
Entergy's Current Weekly Request for Proposals

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Overview

- Origin of Weekly RFP Process and Initial Meetings
- Statistics Related to Current Weekly RFP Process
- Explanation of Decline in Volumes Purchased
- Description of Desired Products
- Common Questions

Origin and Progress of Weekly RFP Process

- Initial workshop was hosted by Entergy in November 2001 to present concept of Weekly RFP to merchants.
 - 22 companies and consultants were represented at the workshop.
 - Subsequent meetings were hosted by Entergy to develop the Weekly RFP process.
- Offers were first accepted in April 2002
- As of August 2004, 25 companies have submitted offers from at least 40 different generating stations.
- Currently, 35 companies receive the Weekly RFP.

Attendees of the workshops to develop the weekly market

AEP

BP

Cleco Marketing and Trading

Dominion/Virginia Power

Exelon

Mirant

Occidental

PG&E

Reliant

Summit Group

Tractabel

Air Liquide

Calpine

Coral Energy

Duke

Exxon Mobil

NRG

ONEOK

Panda Energy

Ridge Energy

TECO Power Services

Xcel Energy

Weekly RFP Offers

- In the past 2 years there have been over 1,000 offers made in the weekly RFP process.
- The cumulative capacity offered has been over 290,000 MW of capability.
- During that time we have selected over 84,000 MW. ~ 23%

Success rates of suppliers

Company	Offers	Accepted	% Accepted
A	82	38	46%
B	78	31	40%
C	123	25	20%
D	56	22	39%
E	110	17	15%
F	27	12	44%
G	69	11	16%
H	192	43	22%
I	162	15	9%
J	25	13	52%
K	60	13	22%
L	49	12	24%
M	9	9	100%
N	38	6	16%
Others (11)	75	3	4%
Total	1155	270	23%

Key Components of a Weekly Offer

- Heat Rate
- Fuel Adder
- Flexibility

A high Fuel Adder turns a good deal bad

An 8,000 heat rate is usually a good offer

Gas Price
\$ 6.00 / mmBtu

Heat Rate
8,000 Btu/KWh

Cost Of Energy
\$48.00/MWh

A high Fuel Adder turns a good deal bad

An 8,000 heat rate is usually a offer

But!!

Gas Price
\$ 6.00 / mmBtu

Heat Rate
8,000 Btu/KWh

Cost Of Energy
\$48.00/MWh

* Fuel Adder
\$0.50 / mmBtu

* Note: Fuel adders range from \$0.00/mmBtu to \$1.00/mmBtu

A high Fuel Adder turns a good deal bad

An 8,000 heat rate is usually a good offer

But!!

It becomes a bad deal.

Gas Price \$ 6.00 / mmBtu
Heat Rate 8,000 Btu/KWh
Cost Of Energy \$48.00/MWh

Fuel Adder \$0.50 / mmBtu

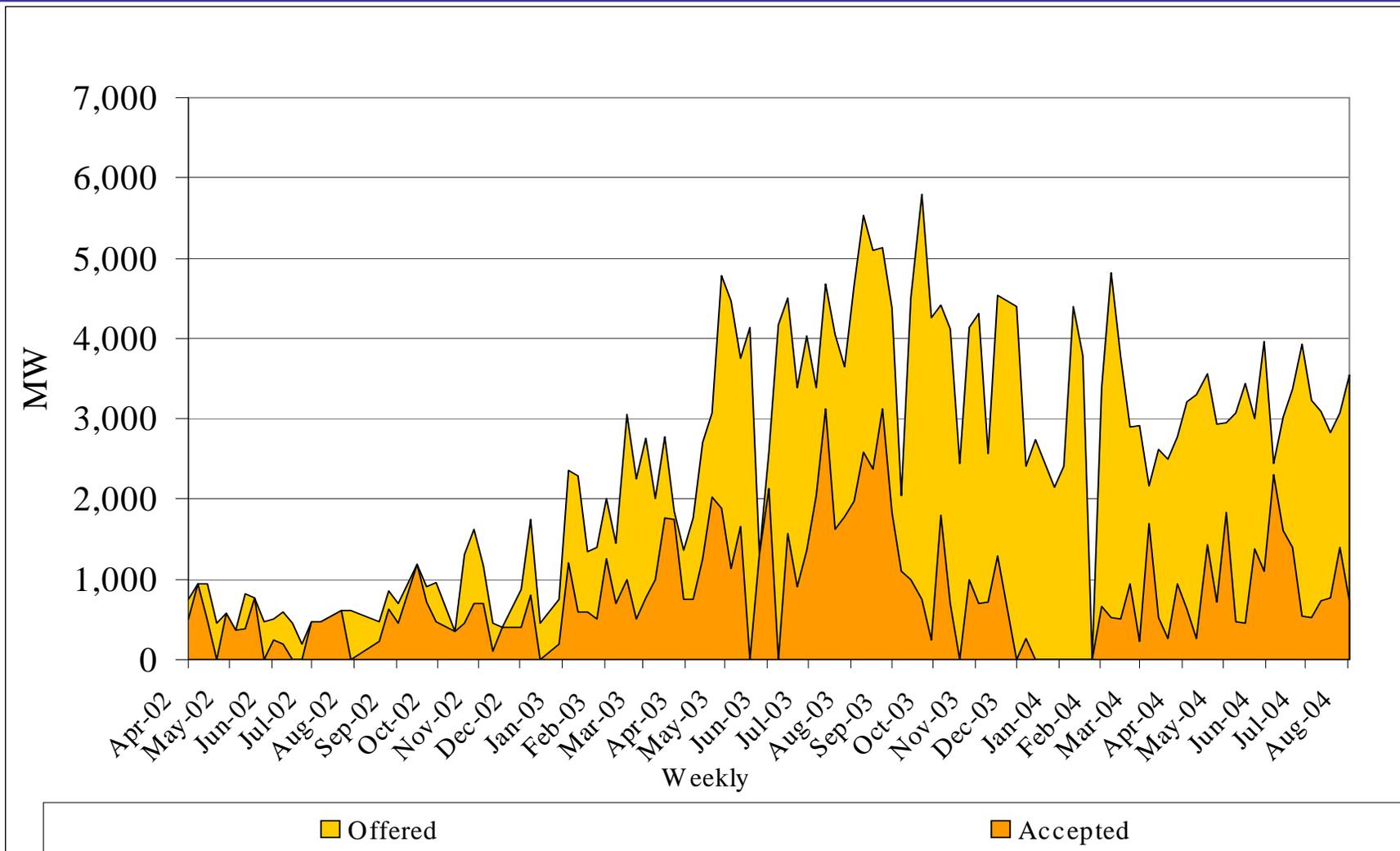
Gas Price \$ 6.50 / mmBtu
Heat Rate 8,000 Btu/KWh
Cost Of Energy \$52.00/MWh

The effective heat rate becomes 8,667 Btu/KWh.

Offers with Flexibility have been rare and expensive

- Of the over 1,000 offers received in the Weekly market, approximately 40 provided current day flexibility. ~4%
- The flexible offers totaled approximately 12,000 MW and 2,000 MW were selected. ~16%
- Offers have generally included high minimum run level as compared to owned generation.
- The magnitude of the flexibility offer has been small, generally 50 – 100 MW.

