

Advanced Metering Infrastructure (AMI)

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MADRI's AMI Activities And Potential Action Plan

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Why AMI is Important

- Allows customers to see and respond to prices
- Gives PUCs more flexibility with respect to pricing, i.e. dynamic pricing
- Provides backbone for smart distribution system and potential for reduced operating costs and improved reliability

AMI Operating Benefits > DR Benefits

PG&E Estimate of Operational Savings From Full AMI Deployment					
Benefit Category	PV of Savings (\$ million)	Benefit Description	Benefit Category	PV of Savings (\$ million)	Benefit Description
Meter reading	\$714	Includes saved labor and related costs and support functions.	Cash flow improvement	\$35	AMI allows bills to be issued sooner after meter reads
Other employee expenses	\$103	Savings from labor force reductions	Records exception processing	\$45	Reduced need to address various "exceptions" related to meter reading & billing
Storm Restoration	\$74	AMI outage data can be used to dispatch crews more effectively and to improve power-restoration processes after significant outages	Avoided Dispatch if power is on	\$44	AMI allows electronic "call aheads" to eliminate dispatching field crews
Avoided TOU meter maintenance	\$62	Avoided maintenance of TOU meter fleet	Miscellaneous	\$27	e.g. avoided repurchase of handheld meter reading devices that have a one-time value
Interval meter program	\$62	Cost savings from migrating 7,000 interval accounts to mass billing system	One time benefits	\$32	Net benefit beyond 20 business case time period
Call center benefits	\$50	Saved cost due to reduced calls to call centers and reduced length of calls	Post Period Benefits	\$290	Net benefit beyond 20 business case time period

Source: PG&E AMI Business Case Filing 3/15/05

Total Benefits \$1,538

Total Costs \$1,947

What We Learned from the AMI Road Shows

- There is growing interest from MADRI state commissions in AMI
- The MADRI state commissions would like help with:
 - Defining the functional specifications of an AMI system
 - Determining appropriate next steps with regard to AMI business case development and evaluation
 - Understanding how customers, particularly residential customers, are likely to respond to dynamic pricing

Commissions Could Consider Policies to Establish Customer Rights to Meter Data (Near-Term)

State Commissions should adopt rules that provide end-use customers with:

- a clear and unambiguous right to their own meter data
- enable electronic provision of meter data directly to others of their choosing (including but not limited to the RTO)
- prohibit redundant charges for giving authorized parties access to the meter data

Commissions Should Consider Policies to Ensure More Timely Access to Meter Data (Near-Term)

State Commissions should adopt rules that provide the Curtailment Service Provider that registers the site of an end-use customer in PJM load response with access to the end-use customer's meter data on a daily basis within 10 business days of requesting same of the electric distribution company (EDC).

Commissions Should Consider Pricing Pilots (Near – Term)

The MADRI state commissions should consider initiating one or more dynamic pricing pilots as soon as possible, preferably within a year. The pilot(s) could use more of the capabilities of EDC's advanced metering infrastructure, if any exists. Any such pilots might focus on market segments and/or technologies not already piloted by PSE&G or the District of Columbia. Consideration could also be given to questions raised by New Jersey's Transitional Rate Design proceeding.

Potential AMI Economic Evaluation Activities (Longer -Term)

1. The MADRI state commissions should consider working with at least one EDC that has franchise areas in two or more MADRI jurisdictions to evaluate the business case for advanced metering infrastructure (and companion billing system if required) for the customers in its footprint. The MADRI AMI Toolbox can assist all participants in this effort.
2. The MADRI state commissions should consider working with at least one EDC that has franchise areas in two or more MADRI jurisdictions to develop an RFP for advanced metering infrastructure (and billing system if required) for the customers in its footprint that have demands of at least 200kw. The MADRI AMI Toolbox can assist all participants in this effort.

Commitment of PJM

PJM will post on the PJM web-site meter functionality and meter data reporting requirements for demand resources in PJM markets.

PJM Metering Requirements for Demand Resources

- Economic and Emergency Load Response – hourly integrated values provided within 60 days for settlement
- Synchronized Reserve – minute by minute during events provided within 24 hours (or by 1700 of the next business day if the event day precedes a weekend or holiday)
- Regulation – same requirements as generation resources

Importance of EPACT's Smart Metering Requirements

- Demand Response in electricity markets is underdeveloped
- Smart metering allows customers to see prices, respond to prices, and capture the market value of their responses
- Evolving wholesale and retail electricity markets will require consumption to be measured on terms similar to production