1:** Owen Electric HQ - Bromley Substation

8205 Highway 127 North

Owenton, Owen County, KY 40359

Approximately 0.5 mile south of US 127 & KY 35 intersection

Gas Supply – Carrollton Utilities

#### **Site 1 - Scope of Work & Expectations:**

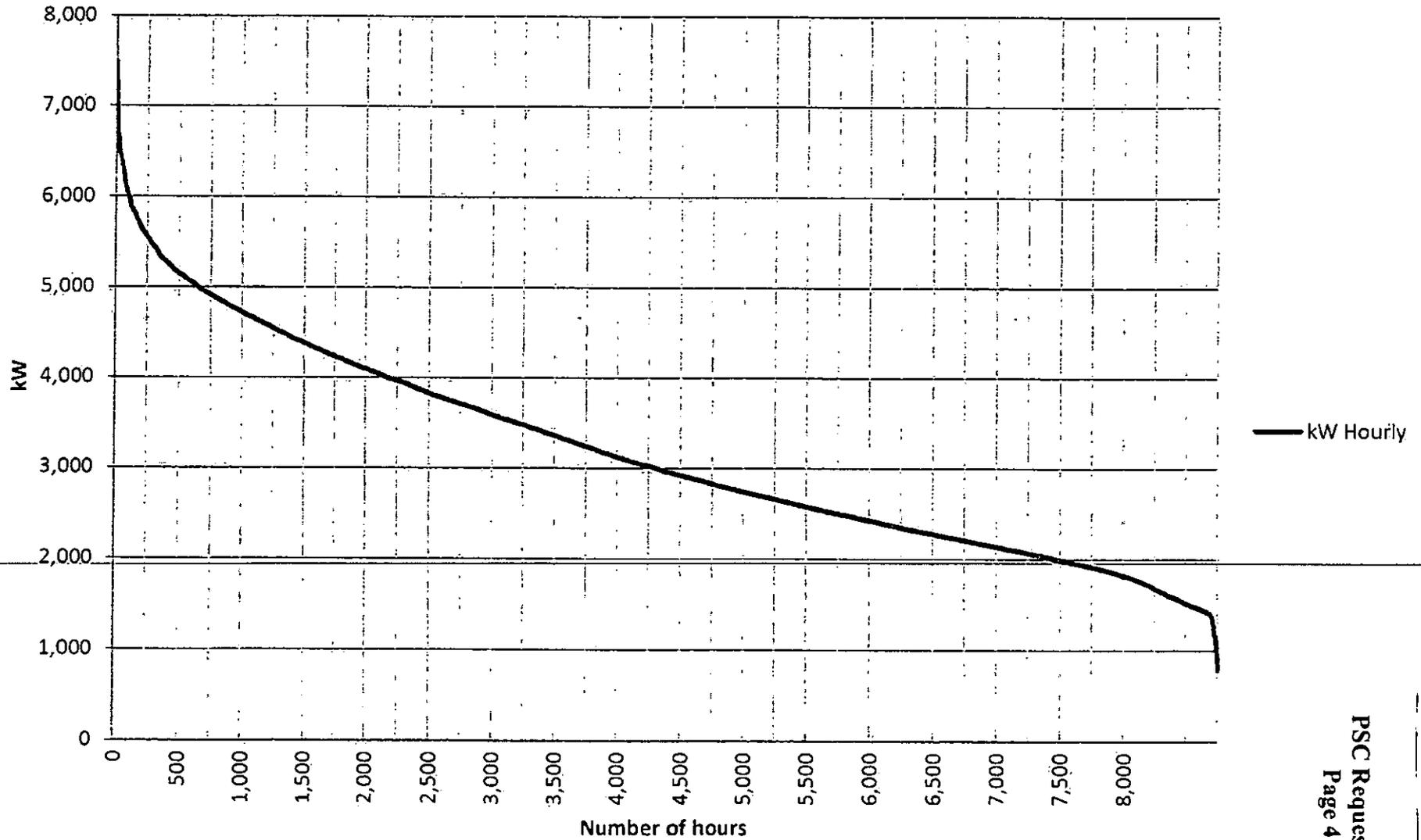
1. As a turnkey project and based upon Bromley Substation load duration curves supplied by Owen Electric (see exhibit A), the successful bidder shall size one or multiple reciprocating engines (DG unit(s)).
2. Owen requests that successful bidder provide: (1) a turnkey purchase price to own DG unit(s); (2) the expected annual maintenance cost; (3) the expected annual operating cost based upon \$4/MMbtu fuel and (4) the efficiency of the DG system.
3. The DG unit(s) shall run on natural gas fuel supplied by Carrollton Utilities facilities located on US Highway 127 (see exhibit B). The gas supply agreement shall be between Owen Electric and Carrollton Utilities (see Exhibit E).