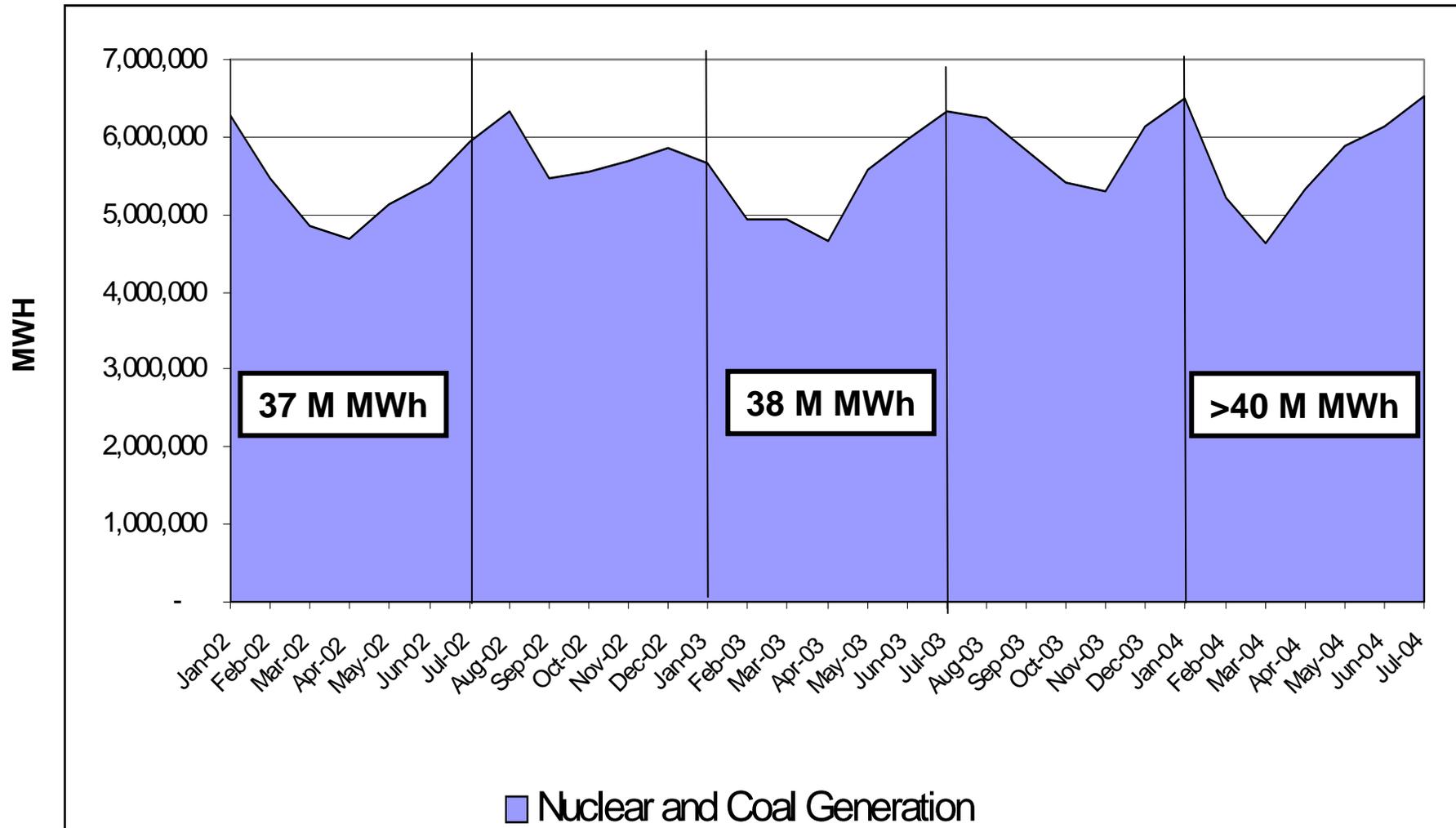
Weekly Capability Offered versus Accepted



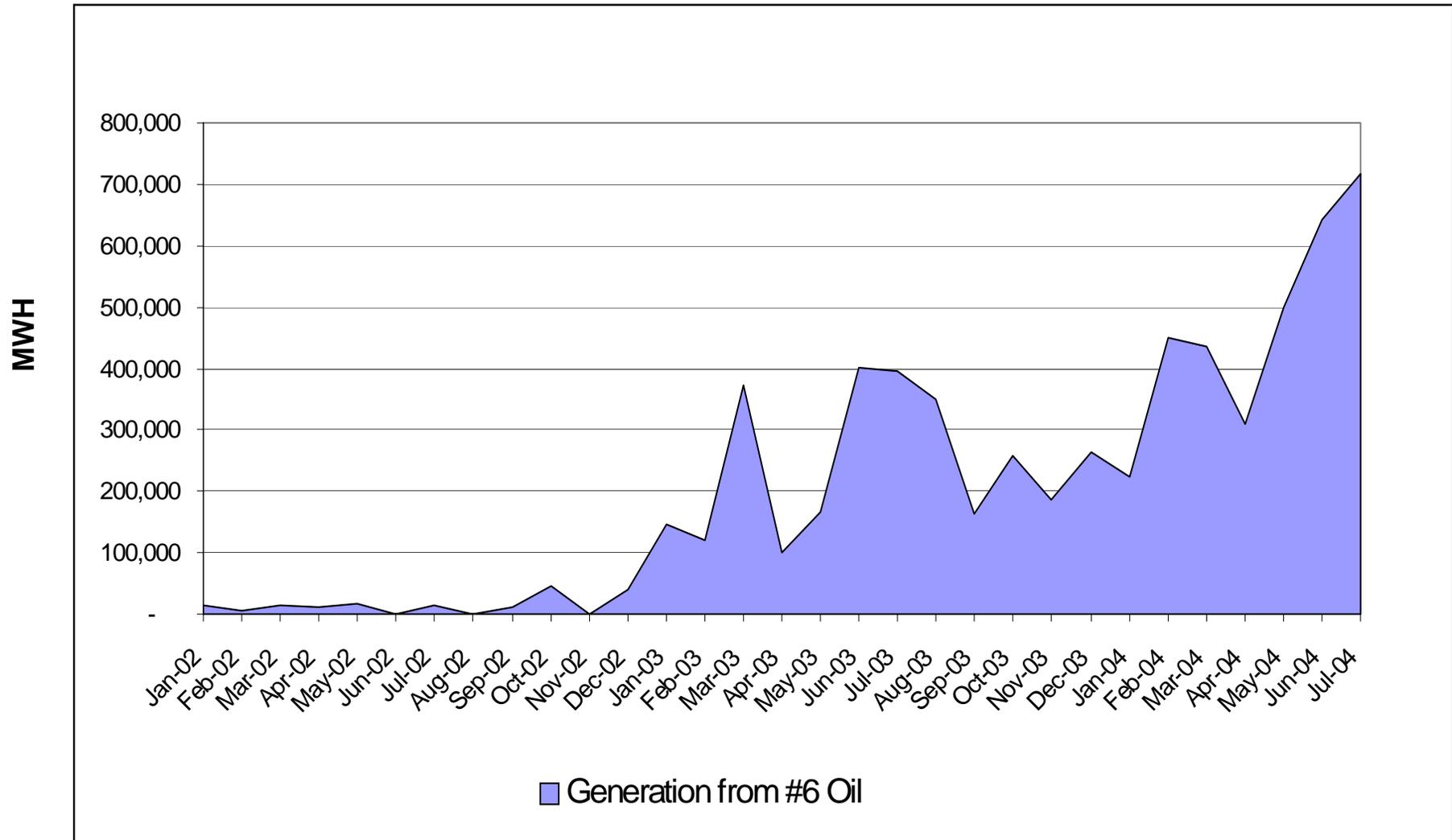
The decline in purchases under the Weekly RFP's is due to four factors

- Increase in coal and nuclear generation.
- Price of #6 oil has made it more economical than natural gas.
- Deliveries from QFs have increased.
- Greater utilization of long-term purchases.

