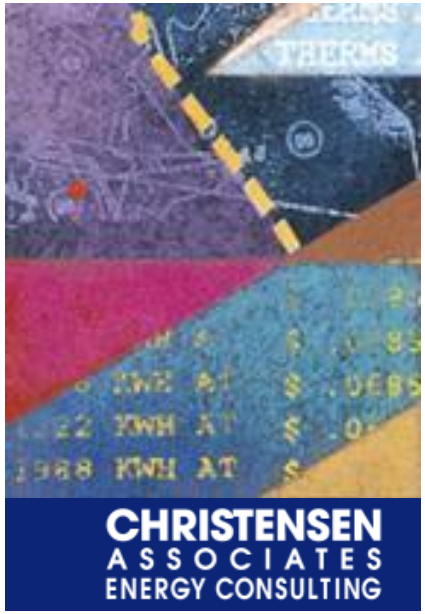


Load Impact Evaluation: *Demand Bidding Program*

Steve Braithwait and Dan Hansen
Christensen Associates Energy Consulting

DRMEC Spring Workshop

April 26, 2011

Demand Bidding Program

- Enrollment
- Ex-post load impacts (2010)
  - Load impacts
  - Bid realization rates
- Ex-ante load impacts (2011 – 2021)

DBP Enrollment

- PG&E
  - 1,052 service accounts
  - 1,168 MW of non-coincident demand
  - 39% of load in manufacturing
  - 197 service accounts submitted a bid on the event day
- SCE
  - 1,421 service accounts
  - 1,461 MW of non-coincident demand
  - 51% of load in manufacturing
  - 470 service accounts submitted a bid on at least one event day

