

Con Edison's Central Air Conditioning Direct Load Control Program to the NYISO Small Customer Aggregation SCR Program



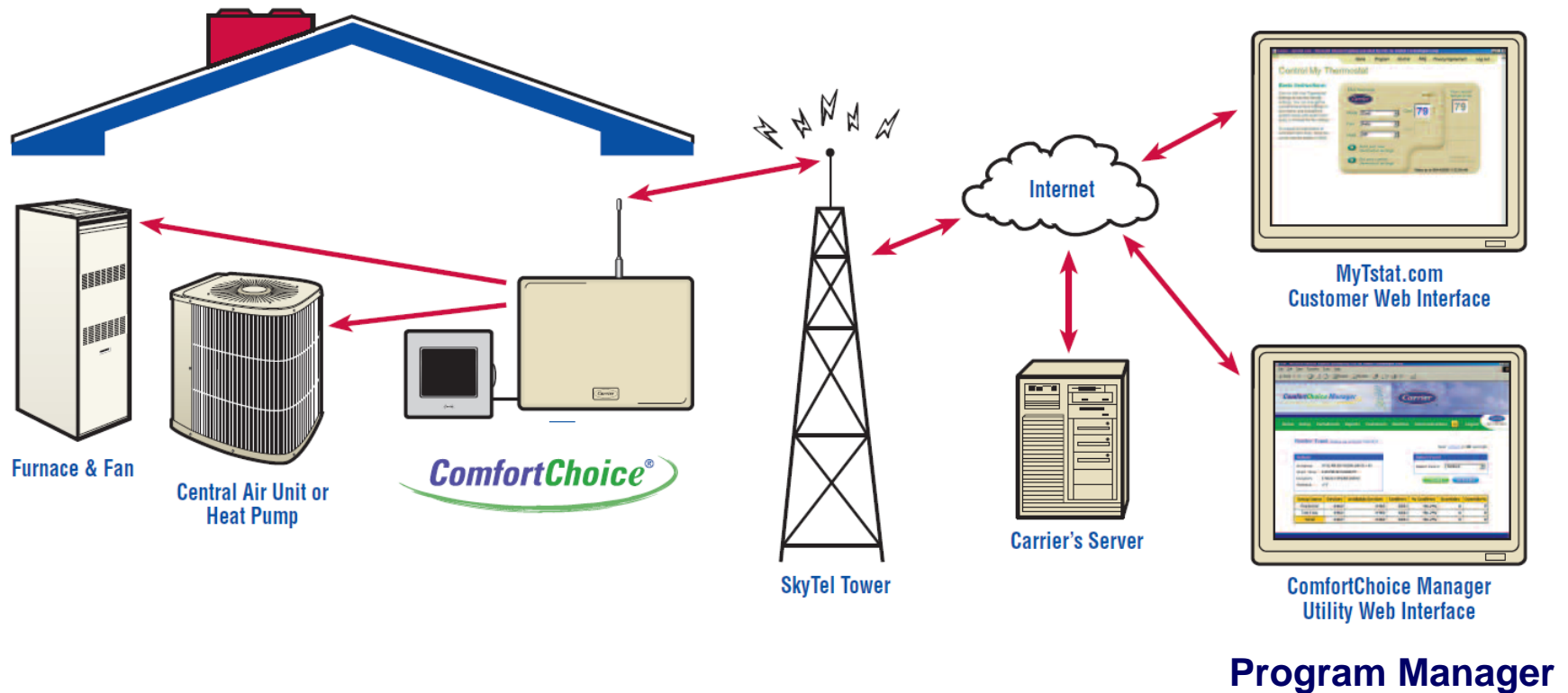
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October 2011



SCR Small Customer Aggregation Program Enrollment Levels

Active Customer Enrollment as of May 2011		
	Customer Participation	Registered SCR (MW)
Residential	21,027	18.1
Business	6,829	8.7
Total	27,856	26.8