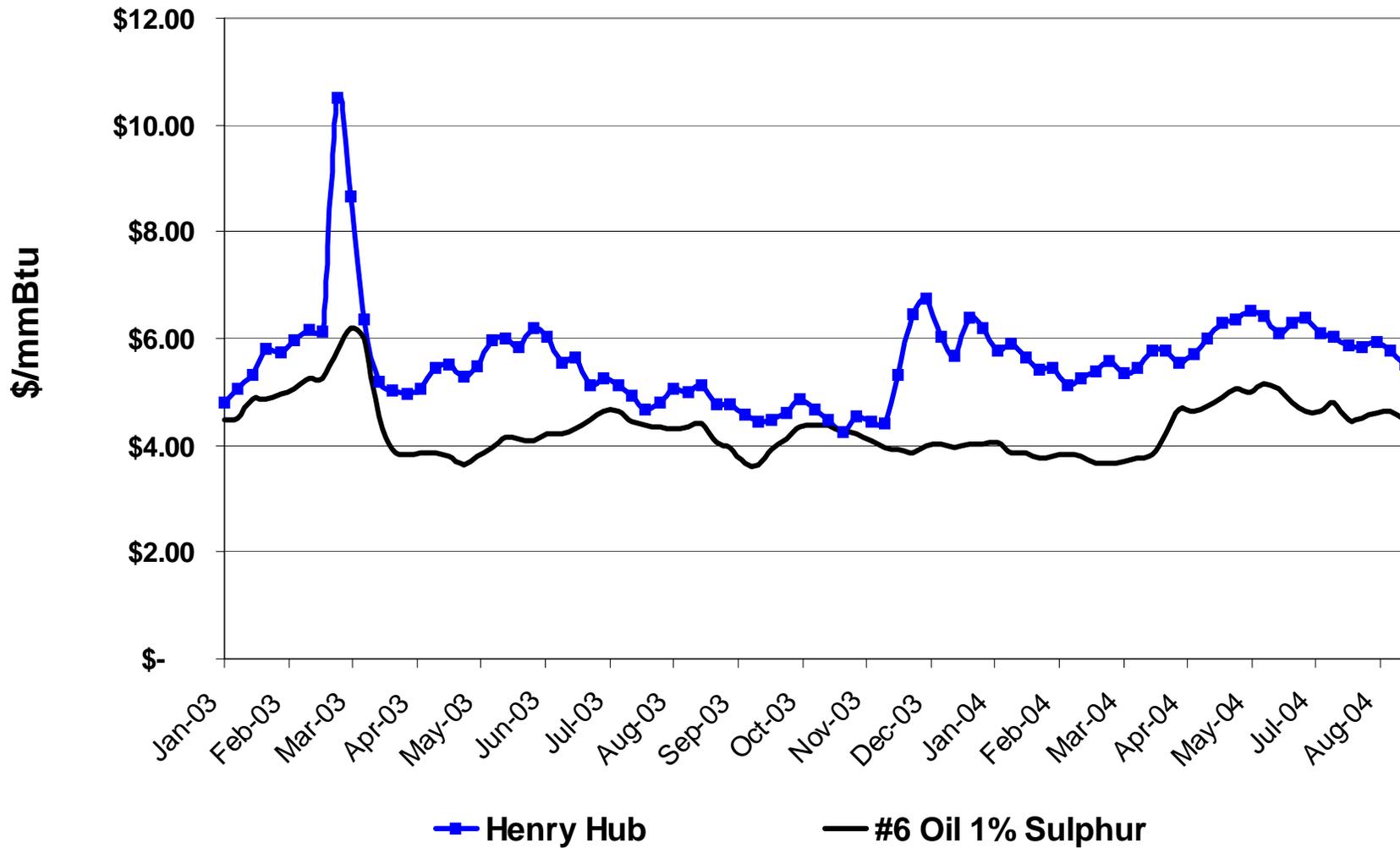
2004 Nuclear and Coal output has increased by 6% from 2002



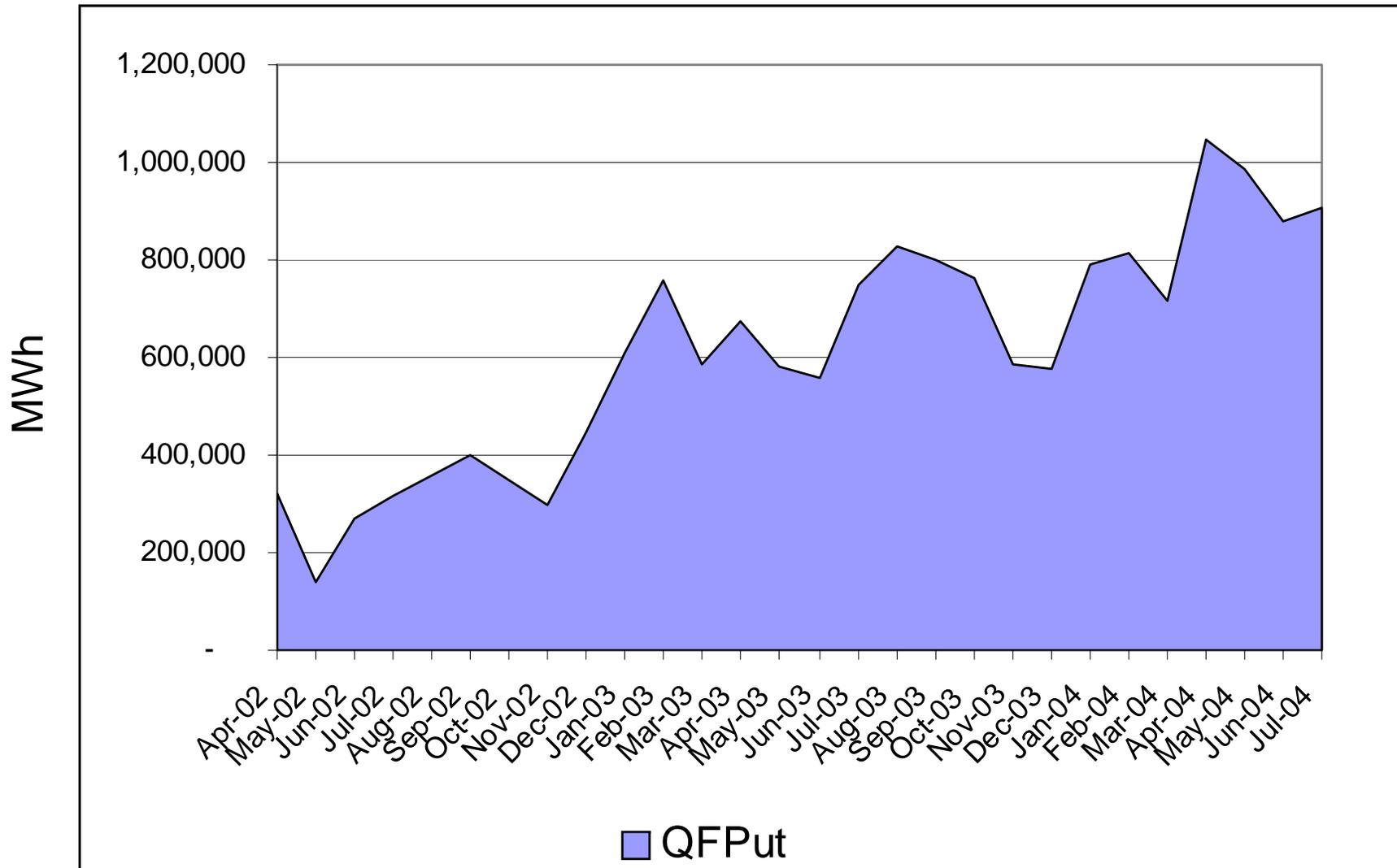
The differential in #6 oil versus Gas has resulted in a drastic increase in oil fired generation