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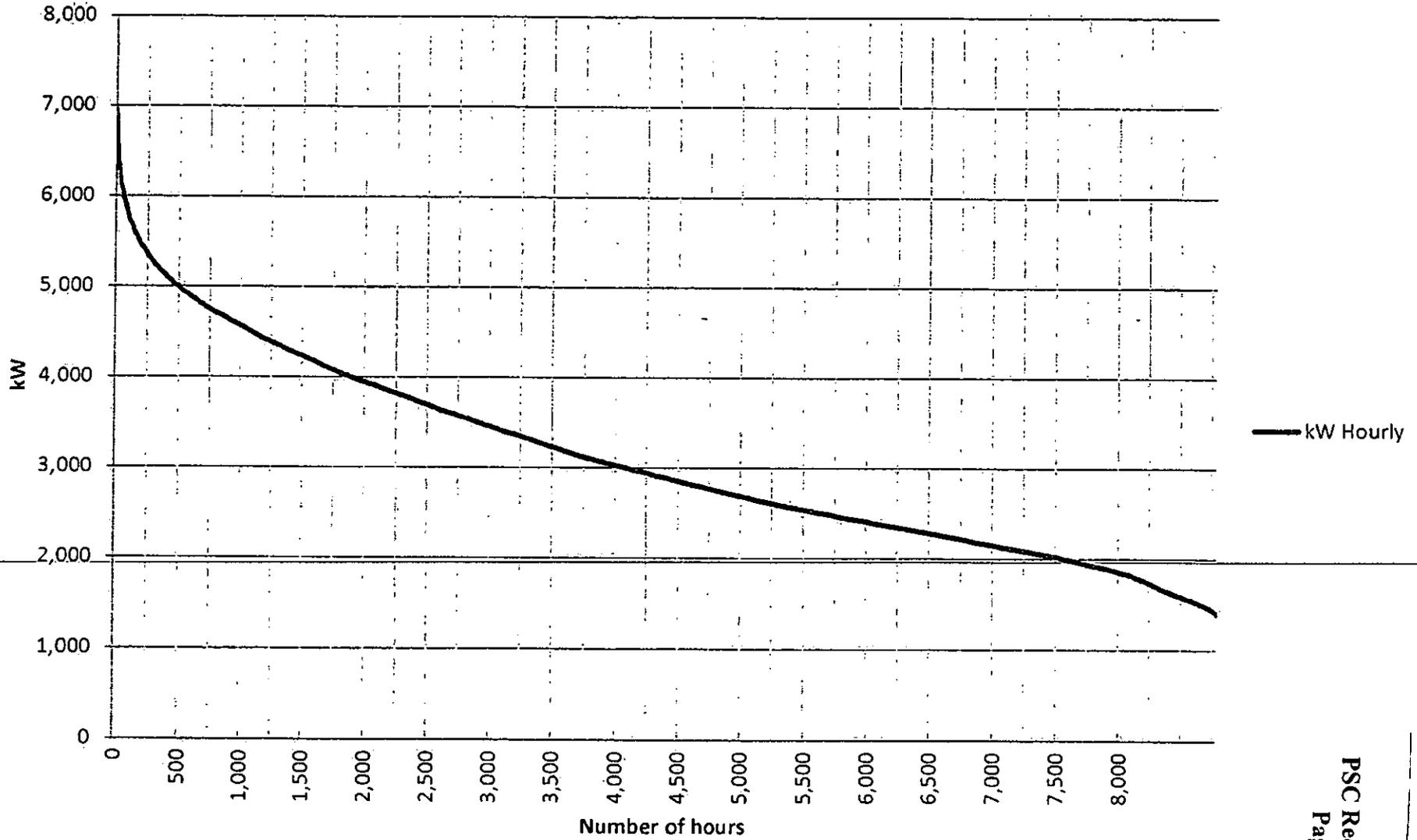
4. Please work with the fuel supplier to verify fuel requirements, fuel availability and the upfront and ongoing price to supply fuel to the potential distributed generation site.
5. The DG unit(s) shall have SCADA system compatible with Owen Electric's SCADA system (CG Automated Solutions).
6. Owen requests that the successful bidder provide as an option, a \$/MWh price for Owen to purchase the energy output of the DG unit(s) based upon bidder retaining ownership of DG unit(s).
7. Owen asks the successful bidder to acquire all necessary environmental permits required to construct, build, own, and operate the DG unit(s) to full capacity in excess of 8000 hours per year.

8. The DG unit(s) shall interconnect with Owen Electric's distribution grid at 14.4/24.9KV nominal three phase voltage with transformation as required. Interconnection shall comply with all applicable local, state, and federal codes and regulations, including IEEE 1547.
  9. In regards to performance issues:
    - a. The DG unit(s) shall synchronize with Owen's electrical distribution system and load follow when necessary, however standard operation shall be designed to supply at over 8000 hours per year a block of energy based upon Bromley Substation load duration curves.
    - b. DG unit(s) shall not back feed into EKPC transmission system.
    - c. Upon loss of grid power DG unit(s) shall shut down and isolate from Owen Electric's distribution grid.
    - d. In regards to maintenance issues, if Owen owns the DG unit(s), then Owen shall contract with recommended vendor for annual maintenance needs, otherwise, successful bidder shall provide required maintenance.
-