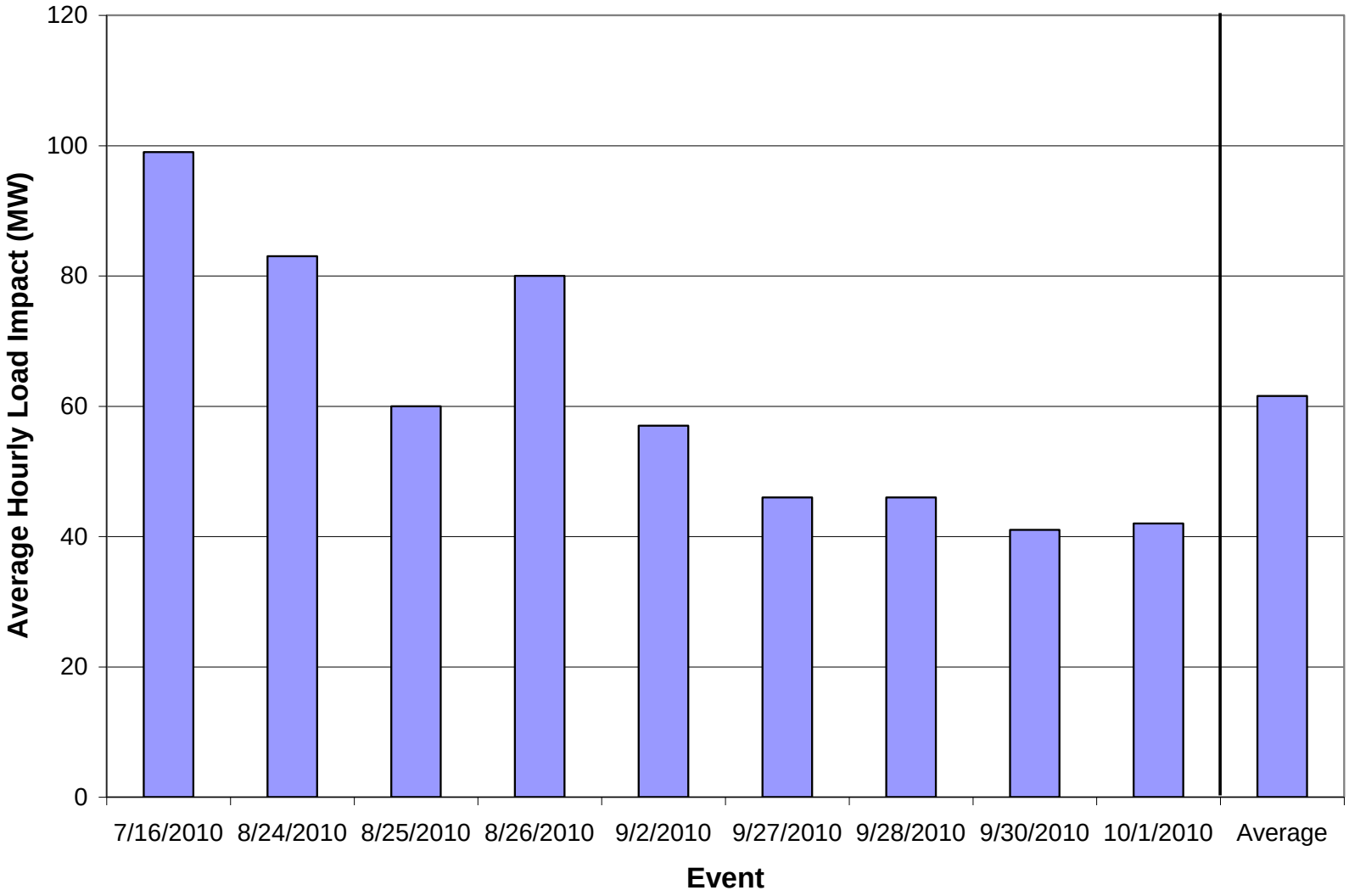
2010 DBP Events

Date	Day of Week	SCE	PG&E
7/16/2010	Friday	1	
8/24/2010	Tuesday	2	
8/25/2010	Wednesday	3	1 (Test)
8/26/2010	Thursday	4	
9/2/2010	Thursday	5	
9/27/2010	Monday	6	
9/28/2010	Tuesday	7	
9/30/2010	Thursday	8	
10/1/2010	Friday	9	

DBP Ex-Post Load Impact Summary
(Average Event)

Utility	Customer Accounts	Estimated Reference Load (MW)	Observed Load (MW)	Estimated Load Impact (MW)	% Load Impact
All Accounts					
PG&E	1,051	904	836	68	7.5%
SCE	1,383	1,034	974	61	5.9%
Excluding customers dually enrolled in BIP					
PG&E	892	712	704	8	1.1%
SCE	1,170	715	704	11	1.5%

DBP Ex-Post Results by Event Day
(SCE Only, Avg. Hourly Load Impacts)



DBP Load Impacts: PG&E

- Only one DBP event in 2010, from hour-ending 15 to 18
- Average hourly load impact = 68 MW (7.5%)
- The most responsive DBP accounts are also in BIP
  - In 2009, the DBP event overlapped with a BIP event. This was not the case in 2010.
  - DBP/BIP customer response was lower in 2010 than in 2009 during DBP-only event hours (60 MW in 2010 vs. 98 MW in 2009)

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DBP Load Impacts: PG&E Bid Realization Rates

Customer Group	Average Bid Quantity (MW)	Estimated Load Impact (MW)	LI as % of Bid Amount
All DBP	70	68	97%
DBP/BIP Only	62	60	97%