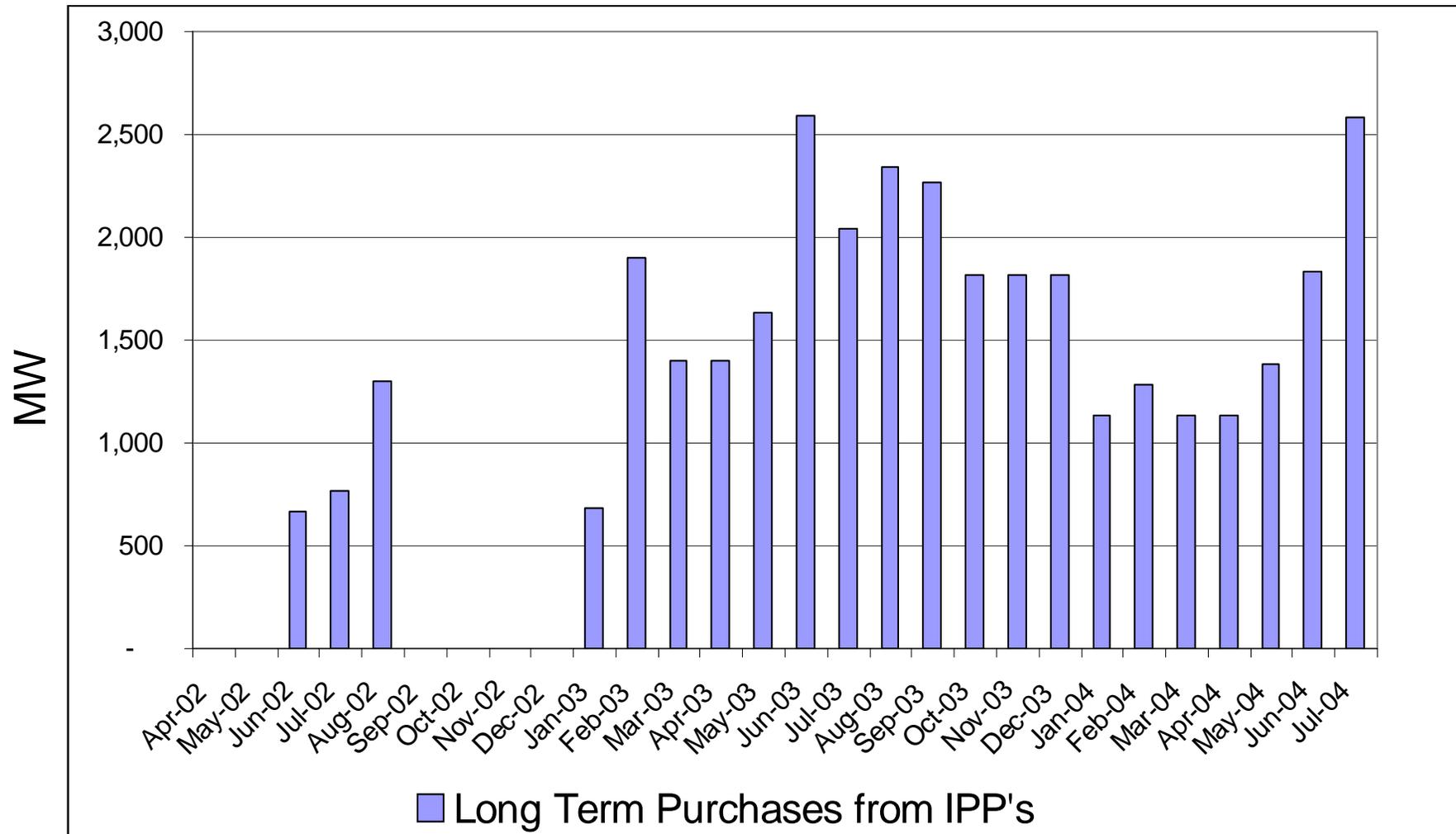
No. 6 Fuel Oil versus Gas Prices (\$/mmBtu)



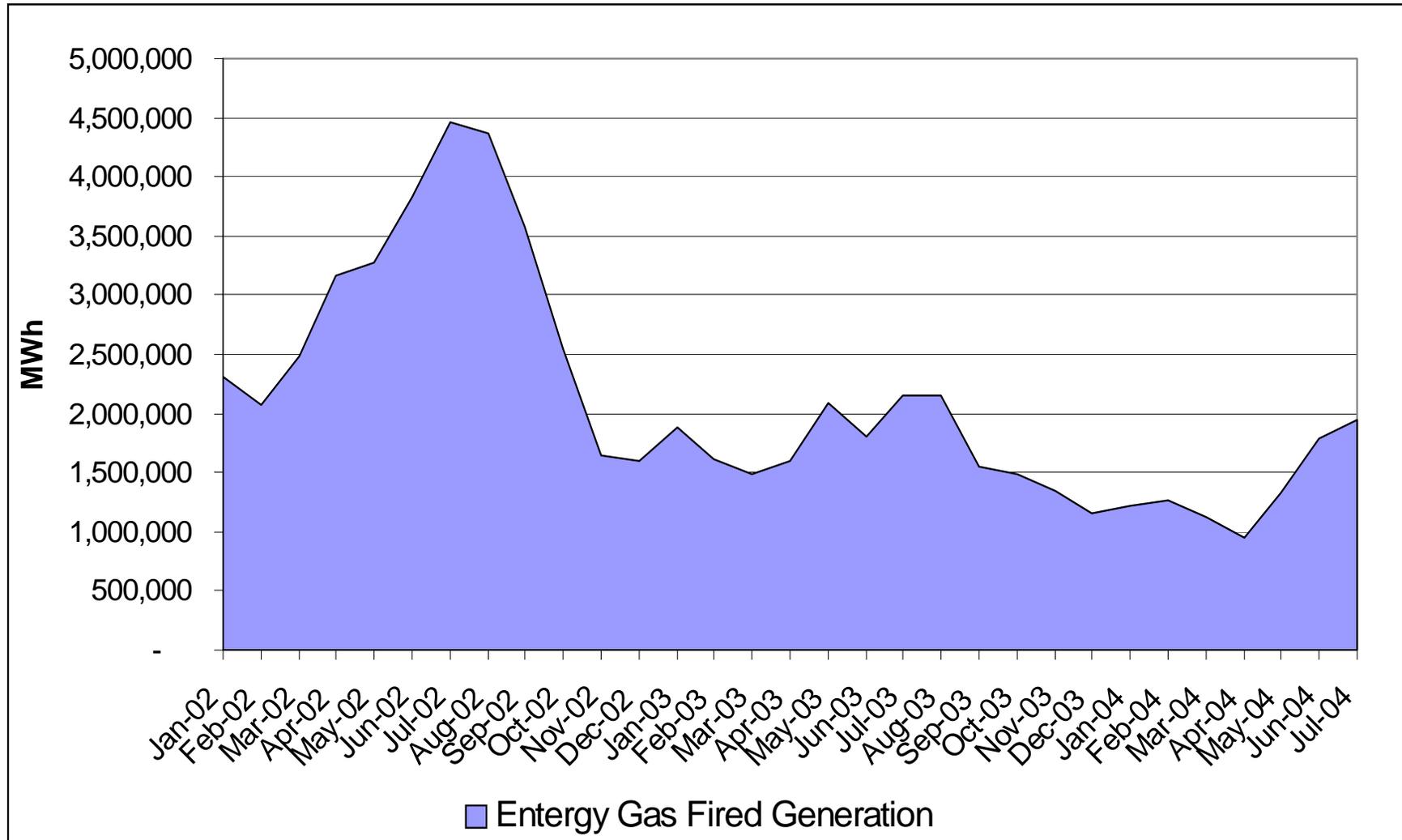
The energy that Entergy must take from QFs has increased over the last 2 years



Long Term Purchases from IPPs have increased from 2002



Energy from Entergy-owned gas-fired generation has decreased over the last 2 years



Products accepted in the Weekly RFP

- Flat Block Fixed amount of energy for fixed amount time at fixed heat rate.
- Profiled Block Specified amount of energy that varies by hour at fixed heat rate.
- Variable Block Minimum energy take for each hour at specified heat rate plus additional energy available on some notice at specified heat rate.
- AGC Capacity Base point amount of energy plus ramping capacity at a specified heat rate.