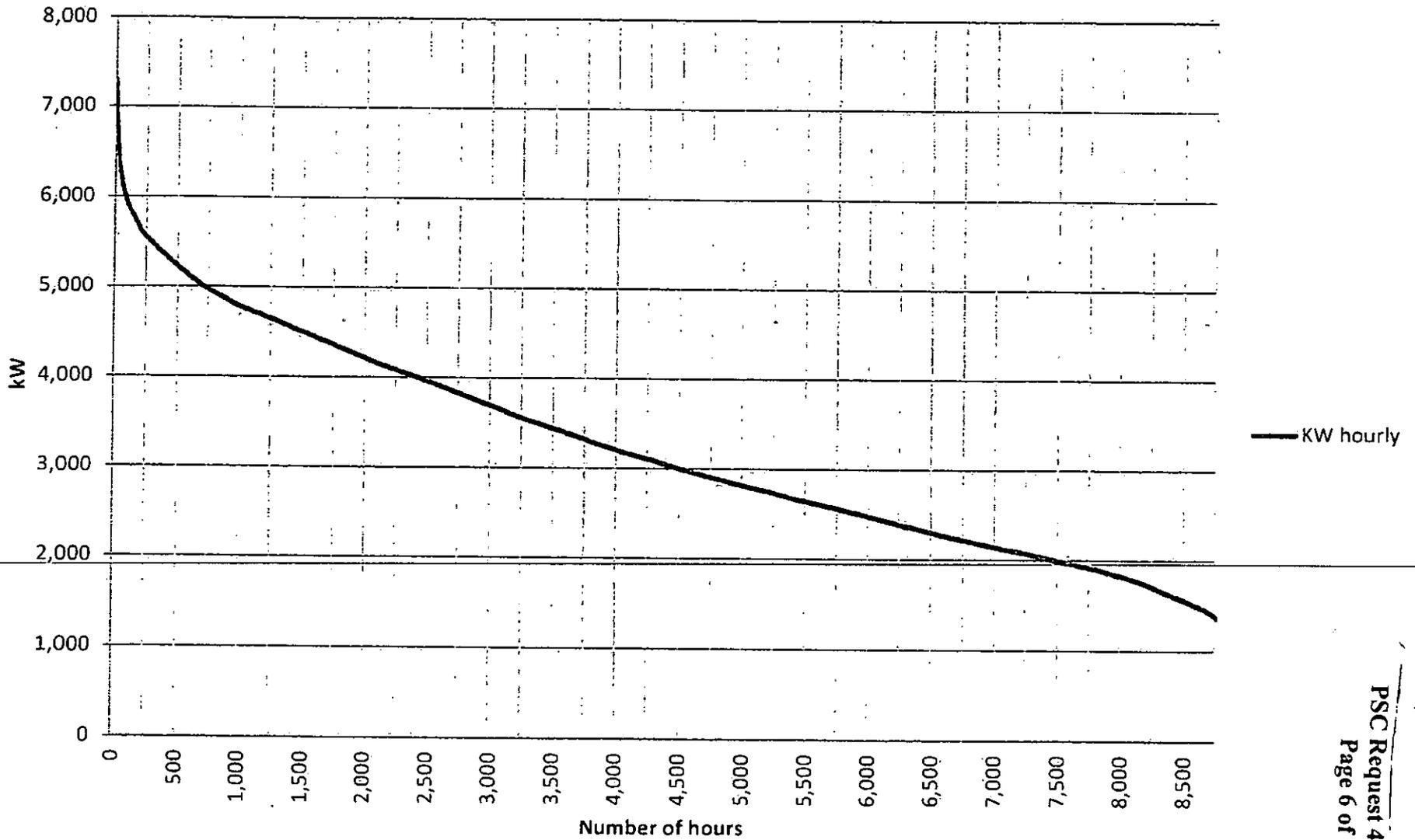
# Bromley 2011



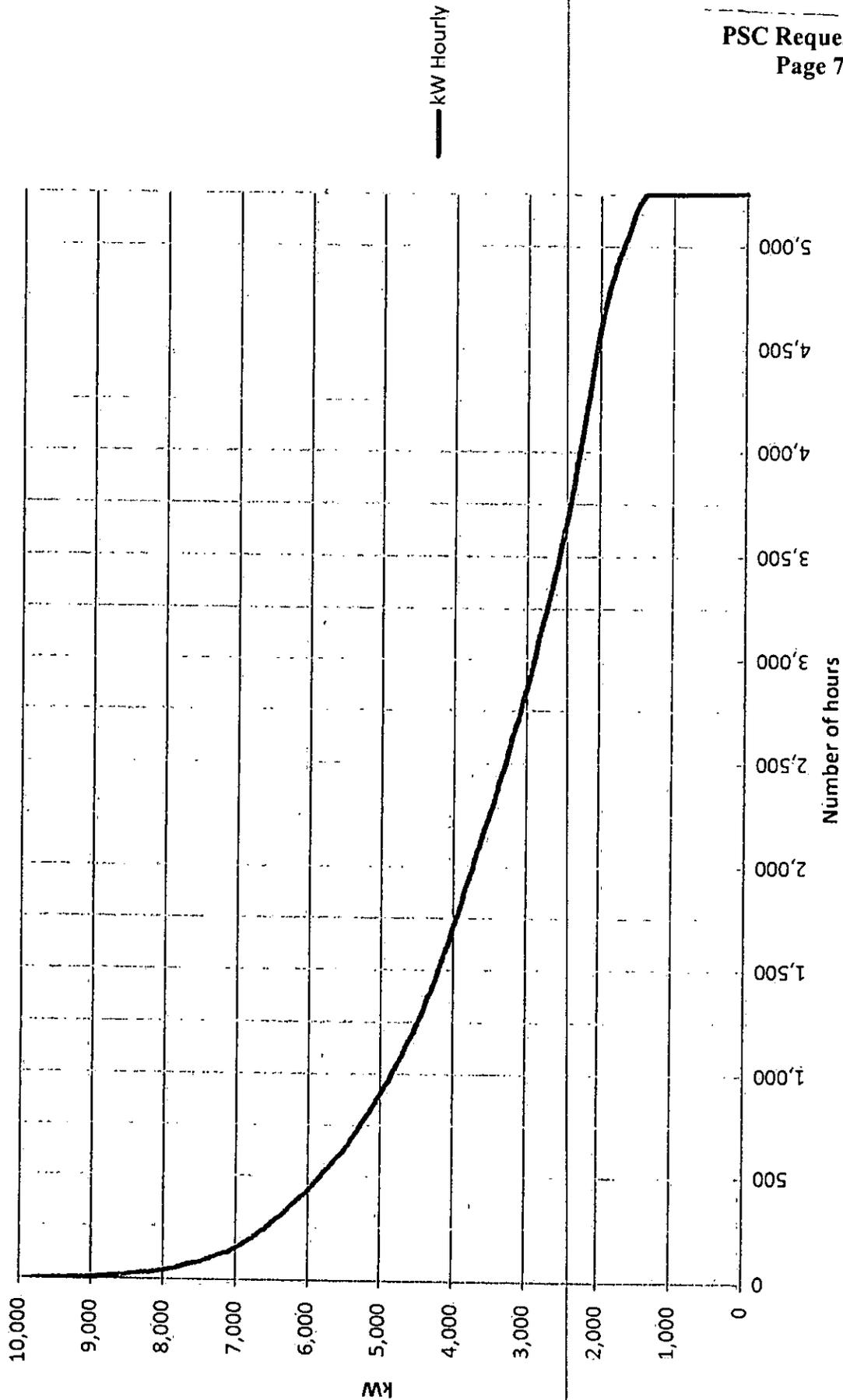
# Bromley 2012

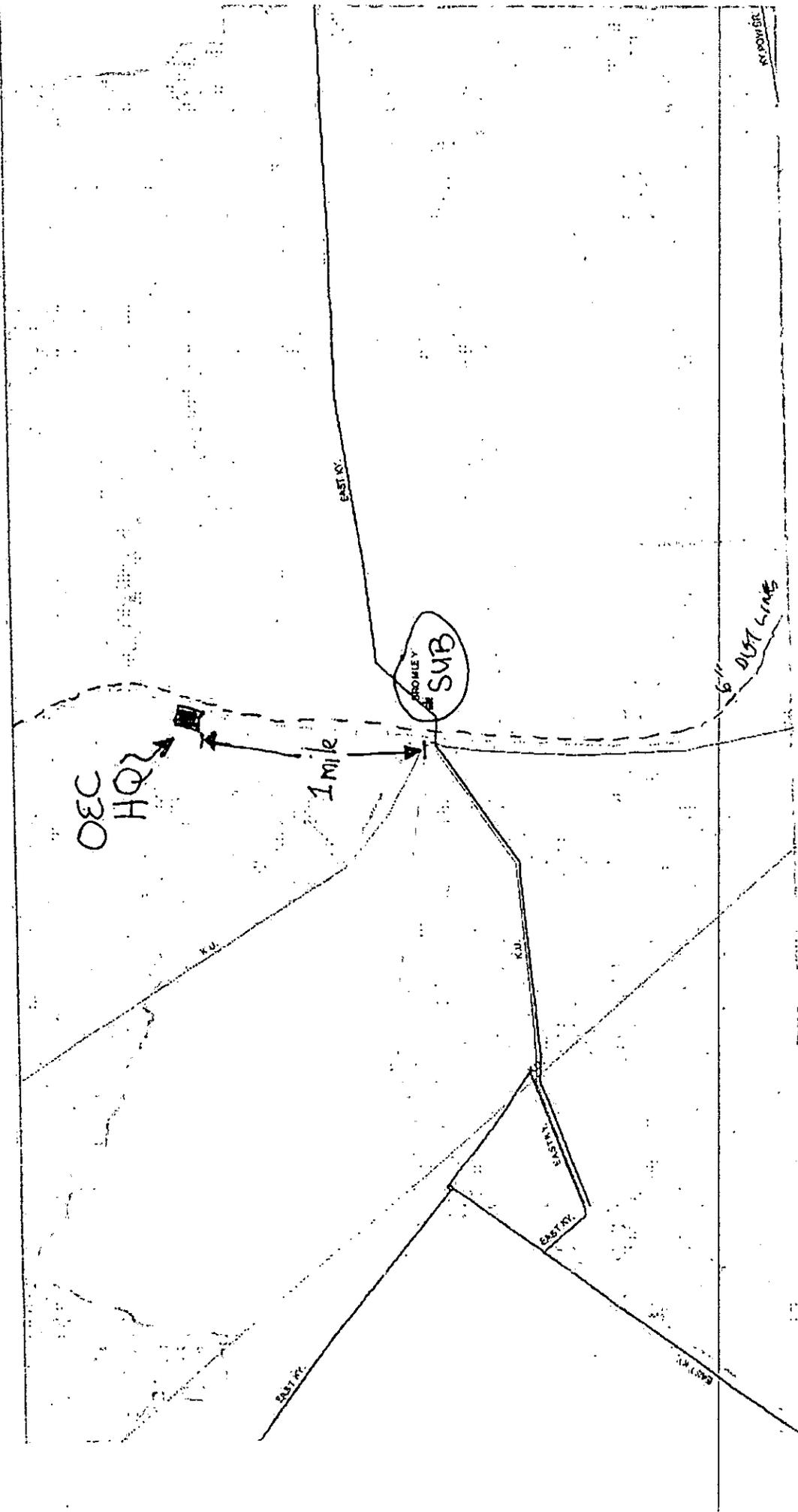


# Bromley 2013



**Bromley 1/1/14 - 8/7/14**





CARROLLTON UTILITIES

(502) 732-7055

ANDREW OAKLEY  
GIS TECH

### Owen Headquarters DG RFP Results

*EKPC Rate Assumptions:*

Avoided Demand Charge	\$	6.00
Avoided Energy Charge	\$	0.0500
Avoided Fuel	\$	-
Avoided Env Surcharge		12.5%

<u>Genset Mnf</u>	<u>Model</u>	<u>Total Cost</u>	<u>KW</u>	<u>Equivalent Hours Run</u>	<u>Annual MWh</u>	<u>Annual Fuel Consumed (MMBtu)</u>	<u>Annual Fuel Cost at \$4 NG</u>	<u>Annual Maint Cost</u>	<u>Annual Savings</u>	<u>Simple Payback</u>
<b>Harshaw Trane:</b>										
CAT	3516H	\$ 2,249,297	1,988	7,548	15,055	120,869	\$ 483,476	\$ 109,446	\$ 1,007,872	5.42
<b>Wellhead Energy</b>										
CAT	3516 H	\$ 1,985,181	1,966	7,573	14,889	120,869	\$ 483,476	\$ 160,000	\$ 996,752	5.62
<b>Fagen, Inc.</b>										
CAT	3520H	\$ 2,648,345	2,485	8,000	19,301	\$ 171,606	\$ 686,422	\$ 193,010	\$ 1,286,966	6.50
CAT	3516H	\$ 2,438,345	1,988	8,000	15,441	\$ 137,800	\$ 551,199	\$ 154,408	\$ 1,029,584	7.53
