Reforming the Rate Structure to Better Reflect Long-Run Marginal Costs

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December 2007

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Key Issues

- Fixed charge based on metering & billing costs, not extraneous charges.
- Initial block based on non-heating usage and high-load-factor distribution costs
- Second block based on water heat usage and medium load-factor distribution costs
- Third block for space heat that moves gradually toward marginal cost
  - > Option: Augmentation of second block for essential levels of existing space heat

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Key Differences for 2008 Rate

- **Hydro Quebec**
  - $.4064/day
  - <30 kWh/day @ $.054
  - > 30 kWh/day @ $.0733
- **Average: $.0715**

- **Lazar/Raphals**
  - $.025/day
  - <20 kWh/day @ $.05
  - 20 – 30 kWh/day @ $.065
  - > 30 kWh/day @ $.08
- **Average: $.0715**

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Fixed Charge

- **Hydro Quebec: Includes all costs associated with uncollectible accounts, 100% of call centre, energy theft, and other costs that are not caused by all customers equally.**

- **Lazar/Raphals: Includes a better estimate of costs directly related to metering and billing, while excluding usage-related costs**
  - > **includes 10% of recouvrement**
  - > **includes 20% of call centre costs**

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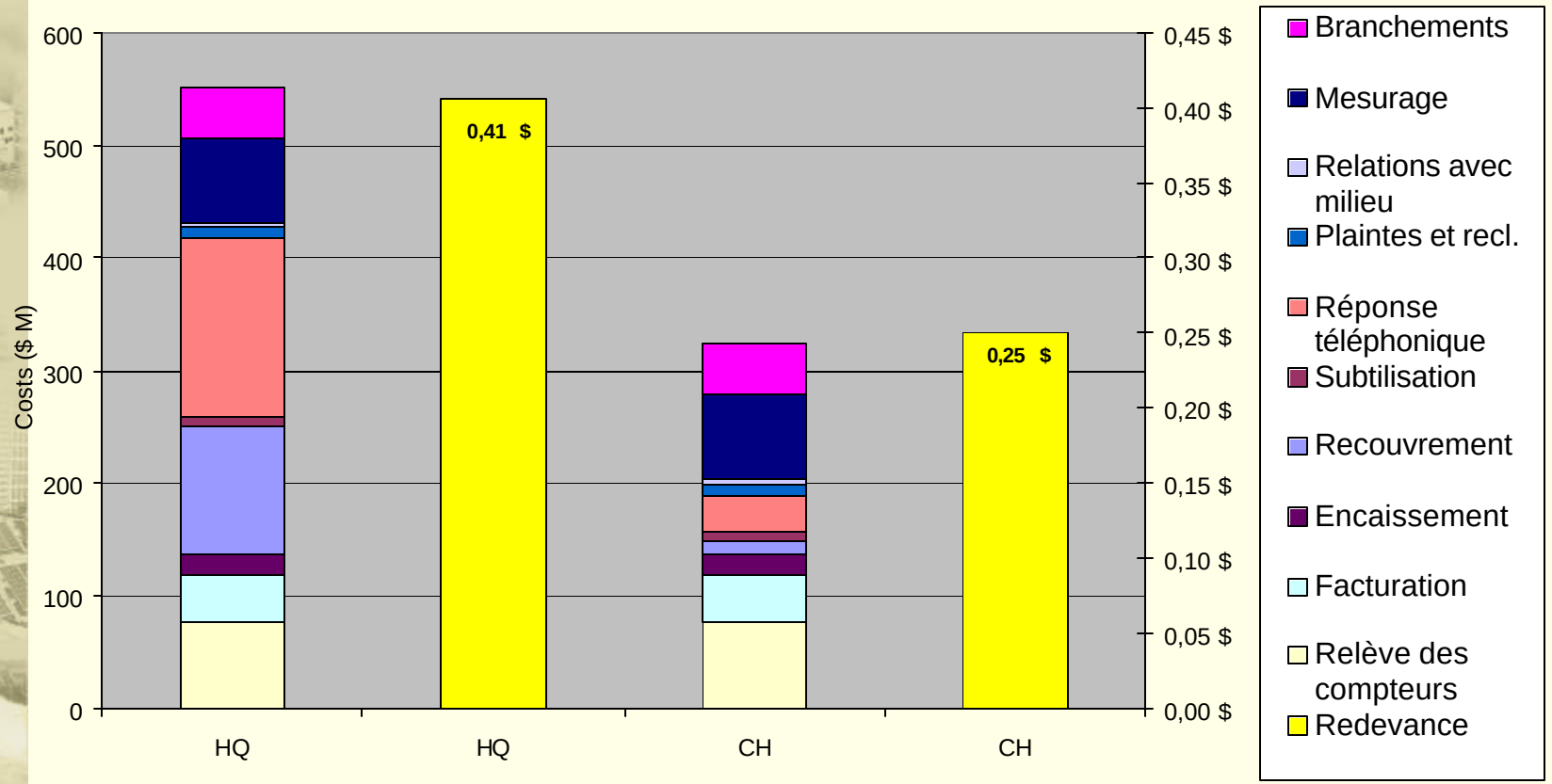
Comparison of Proposed Fixed Charges