DBP Load Impacts: SCE Bid Realization Rates

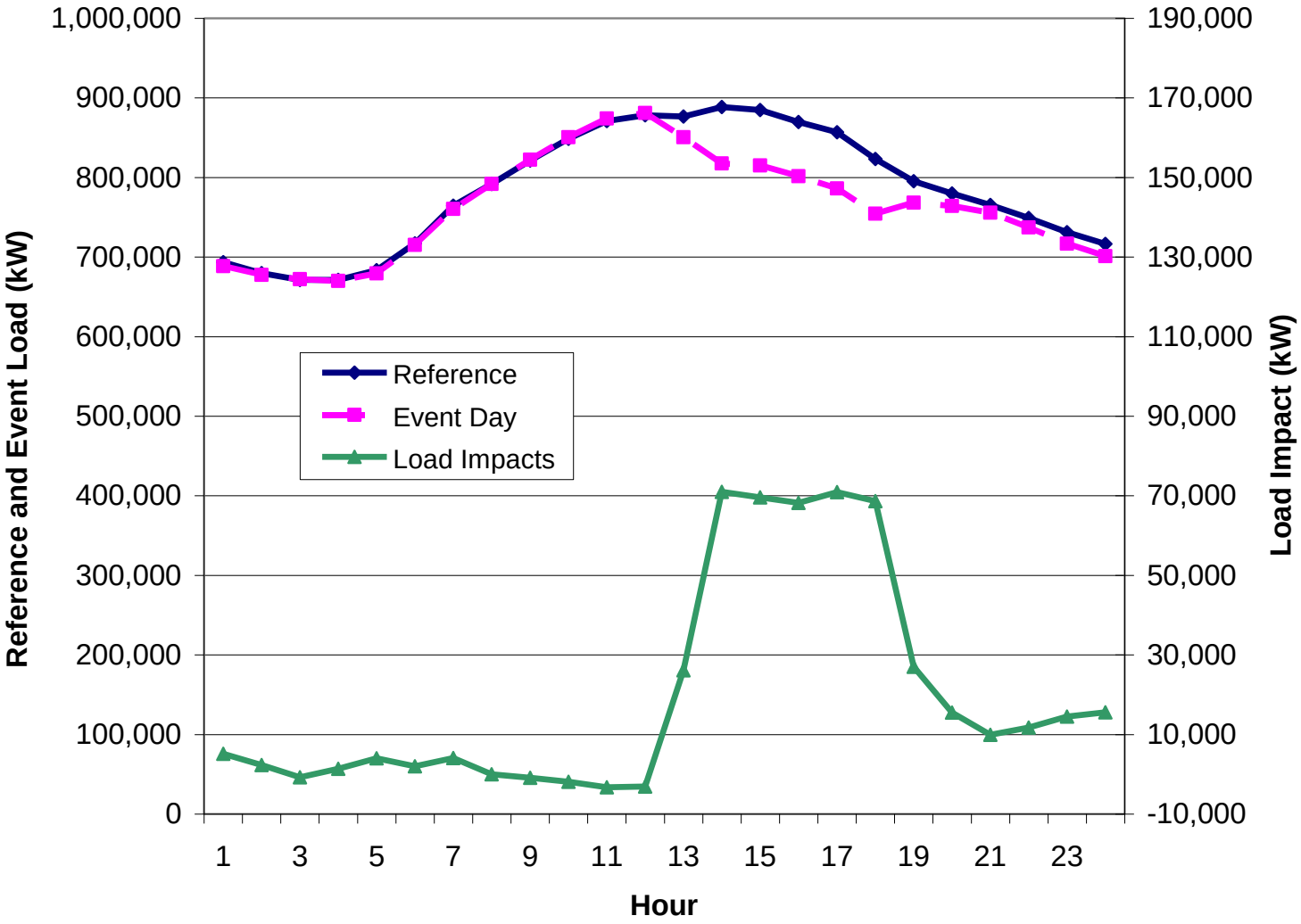
Event	Date	Day of Week	Average Bid Quantity (MW)	Estimated Load Impact (MW)	LI as % of Bid Amount
1	7/16/2010	Friday	122	99	81%
2	8/24/2010	Tuesday	112	83	74%
3	8/25/2010	Wednesday	103	60	58%
4	8/26/2010	Thursday	106	80	76%
5	9/2/2010	Thursday	113	57	51%
6	9/27/2010	Monday	105	46	44%
7	9/28/2010	Tuesday	103	46	45%
8	9/30/2010	Thursday	110	41	37%
9	10/1/2010	Friday	119	42	35%
		Average	**110**	**62**	**56%**

Demand Bidding Program: *Basis for Ex-Ante Load Impacts*

- Source: 2010 Ex Post DBP Load Impacts
- Historical percentage load impacts, by
  - LCA
  - Dual enrollment in BIP
  - "Participant" status (SCE only)