CAT	3520C	\$ 2,433,095	1,894	8,000	14,711	\$ 151,531	\$ 606,125	\$ 147,107	\$ 980,908	10.69
<b>Power Secure:</b>										
CAT	3520C	\$ 2,229,180	2055	8,300	16,673	177,941.5	\$ 711,766	\$ 169,729	\$ 1,104,311	10.00
CAT (used)	3520C	\$ 1,361,733	2055	8,300	16,673	177,941.5	\$ 711,766	\$ 169,729	\$ 1,104,311	6.11
MTU	12V4000	\$ 1,370,127	1151	8,300	9,548	85,969.5	\$ 343,878	\$ 165,308	\$ 630,306	11.31

**OWEN ELECTRIC COOPERATIVE, INC.**

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**REQUEST 5**

**RESPONSIBLE PARTY:**

**Request 5:** Refer to page 3 of the Stallons Testimony, lines 6-8, and Exhibit MAS-2. Provide Owen Electric's system load for the calendar years 2012 through 2015 as defined in Amendment 3 to the Wholesale Power Contract and the calculation of the amount of generation allowable under Amendment 3.

**Response 5:** The calculation of the amount of generation allowable under Amendment 3, for calendar years 2012-2014, is provided on page 2 of this response. This calculation reflects the billed demand versus actual demand and, as a result, is an approximation of Owen Electric's maximum amount of generation allowable under Amendment 3.