Event Initiation





ComfortChoice Management System

CCM - Windows Internet Explorer provided by CSC for United Technologies Corp

http://www.ccm.carrier.com/coned/defineEvents.do

File Edit View Favorites Tools Help

★ Favorites CCM

ComfortChoice Manager

conEdison

Carrier
Turn to the Experts

Home Setup Curtailment Reports Customers Runtime Communications Logout

Initiate Curtailment Event 09:59AM EDT

Select Groups: ☒ All ☐ None

Group Name	Devices	Select
1 - Staten Island - Other	187	<input checked="" type="checkbox"/>
2 - Queens - Other	69	<input checked="" type="checkbox"/>
3 - Bronx - Other	48	<input checked="" type="checkbox"/>
4 - Manhattan - Other	16	<input checked="" type="checkbox"/>
5 - Westchester - Other	109	<input checked="" type="checkbox"/>
6 - Brooklyn - Other	101	<input checked="" type="checkbox"/>
10 - X - D - West Bronx	137	<input checked="" type="checkbox"/>
11 - X - E - Fordham	208	<input checked="" type="checkbox"/>
12 - X - D - Central Bronx	189	<input checked="" type="checkbox"/>
13 - X - E - Southeast Bronx	380	<input checked="" type="checkbox"/>
14 - X - E - Northeast Bronx	303	<input checked="" type="checkbox"/>

Select Parameters

Program Type: Duty Cycle - ALL *

Start Day: Tue 09/13/2011 *

Start Time ET: 2 pm 00 *

Duration: (hh:mm) 4 00 *

Duty-Cycle (%Off): 50% *

Initiate Cancel



Load Management during Curtailment

- Signal sent via Skytel Advanced Messaging Network
- Curtailment is accomplished by cycling the compressor off for 30 continuous minutes per hour
- Confirmation response sent by thermostat back to server to provide utility real time verification of customer participation
- Thermostat also collects and sends back run time data which provides utility with exact HVAC minutes of operation for each unit



Measurement & Verification

- Event performance is measured against a baseline A/C usage from a prior non-event period with similar weather conditions
- Event performance is compared hourly against the baseline

Verification of Curtailment Event

<u>July 21, 2011</u>	Residential	hour14[1]	hour15	hour16	hour17	hour18
	NYC Zone J					
	Load reduction (MW)	13.34	14.3	14.39	14.51	12.12
	Westchester Zone I					
	Load reduction (MW)	8.81	10.02	10.73	11.36	10.20