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Advantages of Lazar / Raphals proposal

- More closely tied to costs
  - > fixed charge
    - HQD proposal based on including costs that are usage-related
  - > usage costs
    - our proposal more closely approximates marginal cost for each end use
- Better price signals
  - > highest block closer to marginal cost
  - > fewer bills in first block only

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… Advantages of Lazar/Raphals proposal

- Progressive – user-pay
  - > increases costs for heavy users
  - > correlated with income
  - > cost reductions
    - for lower income groups
    - for those who heat with alternate fuels
      - already exposed to market prices for heating

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Bill impacts of Lazar/Raphals proposal

- Under HQ proposal, all customers receive bill increases of 2% - 4%
- Under Lazar/Raphals proposal:
  - > bills up to 25 kWh/day will decrease substantially
  - > bills 40-50 kWh/day will increase 0-3%
  - > bills above 70 kWh/day will increase 6+%
  - > bills above 150 kWh/day will increase 10%
    - <2% of bills (the largest homes, in winter)
  - > typical electric heating customers will see higher bills in winter and lower bills in summer, with an average annual increase of 3.8%

HQD's analysis of bill impacts of Lazar/Raphals proposal (Eng. 14)

- First table shows annual bill decreases for 47% of customers
  - > This result is incorrect.
    - At 40 kWh/day, bill impact is neutral
    - The proportion of customers averaging up to 40 kWh/day is 26.1% (HQD-15, doc. 8, p. 88, upper table, column 5)
  - > HQD's table may indicate breakdown of monthly bills
    - very different from impacts per year

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... HQD's analysis of bill impacts of Lazar/Raphals proposal

- The analysis of monthly impacts is also incorrect. It should read:

Energie mensuelle kWh	Facture au tarif actuel $	Facture au scénario HQD $	écart $	écart %	Facture au scénario RNCREQ $	écart $	écart %
625	45,25	45,94	0,69	1,5%	39,13	-6,13	-13,5%
750	51,87	52,69	0,82	1,6%	47,25	-4,62	-8,9%
1000	66,83	68,12	1,29	1,9%	65,00	-1,83	-2,7%
2000	137,13	141,42	4,29	3,1%	145,00	7,87	5,7%
3000	207,43	214,72	7,29	3,5%	225,00	17,57	8,5%

- We are unable to verify the accuracy of the third table (annual impacts by housing type) or the fourth table (income dispersion)
  - > further detail on the distribution within each income category would be useful to fully understand impacts