AGC Service

- Entergy has discussed the provision of AGC service with several interested parties.
- Tests were performed with two different units to verify that merchant plants could be integrated with Entergy's energy management system.
- Several problems including flexibility of fuel were identified during testing and have yet to be resolved contractually.

New Recallable Weekly Product

- Entergy is proposing the creation of a new weekly product it believes will lower costs for its customers and respond to issues raised by market participants.
- Market Participants may offer flexible energy for a week at a specified heat rate, but retain the right to reclaim their energy if daily prices during the term of the agreement are higher than anticipated at the time of the offer.
- Market participants will be asked to comment on the product design and work with Entergy to develop final product specifications.
- An initial draft of product specifications has been developed.
- The product will be implemented as soon as one or more market participants indicate a willingness to make an offer to supply the product.
- A workshop will be held in the second week of November to finalize the specifications.

Common Questions

- What can merchants do to increase Weekly RFP Sales?
- Why does Entergy operate generators with a 10,000 Btu/kWh heat rate and reject offers from IPPs at a lower heat rate?
- Why does Entergy not provide feedback on why offers are rejected?

What can merchants do to increase Weekly RFP Sales?

- Lower heat rate.
- Lower fuel adder.
- Lower minimum take provisions.
- Provide more flexibility.

Operate a 10,000 Btu/kWh unit and reject lower heat rate offer

- Heat Rate is not the only factor considered in evaluating different supply options.
- Flexibility is often an important consideration and one that is generally overlooked in simplistic comparisons.
- The role a particular source of generation will play in Entergy's supply mix generally determines the key factors to be considered.

Example

Entergy finds itself 400 MW shy of operating reserves during on-peak hours. It must acquire the ability to increase its output by 400 MW within a clock hour.

- Option #1 - Keep a 450 MW unit on-line that was scheduled to be shutdown and operate it at its minimum operating level of 50 MW until it is needed.
- Option #2 - Purchase 200 MW of flexible energy from two different IPPs and agree to take 200 MW from each unit for the 16 on-peak hours only and gain the right to increase the output of each unit by 200 MW.

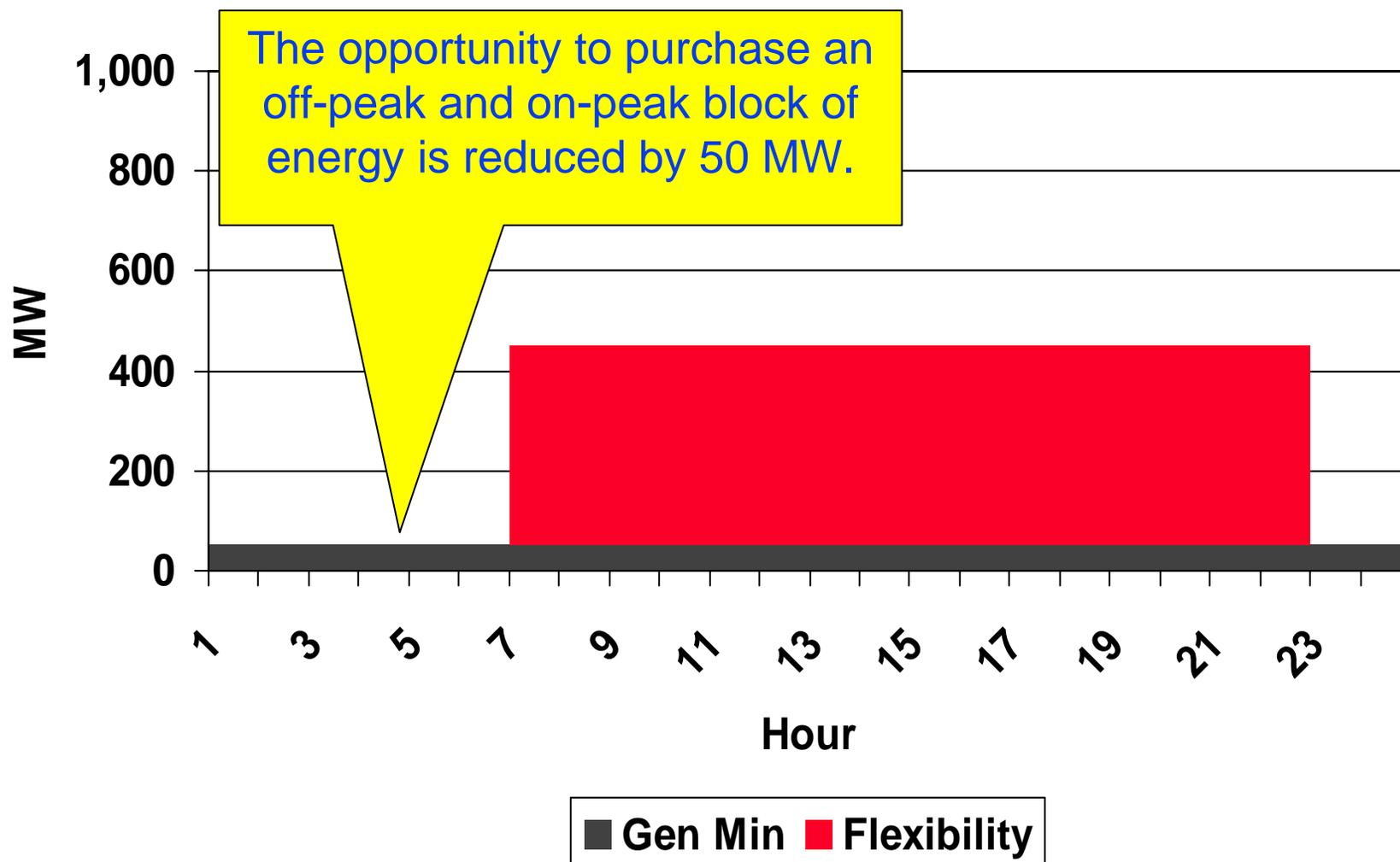
Cost Information

- Option #1 - Operate 450 MW generator
 - Minimum Take of 50 MW for 24 hours
 - Heat Rate at minimum of 15,000
 - Incremental Heat Rate of 9,000
- Option #2 - IPP Purchases of up to 800 MW
 - Minimum Take of 400 MW for 16 hours
 - Heat Rate at minimum of 8,800
 - Incremental Heat Rate of 8,800
- Off-Peak 8-hour block purchase available at \$20/MWh
- On-Peak 16-hour block purchase available at \$40/MWh
- Delivered natural gas cost is \$6.00