[1] hour 14 is defined as 1:00 pm through 2:00 pm

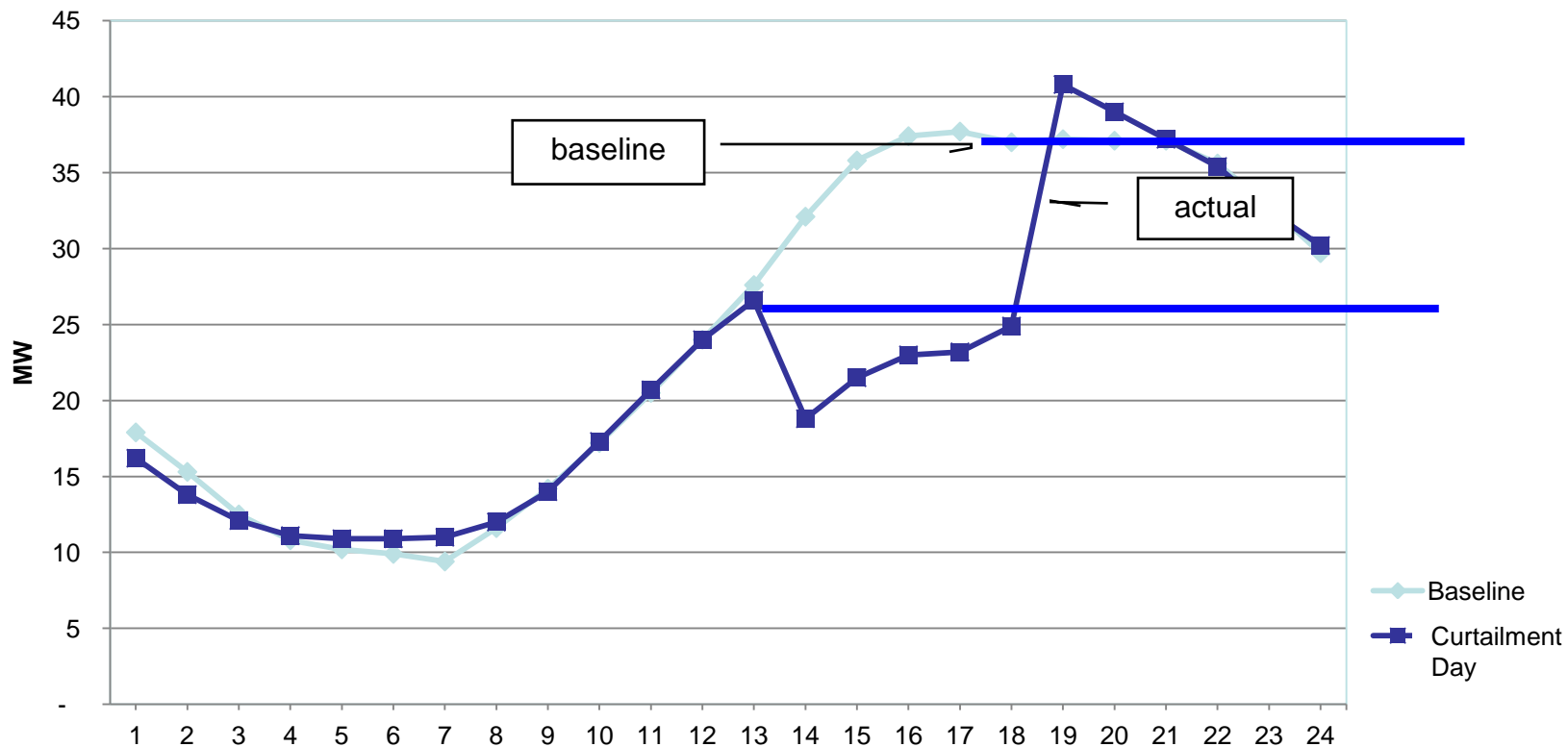
<u>July 21, 2011</u>	Commercial	hour14	hour15	hour16	hour17	hour18
	NYC Zone J					
	Load reduction (MW)	8.06	6.74	6.44	7.41	6.04
	Westchester Zone I					
	Load reduction (MW)	1.59	1.35	1.43	1.68	1.35

<u>July 22, 2011</u>	Residential	hour13 (NYC Only)	hour14	hour15	hour16	hour18
	NYC Zone J					
	Load reduction (MW)	13.28	14.76	13.93	15.35	17.29
	Westchester Zone I					
	Load reduction (MW)		8.57	9.48	10.07	11.71

<u>July 22, 2011</u>	Commercial	hour13 (NYC Only)	hour14	hour15	hour16	hour18
	NYC Zone J					
	Load reduction (MW)	9.21	8.38	7.34	7.83	10.33
	Westchester Zone I					
	Load reduction (MW)		1.57	1.48	1.45	1.90