PG&E Ex Ante Results:

Aug. 2011 TED, 1-in-2 Weather, Program



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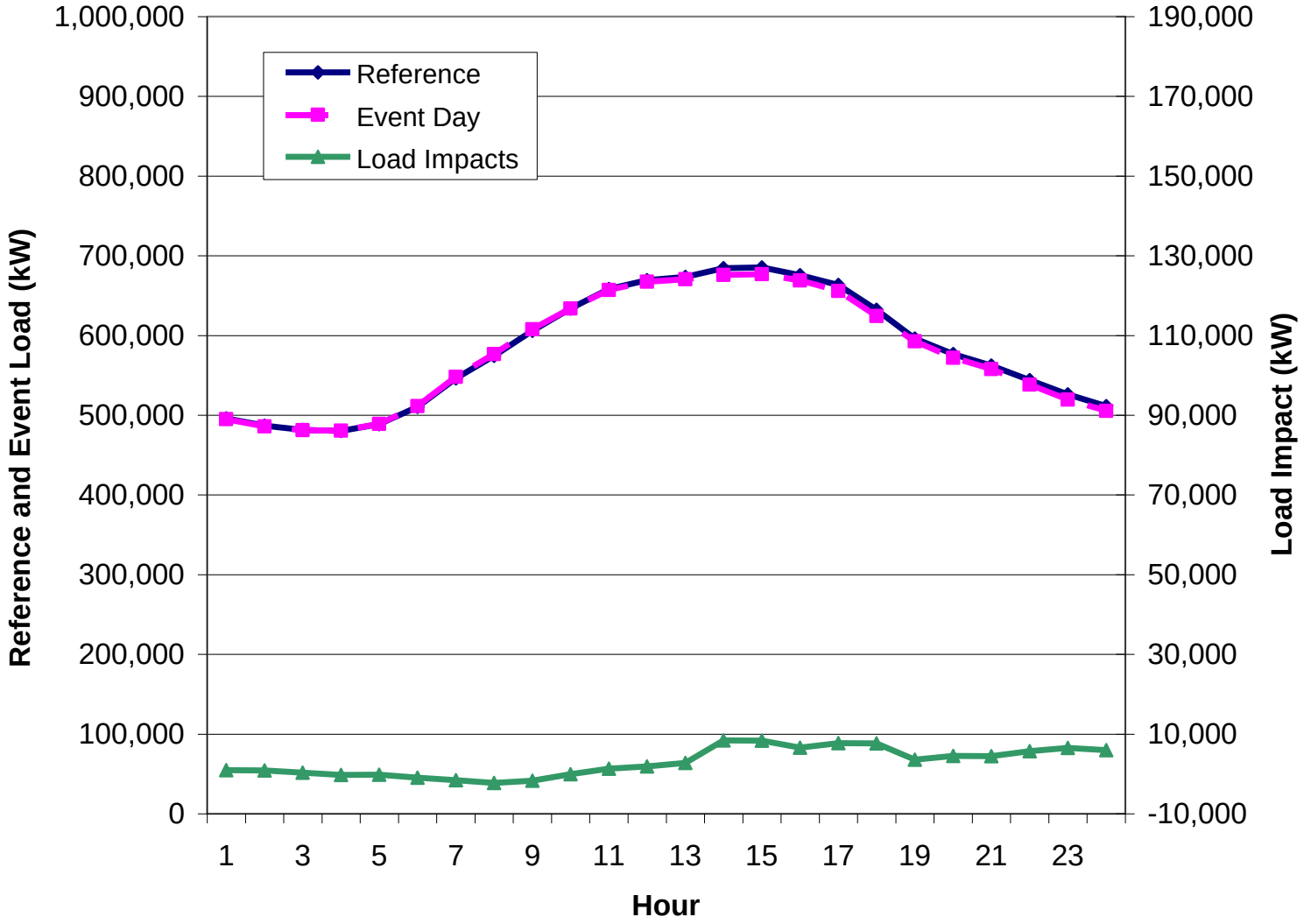
PG&E Ex Ante Results:

Aug. 2011 TED, 1-in-2 Weather, Portfolio



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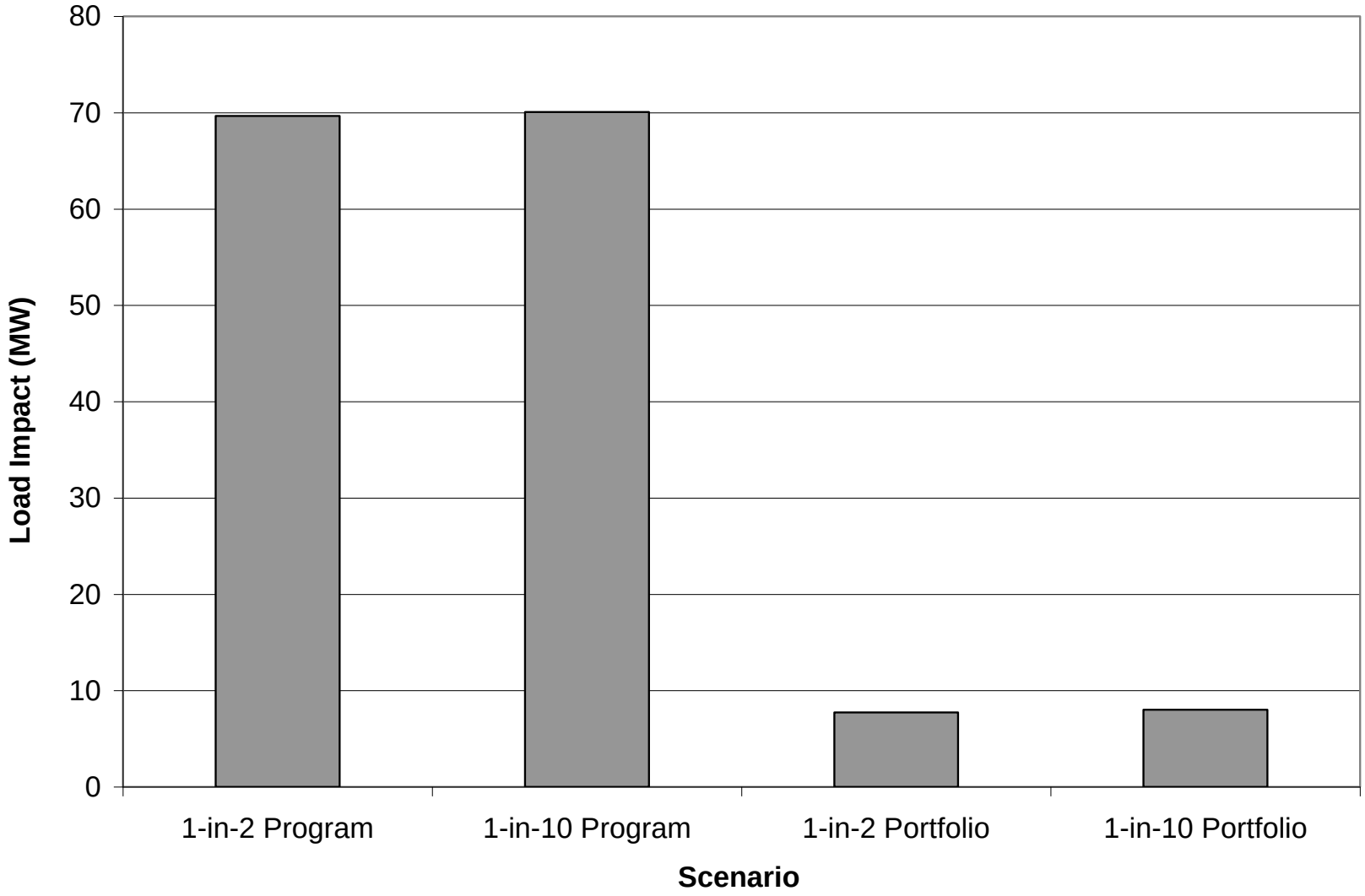