400 MW of flexible energy required on-peak



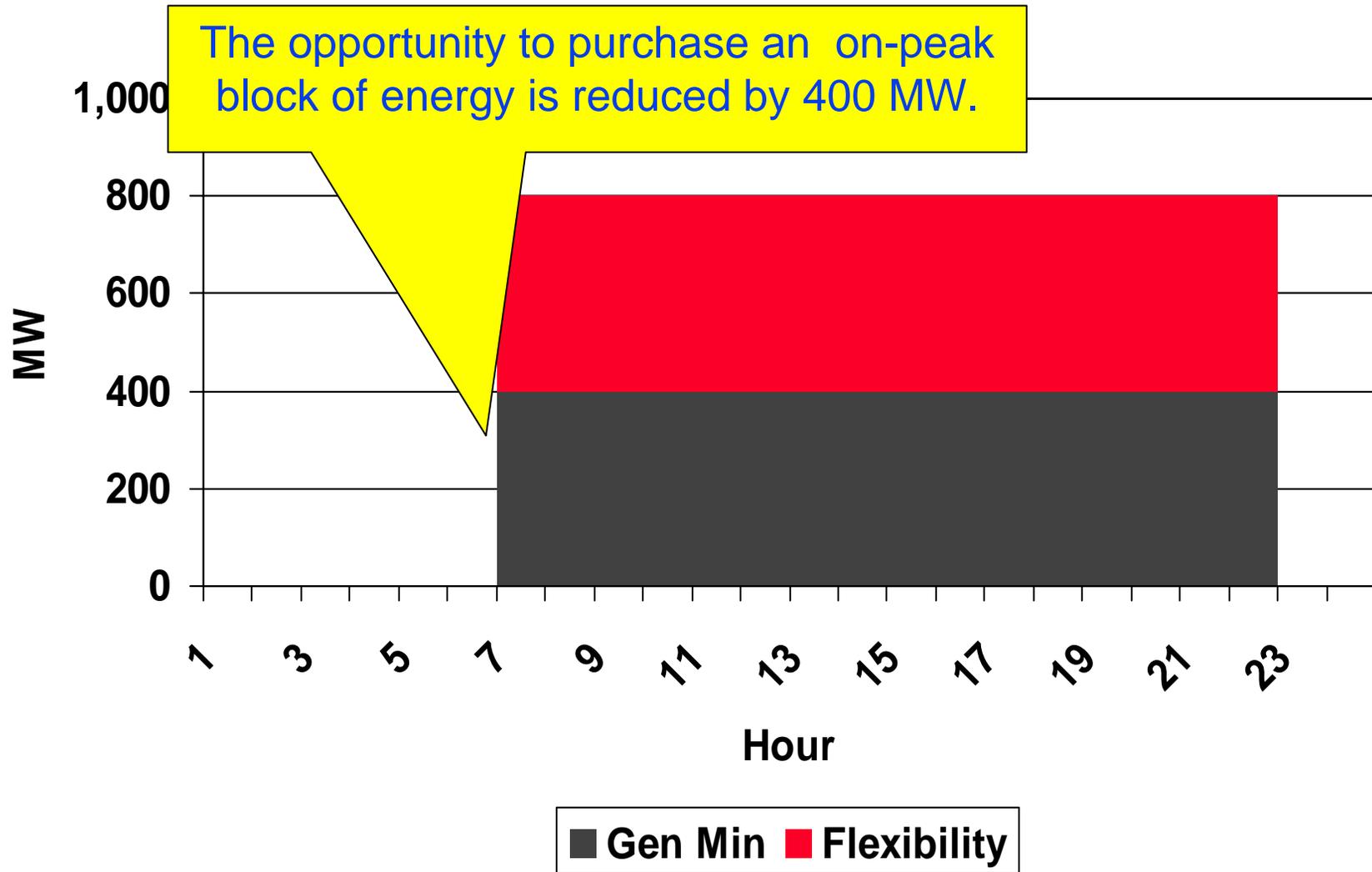
Option #1 – Operate 450 MW Entergy generator



Option #1 – Cost

- **Cost incurred:**
 - Operate the unit at 50 MW for 24 hours for a total of 1,200 MWh.
 - Energy cost is 15,000 Btu/kWh * \$6/mmBtu = \$90/MWh
 - 1,200 MWh @ \$90/MWh = \$108,000
- **Cost avoided:**
 - 16 hours of 50 MW @ \$40/MWh = \$32,000 (on-peak)
 - 8 hours of 50 MW @ \$20/MWh = \$8,000 (off-peak)
 - Total cost avoided = \$40,000
- **Net cost of \$68,000**

Option #2 – Purchases from 2 IPPs



Option #2 – Cost

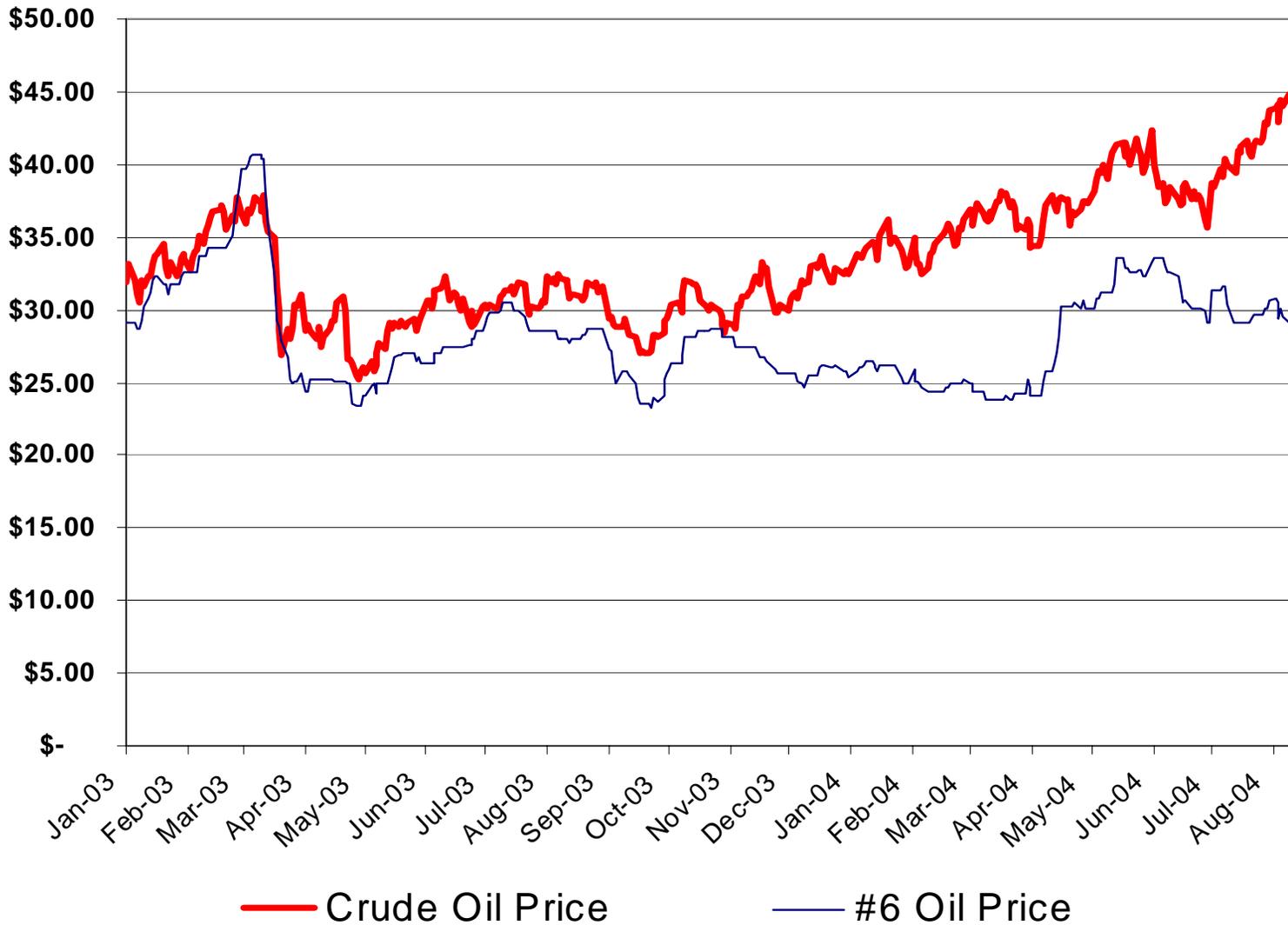
- Cost incurred:
 - Operate IPPs at minimum level
 - Total energy is $400 \text{ MW} * 16 \text{ hours} = 6,400 \text{ MWh}$
 - Energy cost is $8,800 \text{ Btu/kWh} * \$6/\text{mmBtu} = \$52.8/\text{MWh}$
 - $6,400 \text{ MWh} @ \$52.8/\text{MWh} = \$337,920$
- Cost avoided:
 - $400 \text{ MW for } 16 \text{ hours} @ \$40/\text{MWh} = \$256,000$
- Net cost of \$81,920
- Option #1 is the lower cost option.