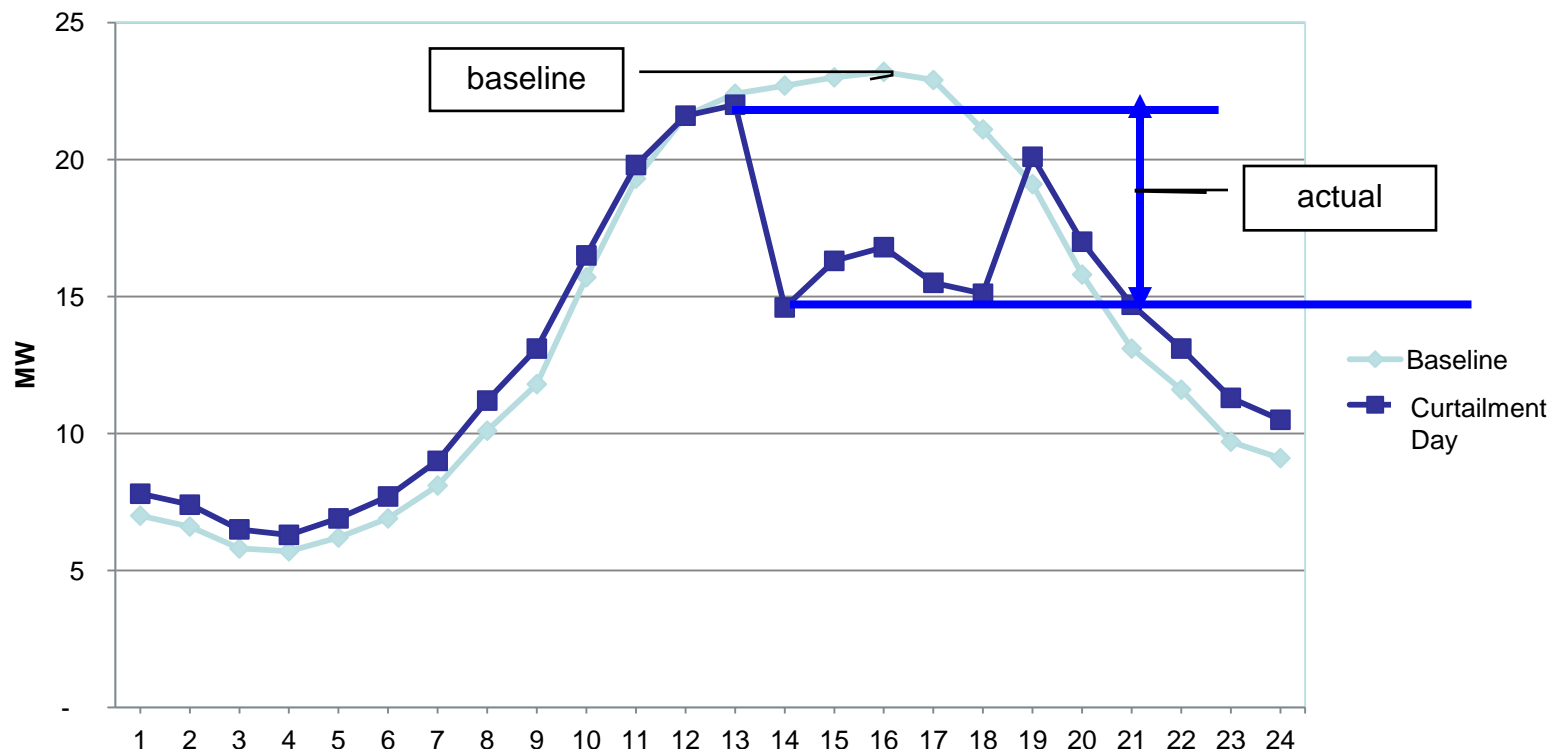
Curtailment Event

NYC Residential - July 21, 2011 Curtailment Day in MW



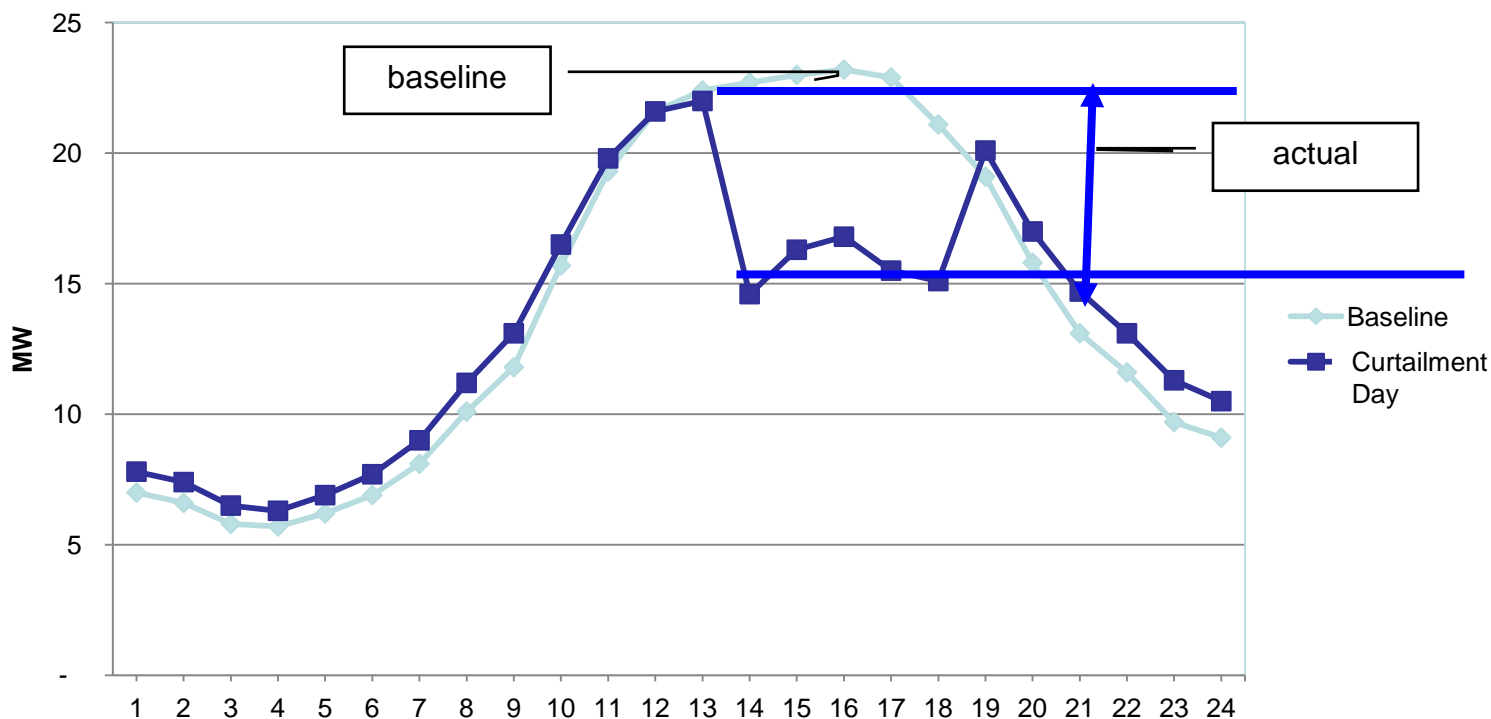
Curtailment Event