<u>Owen (Total)</u>	<u>KW</u>	<u>YTD KW</u>	<u>kWh</u>	<u>YTD kWh</u>
Jan-12	391,880	391,880	205,640,640	205,640,640
Feb-12	375,290	767,170	185,358,972	390,999,612
Mar-12	354,307	1,121,477	179,288,197	570,287,809
Apr-12	315,153	1,436,630	165,340,182	735,627,991
May-12	388,559	1,825,189	176,948,594	912,576,585
Jun-12	424,109	2,249,298	187,819,065	1,100,395,650
Jul-12	421,614	2,670,912	213,145,631	1,313,541,281
Aug-12	412,491	3,083,403	207,057,400	1,520,598,681
Sep-12	383,442	3,466,845	161,079,573	1,681,678,254
Oct-12	339,201	3,806,046	163,761,829	1,845,440,083
Nov-12	358,668	4,164,714	186,350,662	2,031,790,745
Dec-12	364,788	4,529,502	180,829,886	2,212,620,631
Jan-13	409,384	409,384	210,840,076	210,840,076
Feb-13	403,593	812,977	190,289,033	401,129,109
Mar-13	383,414	1,196,391	197,392,889	598,521,998
Apr-13	348,413	1,544,804	158,538,748	757,060,746
May-13	368,711	1,913,515	184,553,940	941,614,686
Jun-13	382,880	2,296,395	191,873,094	1,133,487,780
Jul-13	410,430	2,706,825	204,766,921	1,338,254,701
Aug-13	410,266	3,117,091	205,121,091	1,543,375,792
Sep-13	404,582	3,521,673	173,536,454	1,716,912,246
Oct-13	335,679	3,857,352	164,632,212	1,881,544,458
Nov-13	367,146	4,224,498	188,082,081	2,069,626,539
Dec-13	395,120	4,619,618	206,005,637	2,275,632,176
Jan-14	454,304	454,304	232,546,377	232,546,377
Feb-14	424,786	879,090	199,161,159	431,707,536
Mar-14	402,858	1,281,948	199,914,521	631,622,057
Apr-14	345,568	1,627,516	173,308,405	804,930,462
May-14	349,760	1,977,276	185,193,730	990,124,192
Jun-14	390,517	2,367,793	197,303,388	1,187,427,580
Jul-14	400,708	2,768,501	201,140,727	1,388,568,307
Aug-14	395,729	3,164,230	207,697,677	1,596,265,984
Sep-14	393,908	3,558,138	162,415,305	1,758,681,289
Oct-14	338,420	3,896,558	179,693,172	1,938,374,461
Nov-14	384,695	4,281,253	196,684,796	2,135,059,257
Dec-14	364,252	4,645,505	204,121,477	2,339,180,734
Average	383,184		189,650,932	
AVG 3 peaks past 36 months	429,614			
Amendment 3 - 15% level	64,442			
Amendment 3 - 10% level	42,961			
Amendment 3 - 7.5% level	32,221			
Amendment 3 - 5.0% level	21,481			

**OWEN ELECTRIC COOPERATIVE, INC.**

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**REQUEST 6**

**RESPONSIBLE PARTY: Mark A. Stallons**

**Request 6:** Refer to page 4 of the Stallons Testimony, line 8. Provide a cost breakdown for the supervisory control and data acquisition upgrade as it relates to Owen Electric's and EKPC's obligations.

**Response 6:** The cost breakdown for the SCADA upgrade as it related to Owen Electric's obligation is:

Installed Fiber	\$12,550
Equipment Enclosure	1,000
Miscellaneous Parts	1,500
RTU and Cabinet	<u>14,000</u>
Total	\$29,050

This amount is included in the estimated SCADA and interconnect costs provided in the response to Request 2. EKPC has no obligations with regard to SCADA.

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REQUEST 7

RESPONSIBLE PARTY: Mark A. Stallons

**Request 7:** Refer to page 4 of the Stallons Testimony, line 18. State the expected date of completion of the system impact study.

**Response 7:** The system impact study is expected to be completed by August 31, 2015.

**OWEN ELECTRIC COOPERATIVE, INC.**

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**REQUEST 8**

**RESPONSIBLE PARTY: Mark A. Stallons**

**Request 8:** Refer to page 7 of the Stallons Testimony, lines 4-6. Explain what is meant by "setup the ongoing air permit program."

**Response 8:** The Kentucky Division for Air Quality will outline the reporting requirements of the air permit. Harshaw Trane will assist Owen Electric in developing a process to comply with these reporting requirements.

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**REQUEST 9**

**RESPONSIBLE PARTY: Mark A. Stallons**

**Request 9:** Refer to the Stallons Testimony, beginning at page 7, line 18, through page 8, line 2.

- a. Confirm that the additional transmission and distribution facilities discussed on these pages are included in the estimated \$2.6 million capital costs of the DG facility.
- b. State whether something is missing in the last sentence at the bottom of page 7. If yes, provide the corrected text. If not, explain what is meant by the last sentence on page 7.

**Response 9a:** Owen Electric confirms that the additional distribution facilities discussed are included in the estimated \$2.6 million capital costs of the DG facility. The project does not impact the transmission system and, as a result, no new transmission facilities are required. However, the addition of a substation recloser is required, which is included in the capital cost estimate.

**Response 9b:** There is a stray "2" on Page 7, line 23. The text should read: "A small, three-phase pad transformer will be furnished by Owen Electric to provide 480/277V three-phase, ancillary power to the generator at the distributed generation site."

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**REQUEST 10**

**RESPONSIBLE PARTY: Mark A. Stallons**

**Request 10:** Refer to page 9 of the Stallons Testimony, line 7-13.

- a. Mr. Stallons states that the savings associated with the DG facility will allow Owen Electric to absorb the natural gas costs (lines 9-10) and to defer a future rate case (line 13). Provide the estimated remaining net annual savings after absorption of natural gas costs.
  - b. Explain whether Owen Electric's response on lines 9-10 indicates that neither the cost of the fuel purchased to operate the DG facility nor the kWh sold from the facility will be included in the calculation of Owen Electric's fuel adjustment clause ("FAC"). If not, explain the response.
  - c. Aside from the reduction in the amount of Owen Electric's expense of purchased power from EKPC (post-completion of the DG facility), confirm that the proposed facility will not affect Owen Electric's FAC calculation.
  - d. Compare the cost of fuel included in Owen Electric's base rates to the fuel cost to be used in the DG facility.
-

**Response 10a:** The net present value shown in Exhibit MAS-1 already reflects the net annual savings after absorption of natural gas costs.

**Response 10b:** Owen Electric confirms the costs of the fuel purchased to operate the DG facility will not be included in the calculation of Owen Electric's FAC. The energy generated from the DG project will not be sold. Rather, it will reduce the amount of energy purchased from EKPC.