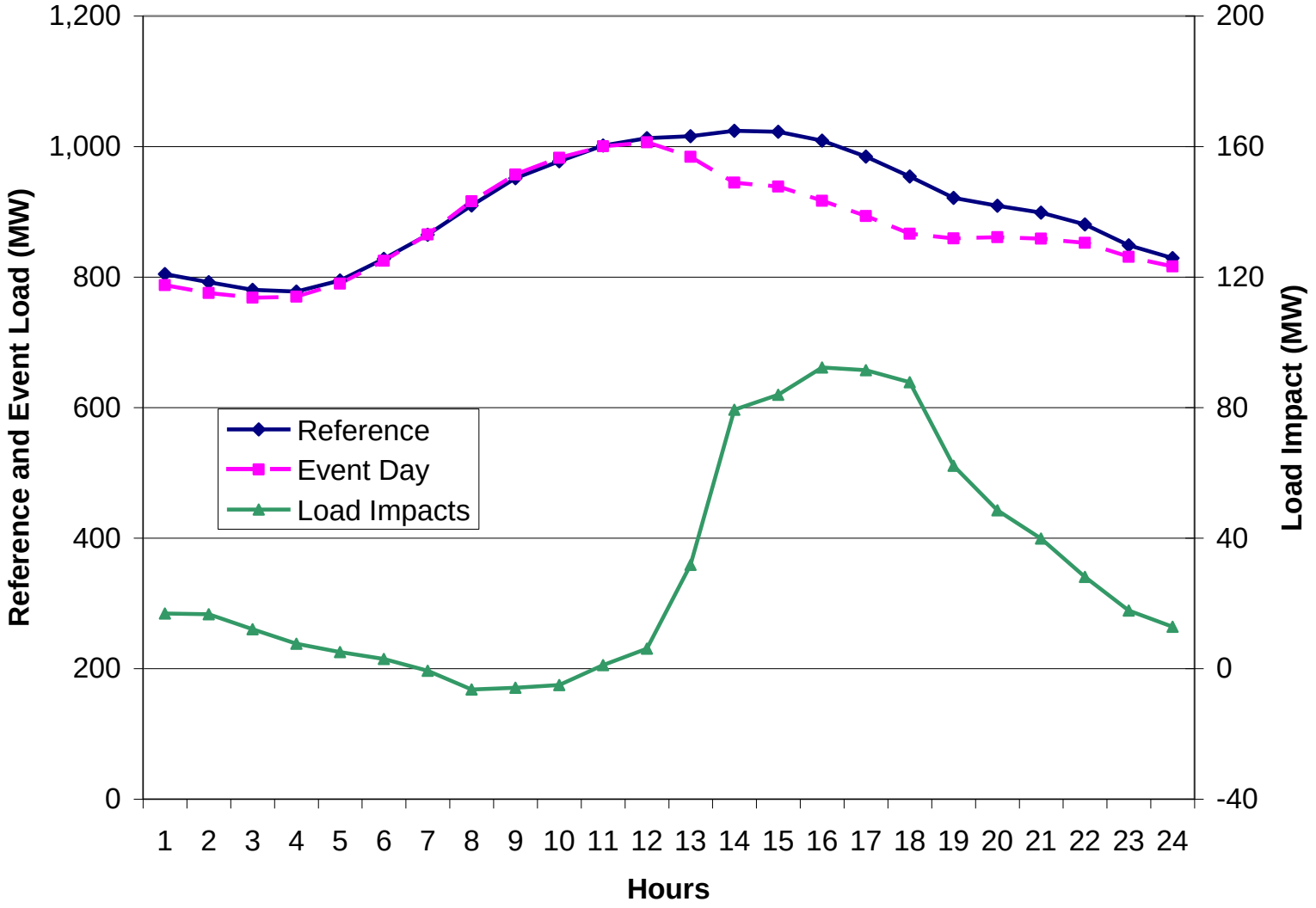
PG&E Ex Ante Load Impacts:
2011 Typical Event Day by Scenario