NYC Commercial - July 21, 2011 Curtailment Day in MW



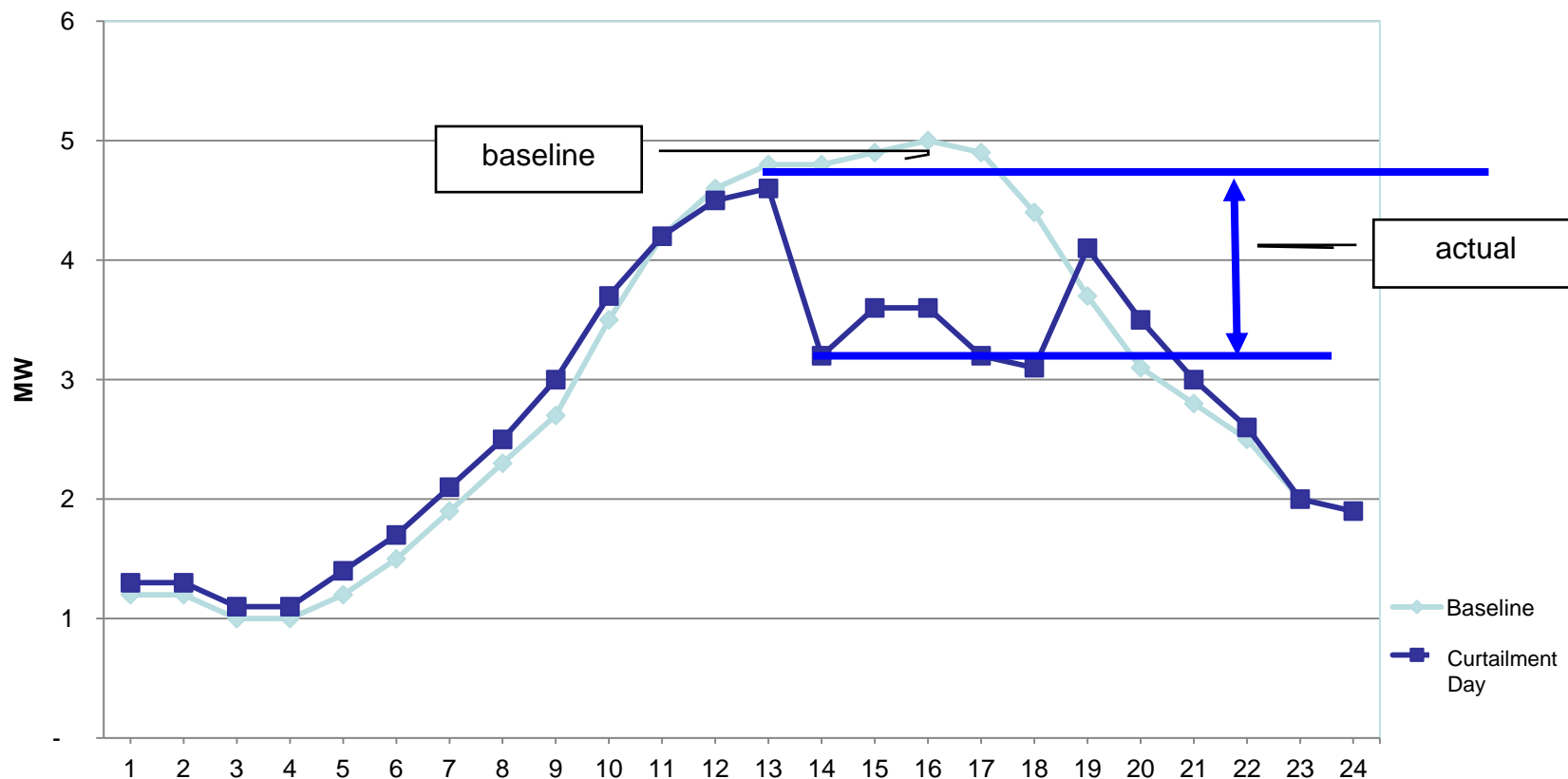
Curtailment Event

West Residential - July 21, 2011 Curtailment Day in MW