**Response 10c:** Owen Electric confirms that, aside from the reduction in the amount of Owen Electric's purchased power expense from EKPC, the completion of the proposed facility will not affect Owen Electric's FAC calculation.

**Response 10d:** Owen Electric's fuel costs contained in its base rates is \$.03149/kWh. This is calculated considering EKPC's base fuel cost of \$.03014/kWh divided by (1-4.3% line loss), or 95.7%, as submitted to the Commission in Case No. 2010-00507. In 2016 the fuel cost of the DG facility approximates \$.03545/kWh.

OWEN ELECTRIC COOPERATIVE, INC.

PSC CASE NO. 2015-00213

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

RESPONSE TO INFORMATION REQUEST

COMMISSION STAFF'S INITIAL REQUEST FOR INFORMATION TO OWEN  
ELECTRIC COOPERATIVE, INC. DATED 7/30/2015

**REQUEST 11**

**RESPONSIBLE PARTY:**

**Request 11:** Refer to Exhibit MAS-1. For each of the 20 years shown, provide all information and calculations supporting the amounts shown for EKPC Savings and Annual Operating Costs. The information provided should be in sufficient detail to show all assumptions and source materials with regard to expected commodity gas cost, Texas Gas Transmission ("TGT") pipeline transportation charges, and future rates from Carrollton Utilities.

**Response 11:** The information requested is provided pages 2 through 7 of this response, and on the attached CD.

**Bromley Sub DG Project Financials**

		<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
Total Capital	\$ 2,632,872.00										
EKPC Savings		\$ 995,925.00	\$ 1,046,548.00	\$ 1,089,130.00	\$ 1,111,911.00	\$ 1,173,551.00	\$ 1,182,633.00	\$ 1,235,340.00	\$ 1,247,252.00	\$ 1,275,838.00	\$ 1,288,196.00
Annual Operating Costs		\$ 648,206.90	\$ 665,585.04	\$ 680,766.18	\$ 702,711.31	\$ 723,439.81	\$ 747,602.09	\$ 772,082.91	\$ 796,970.30	\$ 820,879.40	\$ 845,505.79
Net Cash Flow		\$ 347,718.10	\$ 380,962.96	\$ 408,363.82	\$ 409,199.69	\$ 450,111.19	\$ 435,030.91	\$ 463,257.09	\$ 450,281.70	\$ 454,958.60	\$ 442,690.21
		<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>
EKPC Savings		\$ 1,326,163.00	\$ 1,332,863.00	\$ 1,429,791.00	\$ 1,489,942.00	\$ 1,522,847.00	\$ 1,546,520.00	\$ 1,565,727.00	\$ 1,584,487.00	\$ 1,632,430.00	\$ 1,677,841.00
Annual Operating Costs		\$ 870,870.96	\$ 896,997.09	\$ 923,907.00	\$ 951,624.21	\$ 980,172.94	\$ 1,009,578.13	\$ 1,039,865.47	\$ 1,071,061.43	\$ 1,103,193.28	\$ 1,136,289.08
Net Cash Flow		\$ 455,292.04	\$ 435,865.91	\$ 505,884.00	\$ 538,317.79	\$ 542,674.06	\$ 536,941.87	\$ 525,861.53	\$ 513,425.57	\$ 529,236.72	\$ 541,551.92
Total Life Cycle Cash Flow (20 years)	\$ 9,367,625.69										
Net Present Value (20 years)	\$ 3,287,956.13										

**Bromley Sub DG Project Financials**

6-Aug-15

Owen Electric/DG Project/Bromley/Financial Analysis 061515

**Sensitivities**

Capital Multiplier	Unit Availability	Natural Gas Fuel Multiplier	EKPC Rates	EKPC Fuel Sensitivity	EKPC Market and NG Percentage (2015 Budget)
100.00%	100.00%	100.00%	100.00%	0.00%	19.00%

Escalator Year	3.00% 2015	3.00% 2016	3.00% 2017	3.00% 2018	3.00% 2019	3.00% 2020	3.00% 2021	3.00% 2022	3.00% 2023	3.00% 2024	3.00% 2025
Capital Upfront	\$ 2,632,872.00										
	Discounted Payout 7-8 years										

<b>EKPC Savings</b>		\$ 995,925.00	\$ 1,046,548.00	\$ 1,089,130.00	\$ 1,111,911.00	\$ 1,173,551.00	\$ 1,182,633.00	\$ 1,235,340.00	\$ 1,247,252.00	\$ 1,275,838.00	\$ 1,288,196.00
Annual Maint \$	\$ 109,466.00	\$ 112,749.98	\$ 116,132.48	\$ 119,616.45	\$ 123,204.95	\$ 126,901.10	\$ 130,708.13	\$ 134,629.37	\$ 138,668.25	\$ 142,828.30	\$ 147,113.15
Annual Insurance \$	\$ 7,400.00	\$ 7,622.00	\$ 7,850.66	\$ 8,086.18	\$ 8,328.77	\$ 8,578.63	\$ 8,835.99	\$ 9,101.07	\$ 9,374.10	\$ 9,655.32	\$ 9,944.98
Annual Fuel Consumed		120,869	120,869	120,869	120,869	120,869	120,869	120,869	120,869	120,869	120,869
Fuel Cost/mmbtu		\$ 4.367	\$ 4.481	\$ 4.576	\$ 4.726	\$ 4.864	\$ 5.031	\$ 5.199	\$ 5.369	\$ 5.530	\$ 5.696
Annual Fuel \$		\$ 527,834.92	\$ 541,601.90	\$ 553,063.55	\$ 571,177.60	\$ 587,960.09	\$ 608,057.97	\$ 628,352.47	\$ 648,927.94	\$ 668,395.78	\$ 688,447.66
<b>Annual Operating Costs</b>		\$ 648,206.90	\$ 665,585.04	\$ 680,766.18	\$ 702,711.31	\$ 723,439.81	\$ 747,602.09	\$ 772,082.91	\$ 796,970.30	\$ 820,879.40	\$ 845,505.79
<b>Net Cash Flow</b>		\$ 347,718.10	\$ 380,962.96	\$ 408,363.82	\$ 409,199.69	\$ 450,111.19	\$ 435,030.91	\$ 463,257.09	\$ 450,281.70	\$ 454,958.60	\$ 442,690.21
Discount Rate	4.50%	1.0450	1.092	1.1412	1.1925	1.2462	1.3023	1.3609	1.4221	1.4861	1.553
Discounted cash flow		\$ 332,744.59	\$ 348,867.18	\$ 357,837.21	\$ 343,144.39	\$ 361,186.96	\$ 334,048.16	\$ 340,404.95	\$ 316,631.53	\$ 306,142.65	\$ 285,054.87
Total Discounted Cash Flow	\$ 5,920,828.13		\$ 681,611.77	\$ 1,039,448.97	\$ 1,382,593.37	\$ 1,743,780.33	\$ 2,077,828.48	\$ 2,418,233.43 \$ 2,734,864.97		\$ 3,041,007.62	\$ 3,326,062.49
<b>NPV (20 years cash flow)</b>		\$ 3,287,956.13									
Net Cash Flow (20 years)		\$ 9,367,625.69									