Why does Entergy not provide feedback on why offers are rejected?

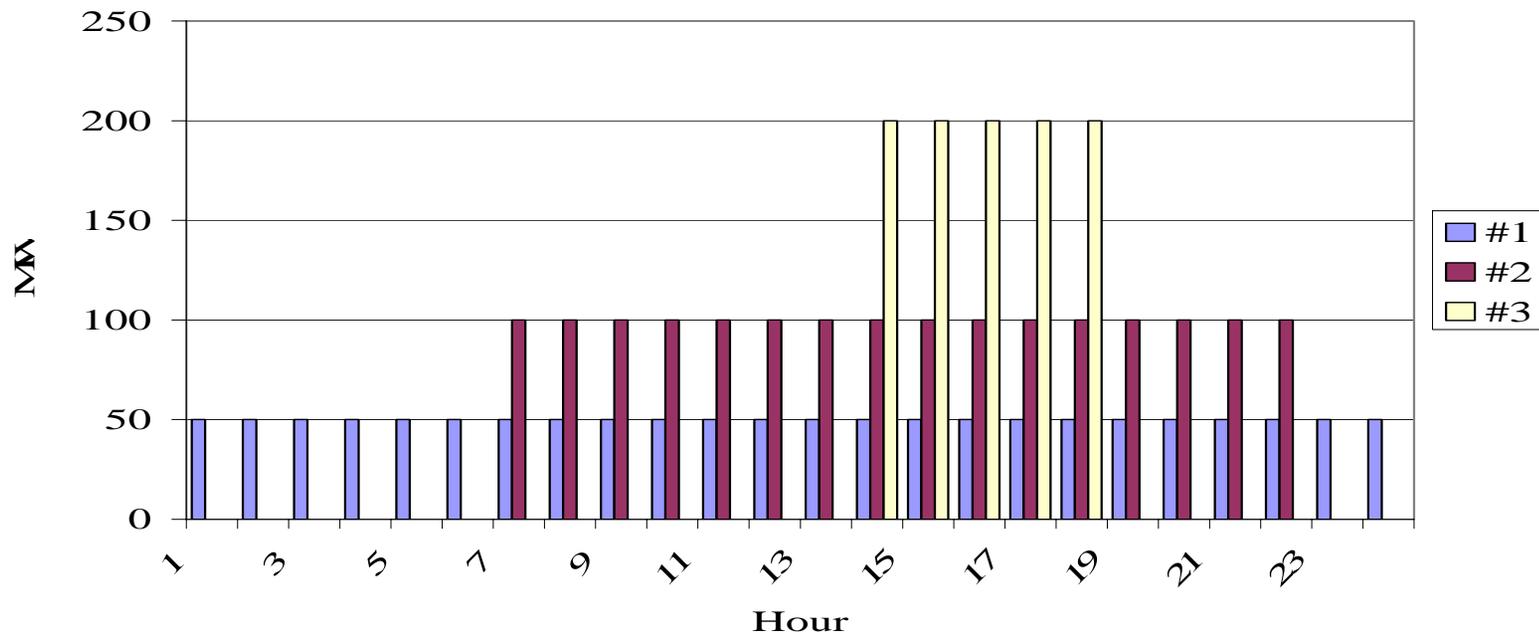
- The prior example illustrated an economic analysis between two supply options and the IPPs were not selected.
- However, the IPPs would be the lower cost option if:
 - The natural gas price is \$5.50/mmBtu instead of \$6; or
 - The on-peak block energy price is \$43/MWh instead of \$40/MWh; or
 - The minimum take on the IPPs is 170 MW instead of 200 MW; or
 - The IPP heat rate is 8,400 instead of 8,800.
- This is a very simplified example and only the need for flexible energy was considered.
- A detailed analysis would consider total load and energy requirements plus reserves, transmission constraints, fuel constraints, purchase opportunities, etc.

Appendix

Relationship of No. 6 Fuel Oil to Crude Oil (\$/bbl)



Examples of Flat Block



Offer must include each of the following:

Source

Quantity

Start Time

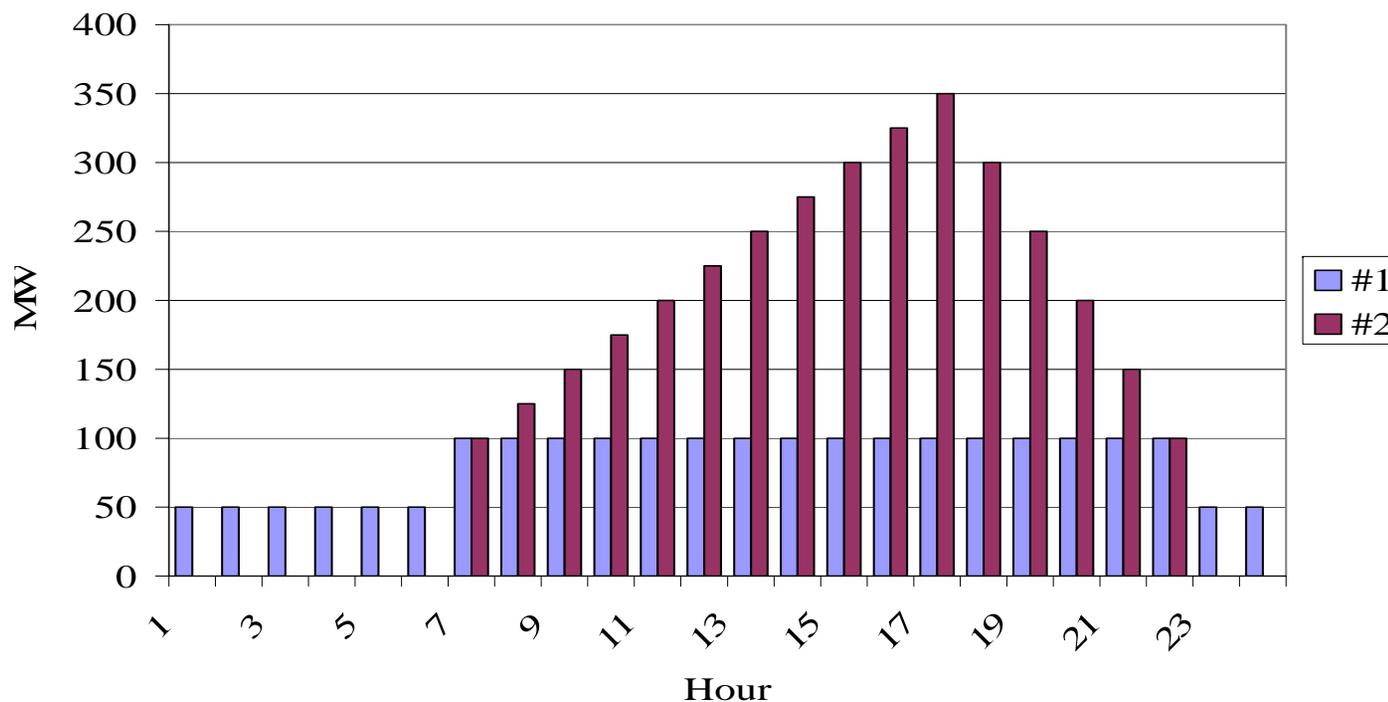
Duration

Heat Rate

Gas Basis

Firmness of Fuel

Examples of Profiled Block



Offer must include each of the following:

Source

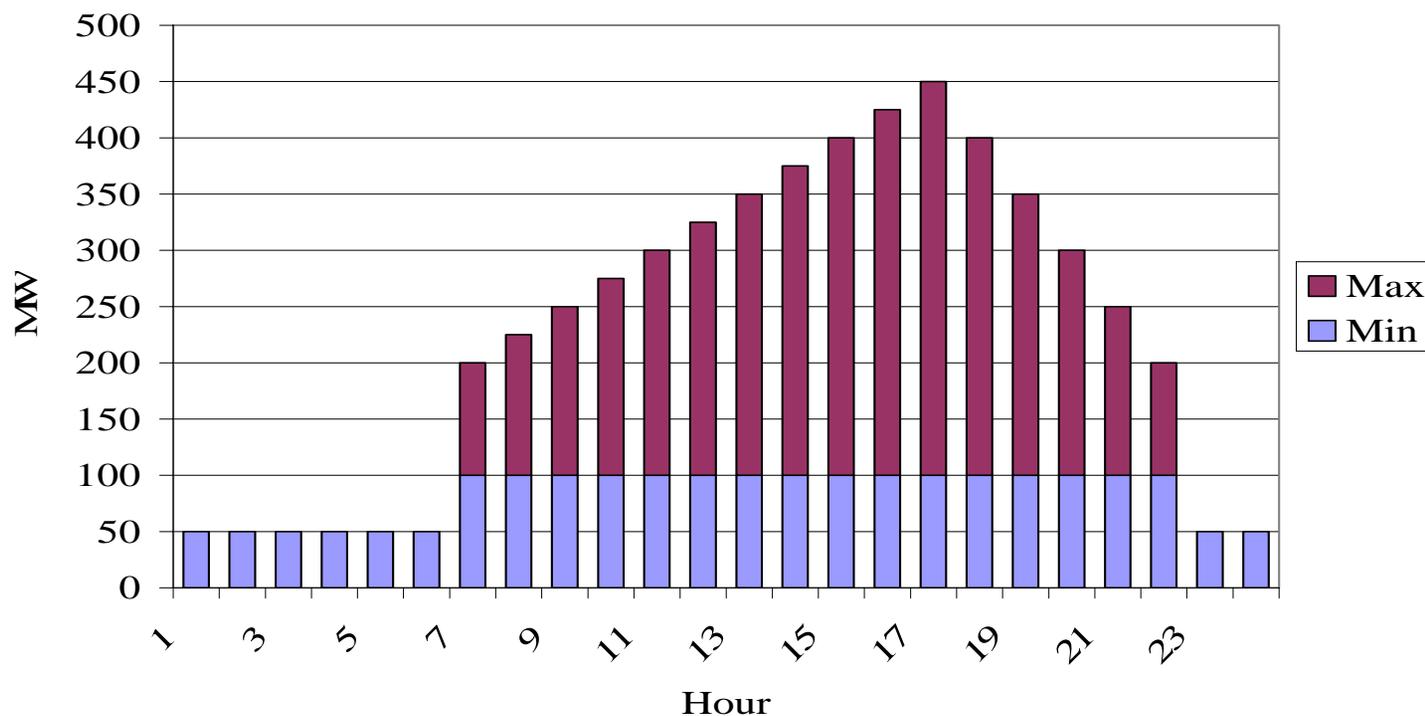
Hourly Deliveries

Heat Rate

Gas Basis

Firmness of Fuel

Example of Variable Block



Offer must include each of the following:

Source

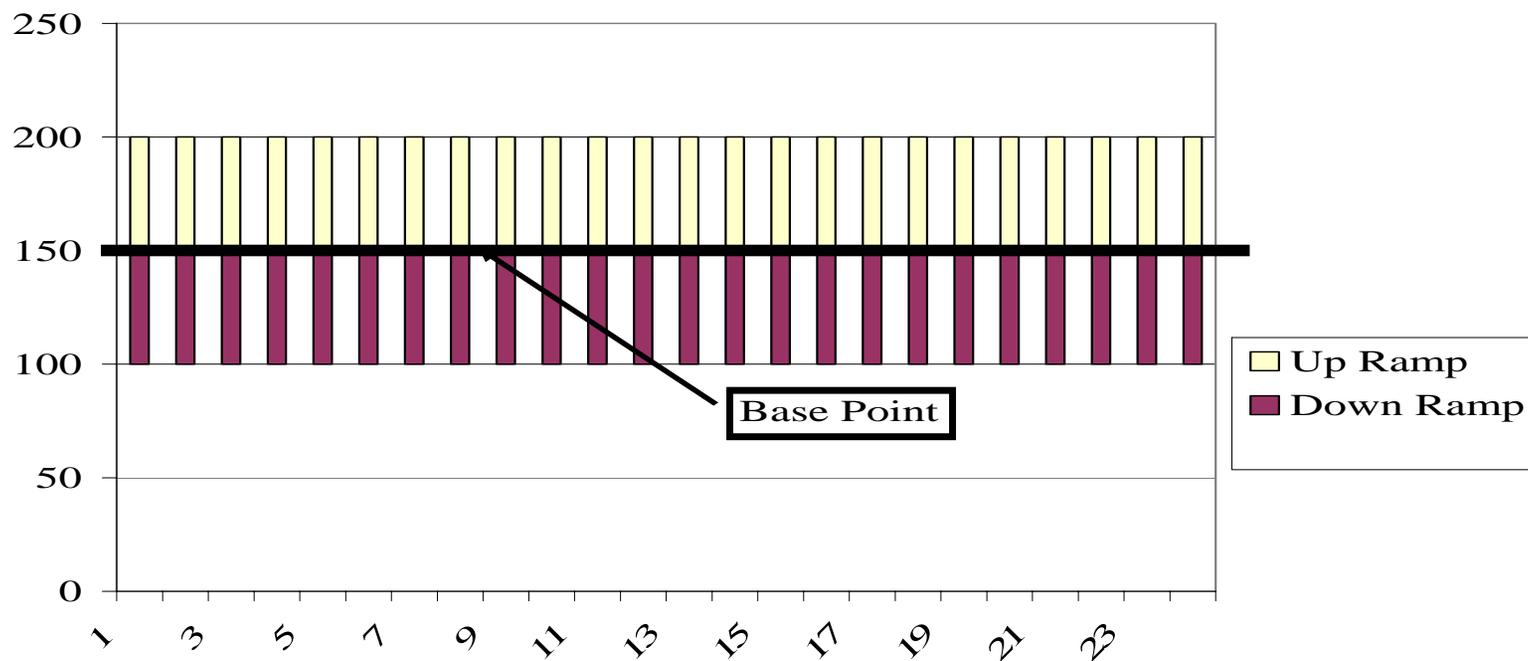
Minimum MWh & HR

Gas Basis

Maximum MWh & HR

Firmness of Fuel

Example of AGC Block



Offer must include each of the following:

Source

Base Point

Up Ramp MW & Rate

Heat Rate

Gas Basis

Down Ramp MW & Rate

Firmness of Fuel