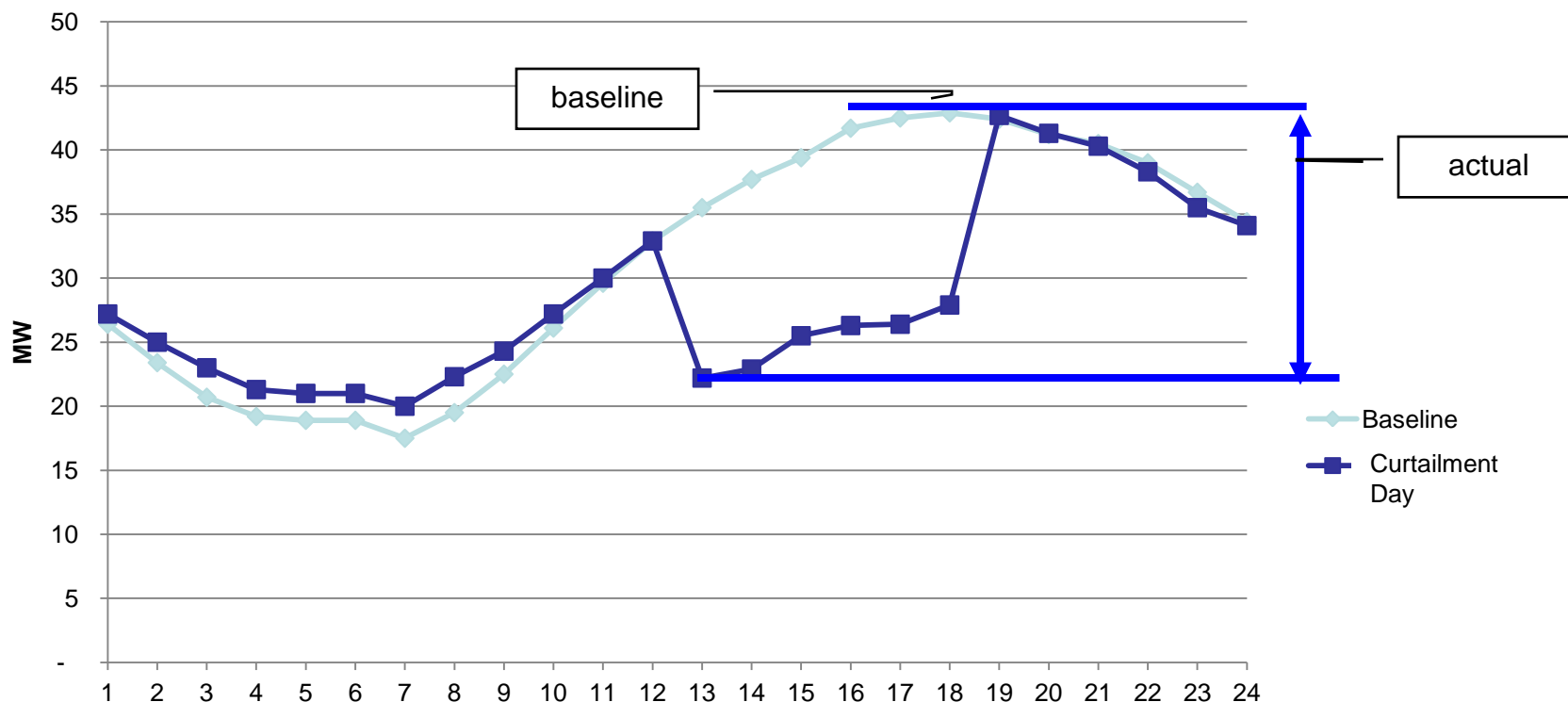
Curtailment Event

West Commercial - July 21, 2011 Curtailment Day in MW



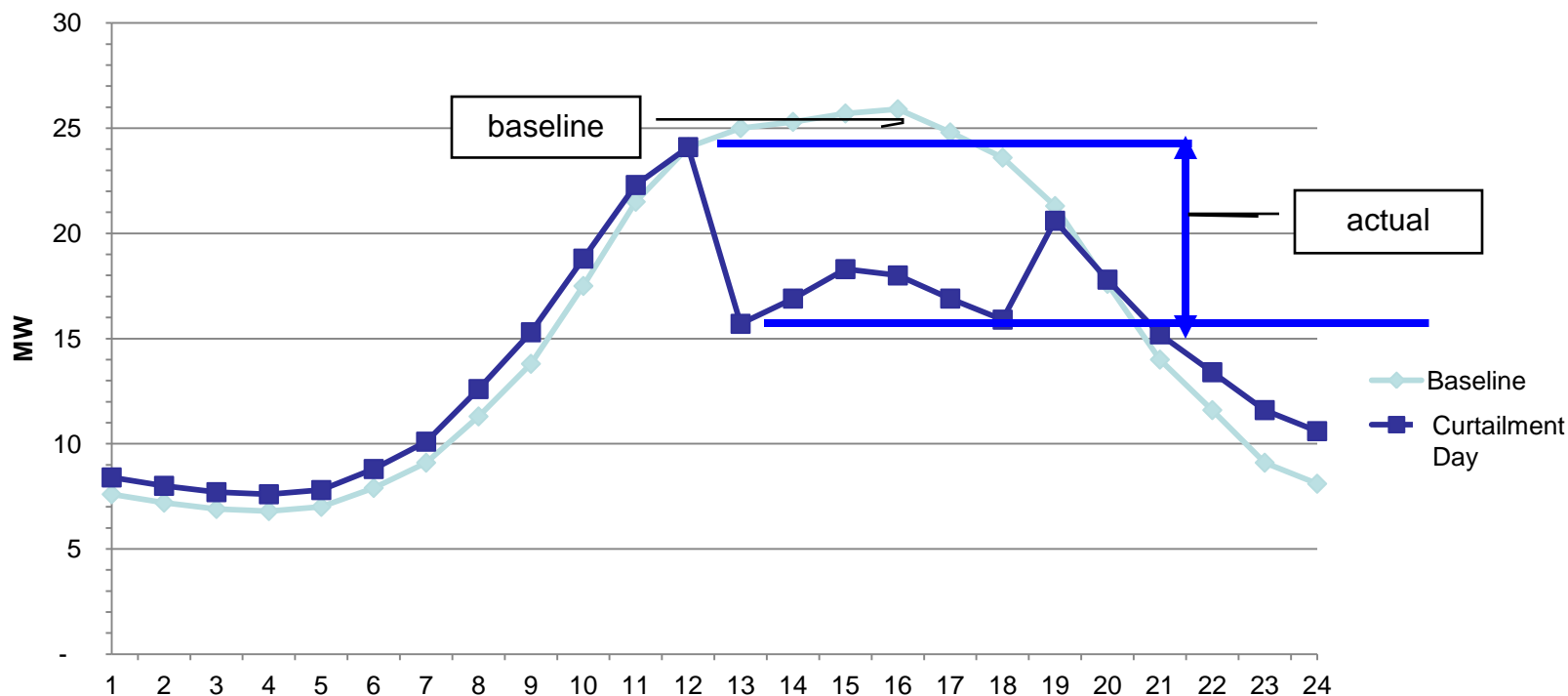