Escalator Year	3.00% 2026	3.00% 2027	3.00% 2028	3.00% 2029	3.00% 2030	3.00% 2031	3.00% 2032	3.00% 2033	3.00% 2034	3.00% 2035
<b>EKPC Savings</b>	\$ 1,326,163.00	\$ 1,332,863.00	\$ 1,429,791.00	\$ 1,489,942.00	\$ 1,522,847.00	\$ 1,546,520.00	\$ 1,565,727.00	\$ 1,584,487.00	\$ 1,632,430.00	\$ 1,677,841.00
Annual Maint \$	\$ 151,526.54	\$ 156,072.34	\$ 160,754.51	\$ 165,577.15	\$ 170,544.46	\$ 175,660.80	\$ 180,930.62	\$ 186,358.54	\$ 191,949.29	\$ 197,707.77
Annual Insurance \$	\$ 10,243.33	\$ 10,550.63	\$ 10,867.15	\$ 11,193.16	\$ 11,528.96	\$ 11,874.83	\$ 12,231.07	\$ 12,598.00	\$ 12,975.94	\$ 13,365.22
Annual Fuel Consumed		120,869	120,869	120,869	120,869	120,869	120,869	120,869	120,869	120,869
Fuel Cost/mmbtu		\$ 5.867	\$ 6.043	\$ 6.224	\$ 6.411	\$ 6.603	\$ 6.801	\$ 7.005	\$ 7.215	\$ 7.432
Annual Fuel \$		\$ 709,101.08	\$ 730,374.12	\$ 752,285.34	\$ 774,853.90	\$ 798,099.52	\$ 822,042.50	\$ 846,703.78	\$ 872,104.89	\$ 898,268.04
<b>Annual Operating Costs</b>		\$ 870,870.96	\$ 896,997.09	\$ 923,907.00	\$ 951,624.21	\$ 980,172.94	\$ 1,009,578.13	\$ 1,039,865.47	\$ 1,071,061.43	\$ 1,103,193.28
<b>Net Cash Flow</b>		\$ 455,292.04	\$ 435,865.91	\$ 505,884.00	\$ 538,317.79	\$ 542,674.06	\$ 536,941.87	\$ 525,861.53	\$ 513,425.57	\$ 529,236.72
Discount Rate	1.6229	1.6959	1.7722	1.8519	1.9353	2.0224	2.1134	2.2085	2.3079	2.4117
Discounted cash flow		\$ 280,542.26	\$ 257,011.56	\$ 285,455.37	\$ 290,684.05	\$ 280,408.24	\$ 265,497.37	\$ 248,822.53	\$ 232,477.05	\$ 229,315.27
Total Discounted Cash Flow		\$ 3,606,604.75	\$ 3,863,616.32	\$ 4,149,071.68	\$ 4,439,755.73	\$ 4,720,163.97	\$ 4,985,661.33	\$ 5,234,483.86	\$ 5,466,960.91	\$ 5,696,276.18

## Harshaw Trane DG Projected Cost

<u>CAT 3516H Unit</u>	<u>Cost</u>	
Harshaw Trane Payments	\$ 764,297.00	
Whayne Power Systems	\$ 1,485,000.00	
Total Upfront Basic Cost	\$ 2,249,297.00	
KW	1988	
Hours Run	7,548	
Annual MWH	14,889	
Annual Fuel Consumed	120,869	
Annual Maintenance Cost	\$ 109,446.00	
Asset Life (years)	25	
<u>Optional Features Chosen</u>		
Automatic Fire Suppression System Installed	\$ 28,750.00	
Enclosure Sound Attenuation 75dBA @ 23 feet	\$ 23,750.00	
Methane Detection Installed	\$ 3,500.00	
CO Detection Installed	\$ 1,200.00	
Heat Detection Installed	\$ 2,000.00	
Strobe Lights (4) to activate on Methane, Heat & CO	\$ 1,875.00	
E-Stop Pushbutton (2)	\$ 2,500.00	
	\$ 63,575.00	
3% adder on above options	\$ 2,000.00	\$ 1,907.25
3% adder on Harshaw Trane	\$ 23,000.00	\$ 22,928.91
3% adder on Whayne Supply	\$ 45,000.00	\$ 44,550.00
Owen Interconnect & SCADA Costs	\$ 250,000.00	
Total Additional Costs	\$ 383,575.00	
<b>Total Costs</b>	<b>\$ 2,632,872.00</b>	

**Carrollton Gas Cost**

Distribution Pipeline Costs	\$ -
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Year	<u>2015</u>	<u>2016</u>	<u>2017</u>
Local Distribution	\$ 0.50	\$ 0.50	\$ 0.50
Intrastate Charge	\$ 0.50	\$ 0.50	\$ 0.50
Total Cost \$/mmbtu	\$ 1.00	\$ 1.00	\$ 1.00