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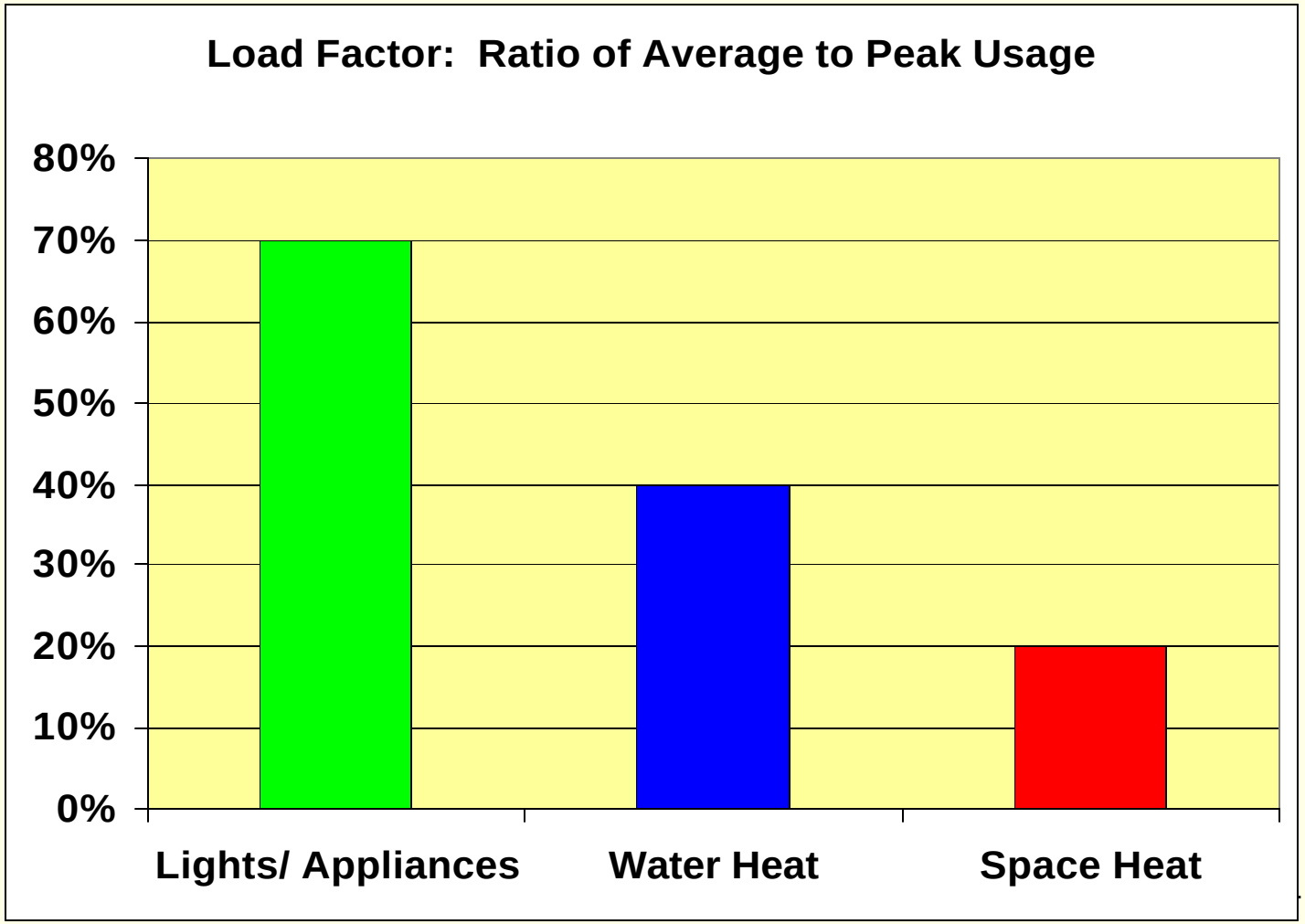
Typical Load Factor of Residential End-Uses