SCE Ex Ante Results:

August 2014+ TED, 1-in-2 Weather, Program



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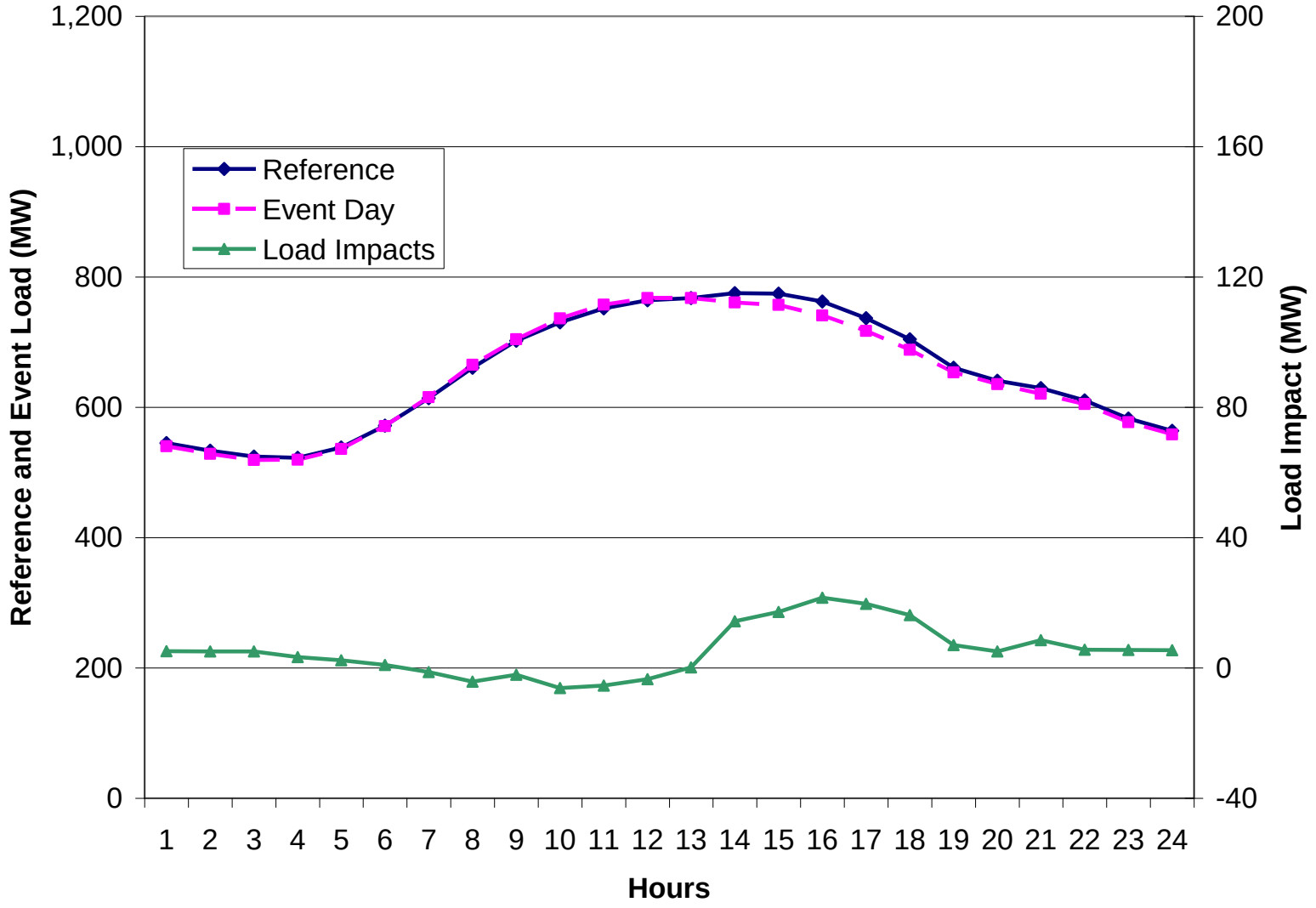
SCE Ex Ante Results:

August 2014+ TED, 1-in-2 Weather, Portfolio



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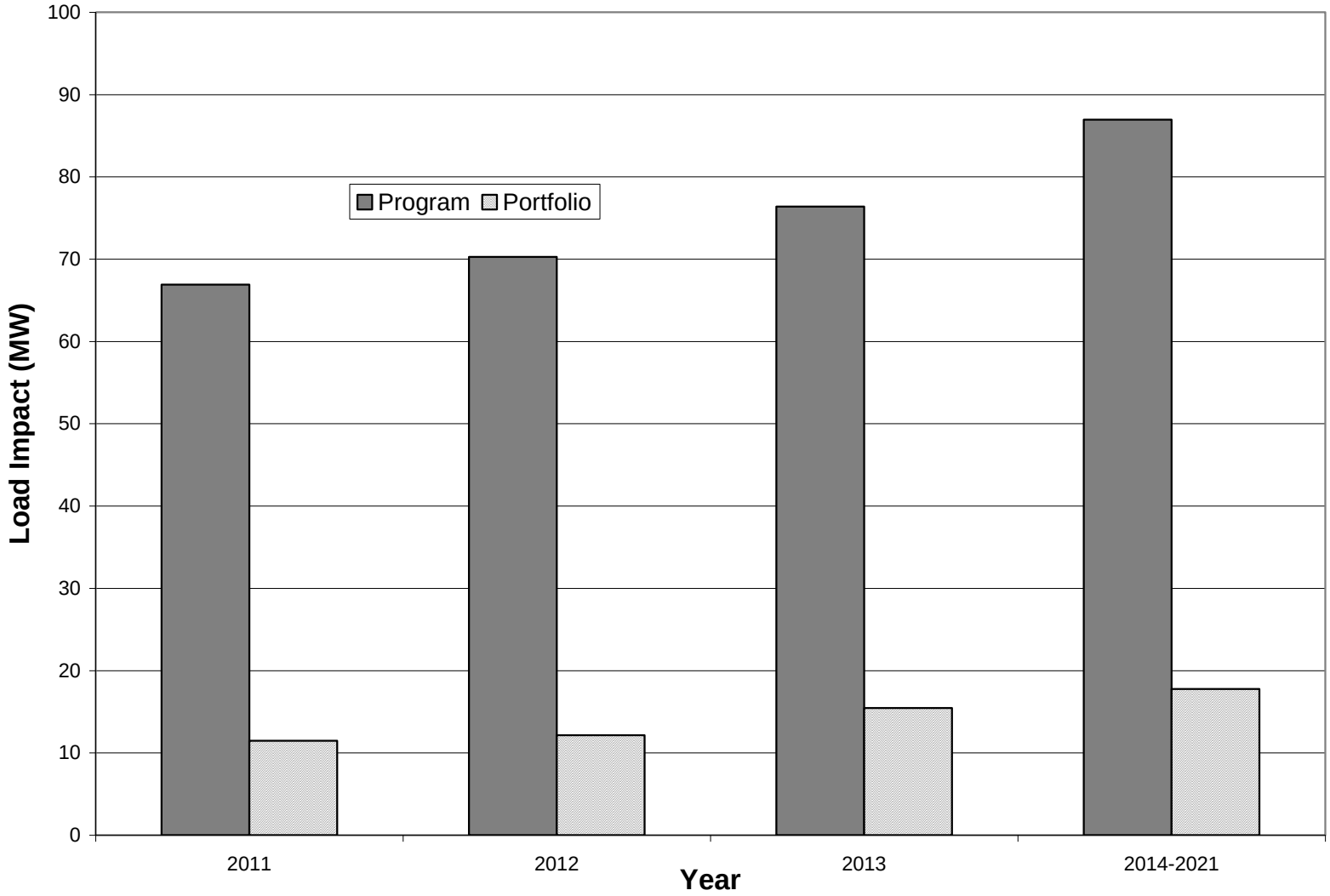
SCE Ex Ante Load Impacts:
1-in-2 Typical Event Day by Scenario



Questions?

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