Curtailment Event

NYC Residential - July 22, 2011 Curtailment Day in MW



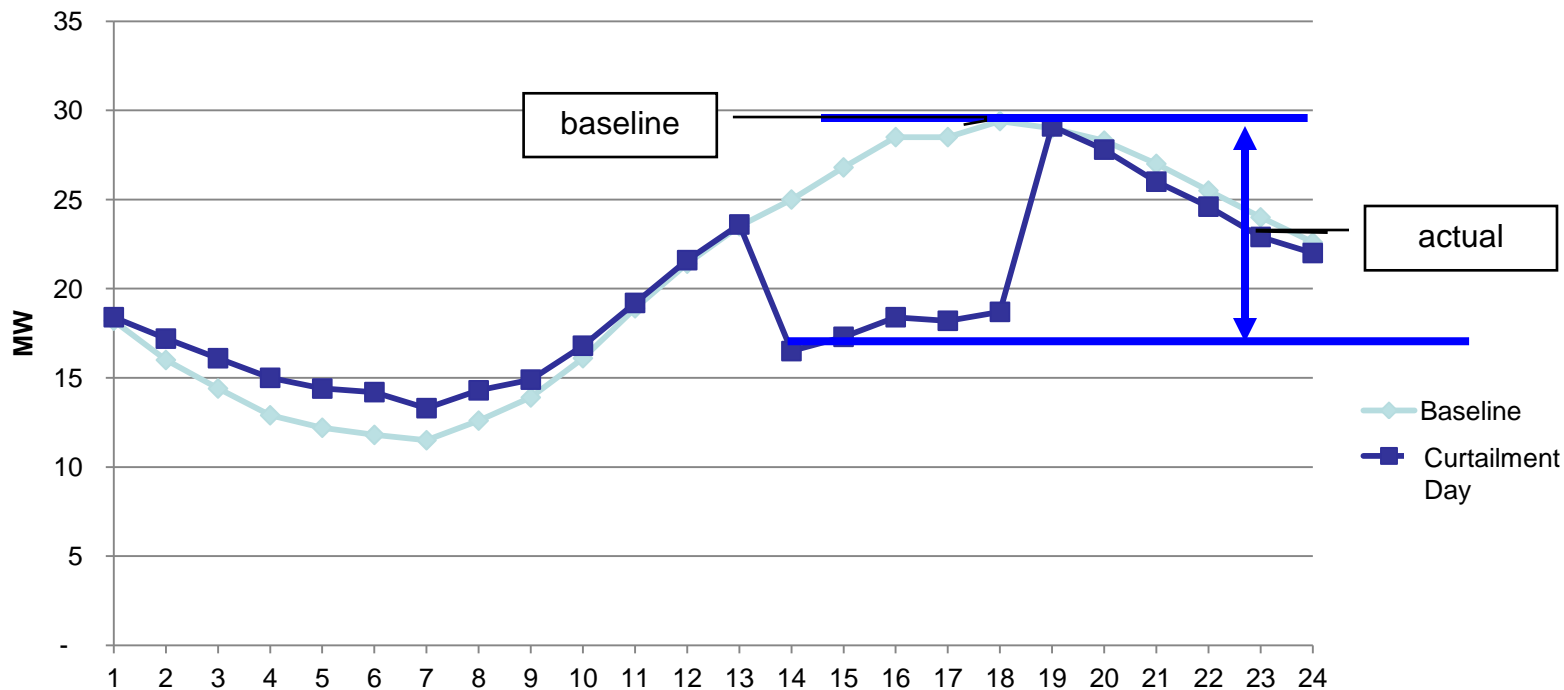
Curtailment Event

NYC Commercial - July 22, 2011 Curtailment Day in MW



Curtailment Event

West Residential - July 22, 2011 Curtailment Day in MW



Curtailment Event

West Commercial - July 22, 2011 Curtailment Day in MW