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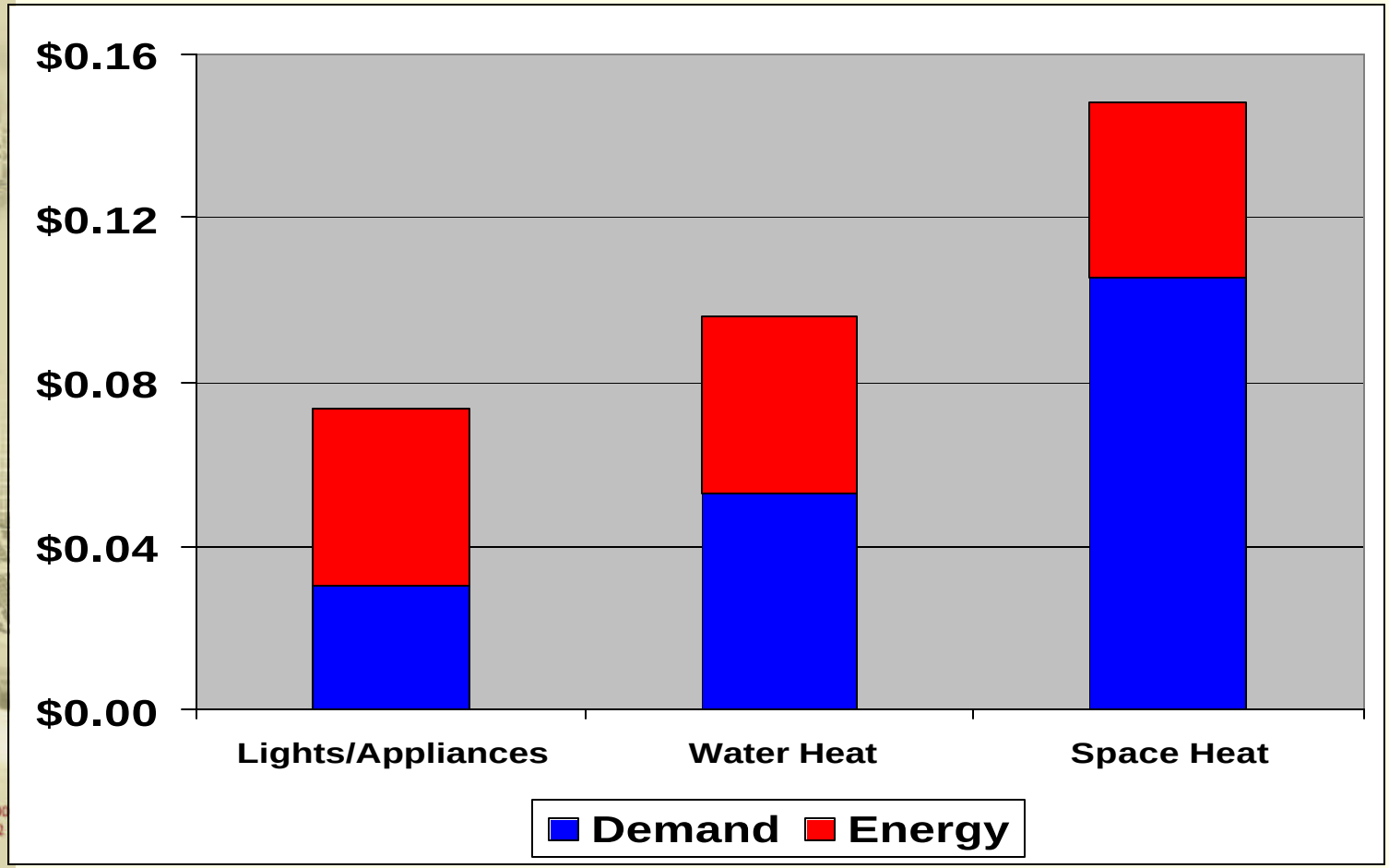
Rates for Residential Uses