<b><u>NYMEX Futures</u></b>											
Escalator		3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Year	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Annual NYMEX Henry Hub Futures	\$ 3.192	\$ 3.337	\$ 3.420	\$ 3.483	\$ 3.600	\$ 3.705	\$ 3.837	\$ 3.969	\$ 4.102	\$ 4.225	\$ 4.352
Local & Intrastate charges	\$ 1.000	\$ 1.030	\$ 1.061	\$ 1.093	\$ 1.126	\$ 1.159	\$ 1.194	\$ 1.230	\$ 1.267	\$ 1.305	\$ 1.344
Total Cost per mmbtu	\$ 4.192	\$ 4.367	\$ 4.481	\$ 4.576	\$ 4.726	\$ 4.864	\$ 5.031	\$ 5.199	\$ 5.369	\$ 5.530	\$ 5.696
Escalator		3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Year	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	
Annual NYMEX Henry Hub Futures	\$ 4.482	\$ 4.617	\$ 4.755	\$ 4.898	\$ 5.045	\$ 5.196	\$ 5.352	\$ 5.513	\$ 5.678	\$ 5.849	
Local & Intrastate charges	\$ 1.384	\$ 1.426	\$ 1.469	\$ 1.513	\$ 1.558	\$ 1.605	\$ 1.653	\$ 1.702	\$ 1.754	\$ 1.806	
Total Cost per mmbtu	\$ 5.867	\$ 6.043	\$ 6.224	\$ 6.411	\$ 6.603	\$ 6.801	\$ 7.005	\$ 7.215	\$ 7.432	\$ 7.655	

**NYMEX Henry Hub Futures (source CME group Jun 15, 2015)**

<http://www.cmegroup.com/trading/energy/natural-gas/natural-gas.html>

Month	2015		2016		2017		2018	2019	2020	2021	2022	2023	2024	2025
	<u>Prior</u> <u>Settle</u>	<u>Last</u>	<u>Prior</u> <u>Settle</u>	<u>Last</u>	<u>Prior</u> <u>Settle</u>	<u>Last</u>	<u>Prior</u> <u>Settle</u>							
Jan			3.243	3.296	3.498	3.505	3.652	3.713	3.818	3.939	4.059	4.186	4.324	4.464
Feb			3.241	3.289	3.488		3.633	3.694	3.799	3.914	4.036	4.163	4.301	4.441
Mar			3.202	3.248	3.430		3.572	3.633	3.738	3.846	3.970	4.096	4.234	4.374
Apr			3.046	3.082	3.192		3.262	3.313	3.436	3.526	3.655	3.786	3.909	4.039
May			3.049	3.082	3.194		3.260	3.316	3.436	3.526	3.647	3.774	3.894	4.024
Jun			3.077	3.109	3.231		3.293	3.349	3.466	3.556	3.677	3.804	3.926	2.822
Jul	2.750	2.835	3.116	3.146	3.271		3.330	3.385	3.498	3.593	3.715	3.845	3.971	
Aug	2.776	2.857	3.124	3.138	3.282		3.342	3.402	3.521	3.623	3.753	3.883	4.013	
Sep	2.792	2.869	3.116	3.130	3.272		3.334	3.394	3.515	3.620	3.759	3.893	4.026	
Oct	2.826	2.900	3.146	3.180	3.294		3.356	3.418	3.544	3.656	3.804	3.945	4.086	
Nov	2.949	3.013	3.216	3.235	3.365		3.425	3.498	3.624	3.739	3.889	4.031	4.174	
Dec	3.138	<u>3.194</u>	3.371	<u>3.370</u>	<u>3.527</u>		<u>3.586</u>	<u>3.680</u>	<u>3.806</u>	<u>3.924</u>	<u>4.076</u>	<u>4.219</u>	<u>4.367</u>	
Average		2.945		3.192	3.337		3.420	3.483	3.600	3.705	3.837	3.969	4.102	4.027
% Increase				8.39%	4.54%		2.49%	1.84%	3.36%	2.92%	3.55%	3.44%	3.36%	

**EKPC Savings**

Annual MWH 14,889

<b>2015 - 20 year Financial Forecast - Page 2</b>										
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
Base Rates Non Fuel \$/MWh										
Base Rates Fuel \$/MWh										
Fuel Adjustment										
Env Surcharge										
Smith Surcharge & Cap Mkt Credit										
Avg Cost To Members										
Average Savings	\$ 995,925	\$ 1,046,548	\$ 1,089,130	\$ 1,111,911	\$ 1,173,551	\$ 1,182,633	\$ 1,235,340	\$ 1,247,252	\$ 1,275,838	\$ 1,288,196
Annual Increase		5.08%	4.07%	2.09%	5.54%	0.77%	4.46%	0.96%	2.29%	0.97%
	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>
Base Rate Non Fuel \$/MWh										
Base Rates Fuel \$/MWh										
Fuel Adjustment										
Env Surcharge										
Smith Surcharge & Cap Mkt Credit										
Avg Cost To Members										
Average Savings	\$ 1,326,163	\$ 1,332,863	\$ 1,429,791	\$ 1,489,942	\$ 1,522,847	\$ 1,546,520	\$ 1,565,727	\$ 1,584,487	\$ 1,632,430	\$ 1,677,841
Annual Increase	2.95%	0.51%	7.27%	4.21%	2.21%	1.55%	1.24%	1.20%	3.03%	2.78%

REDACTED

OWEN ELECTRIC COOPERATIVE, INC.

PSC CASE NO. 2015-00213

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

RESPONSE TO INFORMATION REQUEST

COMMISSION STAFF'S INITIAL REQUEST FOR INFORMATION TO OWEN  
ELECTRIC COOPERATIVE, INC. DATED 7/30/2015

**REQUEST 12**

**RESPONSIBLE PARTY:** Mark A. Stallons

**Request 12:** State whether the underlying natural gas transportation service from TGT will be firm or interruptible.

**Response 12:** The underlying natural gas transportation service from TGT will be firm.

**OWEN ELECTRIC COOPERATIVE, INC.**

**PSC CASE NO. 2015-00213**

**CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY**

**RESPONSE TO INFORMATION REQUEST**

**COMMISSION STAFF'S INITIAL REQUEST FOR INFORMATION TO OWEN  
ELECTRIC COOPERATIVE, INC. DATED 7/30/2015**

**REQUEST 13**

**RESPONSIBLE PARTY: Mark A. Stallons**

**Request 13:** Refer to Exhibit B of the application. Explain Owen Electric's decision to place the generator on its headquarter property.

**Response 13:** Owen Electric decided to place the generator on its headquarters property for three reasons. First, Owen Electric already owned the land and avoided site acquisition costs. Second, the headquarters property is close to EKPC's Bromley substation and minimal distribution investment was needed to interconnect the DG unit. Third, Carrollton Utilities has an existing natural pipeline that is located near the headquarters property, thus avoiding a pipeline extension.