

DSM Resource Planning

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PacifiCorp - Pacific Power, Utah Power



- 1.5 million customers
- Service in six western states
- More than 8,200 MW of generation capacity
- Merged with ScottishPower in 1999



Strategy

- Classes of DSM
 - ◆ Class 1 dispatchable, load control
 - ◆ Class 2 non-dispatchable, efficient technologies
 - ◆ Class 3 non-dispatchable, curtailment
 - ◆ Class 4 non-dispatchable, customer education



Strategy

- Cost effective resource
 - ◆ Classes 1 & 2 value modeled in IRP process
 - ◆ Classes 3 & 4 not modeled as a long term resource
- Include all 4 classes in PacifiCorp DSM goals



Goal Development

- Classes 1 & 2 avoided cost value established by IRP modeling process
- Class 3 DSM developed in conjunction with customers' ability to curtail and the value of similar market instruments
- Class 4 DSM funding policy established for customer education



Planned DSM Resource Summary (2003-2013)

Class 1	CAC Load Control Irrigation Load Control	91 MW peak 0-50 MW peak
Class 2	Specific Identified Programs Planning Decrements	150 MWa 150-300 MWa
Class 3	Curtailement	0-50 MW peak
Class 4	Customer Education Funding	
Potential Total (at the load)		91-191 MW peak 150-450 MWa



Integrated Resource Plan (IRP) DSM Valuation Process

- Hourly load shapes developed for all DSM programs.
- Existing programs included in load forecast for base IRP portfolio development.
- IRP process results in least cost risk mitigating supply side portfolio.
- Planning decrements developed
 - ◆ amount of load reduction varied
 - ◆ load factor varied (1%, 10%, 20%, 40%, 60%)
 - ◆ hourly shapes developed



Integrated Resource Plan (IRP) DSM Valuation Process

- Load forecast reduced for each planning decrement
- Load/Resource balance re-run in IRP model.
- Supply side resources moved out or eliminated to balance with new lower load forecast.
- IRP model re-run (hourly dispatch) to determine new revenue requirement.
- DSM value is the difference between base revenue requirements and revised revenue requirements for each load decrement run.



Selected Decrement Values from PacifiCorp IRP, January, 2003

- 150 MWa decrement at 10% load factor,
shaped hourly :

2009	2010	2011	2012	2013
\$234	\$188	\$189	\$181	\$168

- 150 MWa decrement at 40% load factor,
shaped hourly:

2009	2010	2011	2012	2013
\$60	\$54	\$53	\$41	\$58

Values shown are nominal \$/MWh



Next Steps

- Use decrement process to value new programs for
cost effectiveness vs. supply side options
- Look more closely at decrements for different load
centers