Based on Rate G Demand/Energy Rates



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Late-Supplied Load Factor Data

- Two day ago, HQD produced Engagements 14, 15, and 16
  - Eng. 16 asserts that LF for space heat is 33% and LF for lights, appliances, and water heat are all 65% - 68%.
  - This data was requested in information request #24, yet HQD stated it had no studies
  - These results are inconsistent with many studies done elsewhere
  - It may be that these are monthly load factors, not annual load factors
- IF these Load Factors are accurate, then a 3-block rate is not cost-justified

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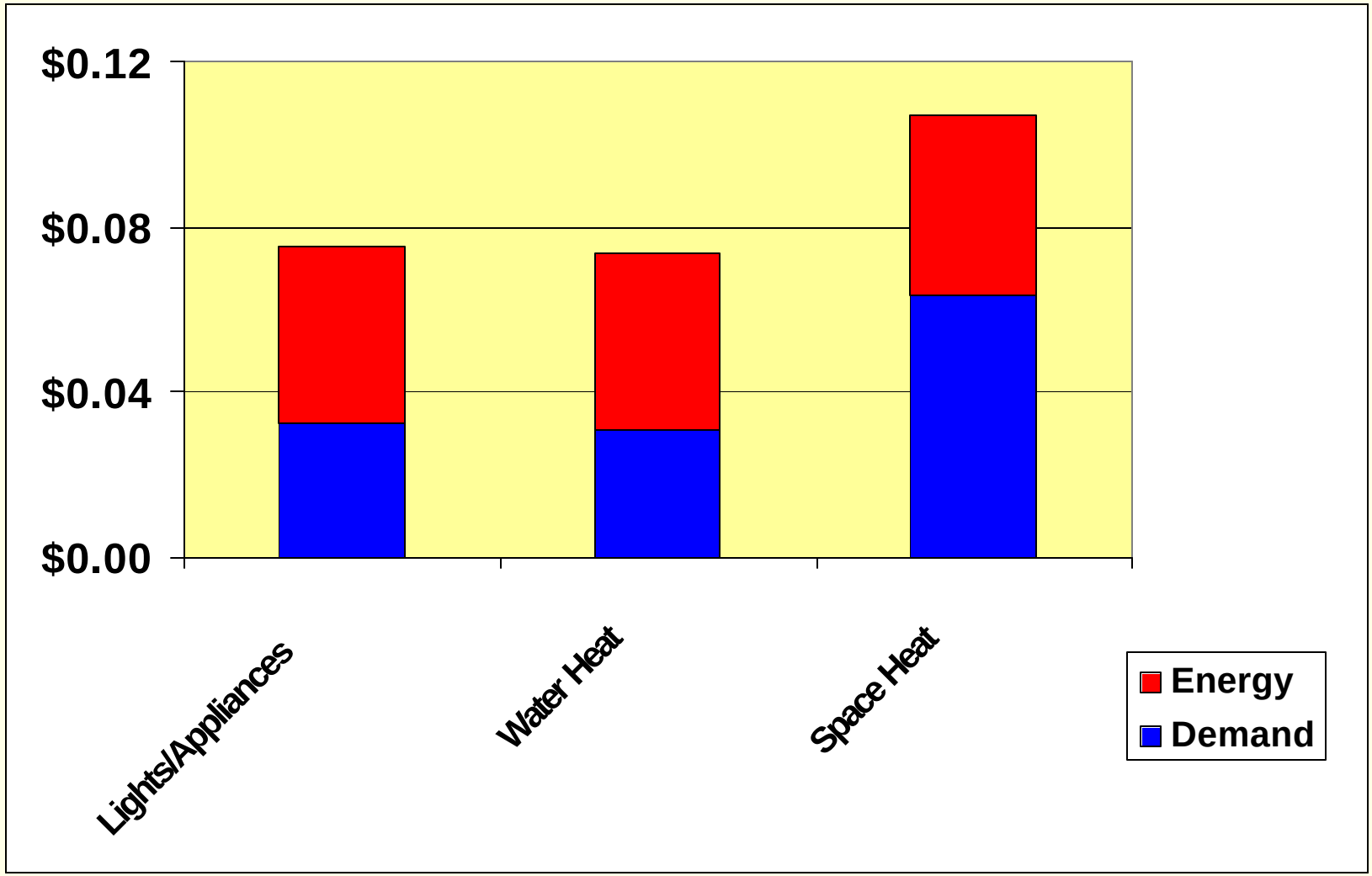
Block Rates Based on Rate G and Eng. 16 Load Factor Data



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Proposed Residential Rates 2008 – 2009 - 2010

- HQ has developed proposed rates through 2010, based on 2% annual increases
- We have developed rates following the approach described above, using the same revenue requirement.
- Even in year 3, with no increase to the the fixed charge or the first two rate blocks, the 3rd block remains well below marginal costs.

Proposed Rates	2008			2009			2010	
	HQD	L/R		HQD	L/R		HQD	L/R
Fixed Charge/Day	$ 0.4064	$ 0.2500		$ 0.4064	$ 0.2500		$ 0.4064	$ 0.2500
First 20 kWh/day	$ 0.0540	$ 0.0500		$ 0.0544	$ 0.0500		$ 0.0552	$ 0.0500
20 - 30 kWh/day	$ 0.0540	$ 0.0650		$ 0.0544	$ 0.0650		$ 0.0552	$ 0.0650
>30 kWh/day	$ 0.0733	$ 0.0800		$ 0.0744	$ 0.0816		$ 0.0766	$ 0.0847
Average:	$ 0.0715	$ 0.0715		$ 0.0722	$ 0.0722		$ 0.0737	$ 0.0737

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Augmentation of the Second Block: Relief for Electric Heat Customers

- Our proposed rate design moves gradually towards marginal costs, but remains far below marginal cost for space heat.
- Bill impacts are largest for electric heat consumers. Many have few options.
- Option: Follow California example, and augment the baseline allowance for electric customers.
  - > Limit access to only existing electric heat customers.

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Small-Use Customers May Have High Energy Bills for Oil and Gas

- The proposed rate design reduces bills for small-use customers.
- Many of these are oil-heat and natural gas heat customers,
  - > who pay market prices for their heating
  - > equivalent of paying the full marginal cost
- There is no justification for charging these customers a customer charge greater than what is justified by non-usage related costs

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Recommendations

- **Reduce the Fixed Charge to $.25/day**
  - > More than adequate to cover metering, meter reading, and billing costs
  - > Still higher than many utility basic charges.
- **Reduce the rate for the first 20 kWh to $.05/kWh**
  - > Recognize electricity as essential service
  - > Recognize role of patrimonial power
  - > Recognize high load factor for lights/appliances
- **Add an intermediate block 21 – 30 kWh/day**
  - > Recognize water heat load factor; ensure that hardly any bills see the 1st block as a price signal
- **Concentrate increases on usage over 30 kWh/day**
  - > Freeze fixed charge and first blocks until end-block rate reaches close to marginal cost
- **Consider augmentation of second block for existing electric heat customers.**

Or a gradual approach …

- Reduce to $.25/day
  - > Fixed charge is excessive, not cost-based
- Retain 2-block rate
  - > pending verification of load factors
- Raise 1st block to $.054 as proposed by HQD
- Raise 2nd block to $.08
  - > Still less than marginal cost
- Results on 2.9% increase
  - > Recovers customer-related costs in fixed charge.
  - > No customer sees a decline in the rate per kWh for any usage.
  - > Moves space heat rate towards cost
  - > Only largest 1% of bills increase by 10% or more

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