

# Resource Adequacy Advisory Committee

## Estimating Availability of Imports from California and Desert Southwest

**Technical Committee Meeting  
November 20, 2013**

# Topics

- Approach used for last year's estimate
- Needs for future estimates
- Outline of framework
- Contacts and information sources
- Alternatives to meet needs

# Approach Used for Last Year's Estimate of California Imports

- 1. Gathered resource changes through 2017**
  - Plant retirements (e.g., once-through cooling units)
  - New construction
  - New wind and solar
- 2. Assess trends in winter loads (summer didn't matter because we assumed no market availability)**
- 3. Adjusted current-year winter surplus for resource changes**
- 4. Made sure winter surplus did not exceed South-to-North intertie transfer capability**

# Modified RA Assessment + Transfer Capability 2017 Analysis (SONGS on-line)

2010 - California PUC Adequacy Report (April 2011)							S. to N. Transfer (AC + DC) (2006 to 2010)	
A	B	C	D	E	F	G		
2010	Demand 1:2	Adequacy Requirement (AR)	Total Resources Reported	Net Gas-Fired Plants (2017)	Import Assumption*	"Surplus" (D+E) - (C+F)	Average	Min
		B=D*1.15						
Jan	29,930	34,420	34,845	1,224	-	1,650	4761	3764
Feb	29,053	33,411	33,858	1,224	-	1,671	4732	3304
Mar	28,648	32,945	33,105	1,224	-	1,384	4213	3310
Apr	30,094	34,608	34,571	1,224	-	1,187	4101	3466
May	34,623	39,816	39,668	1,224	2,662	(1,586)	4213	3605
Jun	38,236	43,971	43,455	1,224	3,718	(3,010)	4551	3471
Jul	41,872	48,153	47,184	1,224	5,717	(5,462)	5078	3885
Aug	45,105	51,871	50,438	1,224	7,719	(7,928)	5073	4311
Sep	40,200	46,230	45,210	1,224	5,513	(5,309)	4019	2912
Oct	33,407	38,418	38,790	1,224	-	1,596	3402	2885
Nov	29,893	34,377	35,411	1,224	-	2,258	4136	3243
Dec	31,406	36,117	36,538	1,224	-	1,645	4565	3998

\* No Import Assumptions given for other months

Assumptions used for 2017 Assessment:

**Winter:** on-peak 1,700 MW off-peak 3,000 MW

**Summer:** on-peak 0 MW off-peak 3,000 MW

## SW Import Assumption 2017 (SONGs On-Line)



# Needs for Future Assessments

- Framework for systematic, sound analysis
- Open, transparent process
- Reliable data sources
- Identify and assess uncertainties
- Ongoing relationships and information exchange with entities in California

# Outline of Framework

- **Load forecast**
  - Peak only?
  - By balancing authority
- **Resources**
  - Peak capacity only?
  - Conventional generation
  - Renewable generation
  - Demand response
- **Known contracts between NW and California?**
- **Intra-California transmission constraints**

# Contacts and Information Sources

- California Energy Commission
- California Public Utilities Commission
- California Independent System Operator
- Other California balancing authorities
- California utilities
- Western Electricity Coordinating Council
- Trade publications
- Consultants?

# Alternatives to Meet Needs

- Outsource the entire activity to a consultant
- Contract out help setting up a framework
- Develop a framework on our own
- Other?

# Additional Slides

### OTC Plant Closure

Plant	Unit	On-Line	MW	Retirement	Owner	Design (mgpd)
Contra Costa	6	1964	359	2013	GenOn	440
Contra Costa	7	1964	359	2013	GenOn	440
El Segundo	3	1964	342	2014	NRG	399
El Segundo	4	1964	342	2014	NRG	399
Morro Bay	3	1962	359	2015	Dynergy	
Morro Bay	4	1963	359	2015	Dynergy	668
Pittsburg	5	1960	326	2017	GenOn	
Pittsburg	6	1961	326	2017	GenOn	462
Encina	1	1954	110	2017	NRG	
Encina	2	1956	110	2017	NRG	
Encina	3	1958	110	2017	NRG	
Encina	4	1973	306	2017	NRG	
Encina	5	1978	345	2017	NRG	857
Moss Landing	6	1967	510	2017	Dynergy	
Moss Landing	7	1968	510	2017	Dynergy	865
Huntington Beach	1	1958	218	2020	AES	
Huntington Beach	2	1958	218	2020	AES	
Huntington Beach	3	1961	225	2020	AES	
Huntington Beach	4	1961	225	2020	AES	514
Redondo Beach	5	1954	163	2020	AES	
Redondo Beach	6	1957	163	2020	AES	
Redondo Beach	7	1967	495	2020	AES	
Redondo Beach	8	1967	495	2020	AES	471
Mandalay	1	1959	218	2020	GenOn	
Mandalay	2	1959	218	2020	GenOn	253
Ormond Beach	1	1971	806	2020	GenOn	
Ormond Beach	2	1973	806	2020	GenOn	685
Alamitos	1	1956	156	2020	AES	207
Alamitos	2	1957	156	2020	AES	207
Alamitos	3	1961	310	2020	AES	392
Alamitos	4	1962	310	2020	AES	392
Alamitos	5	1964	495	2020	AES	674
Alamitos	6	1966	495	2020	AES	674
			10,945			8,999

# OTC Adjustment to Analysis:

	Retirement Year							
	2013	2014	2015	2016	2017	2018	2019	2020
Retired in Year	0	0	1402	0	3371	0	0	6172
Cumulative	0	0	1402	1402	4773	4773	4773	10945

2017 Assessment Retirements



# Gas-Fired Plants Under Construction

- The 2010 CPUC RA assessment does not include these plants in their analysis

Update May 2012

## New Gas Fired Plants

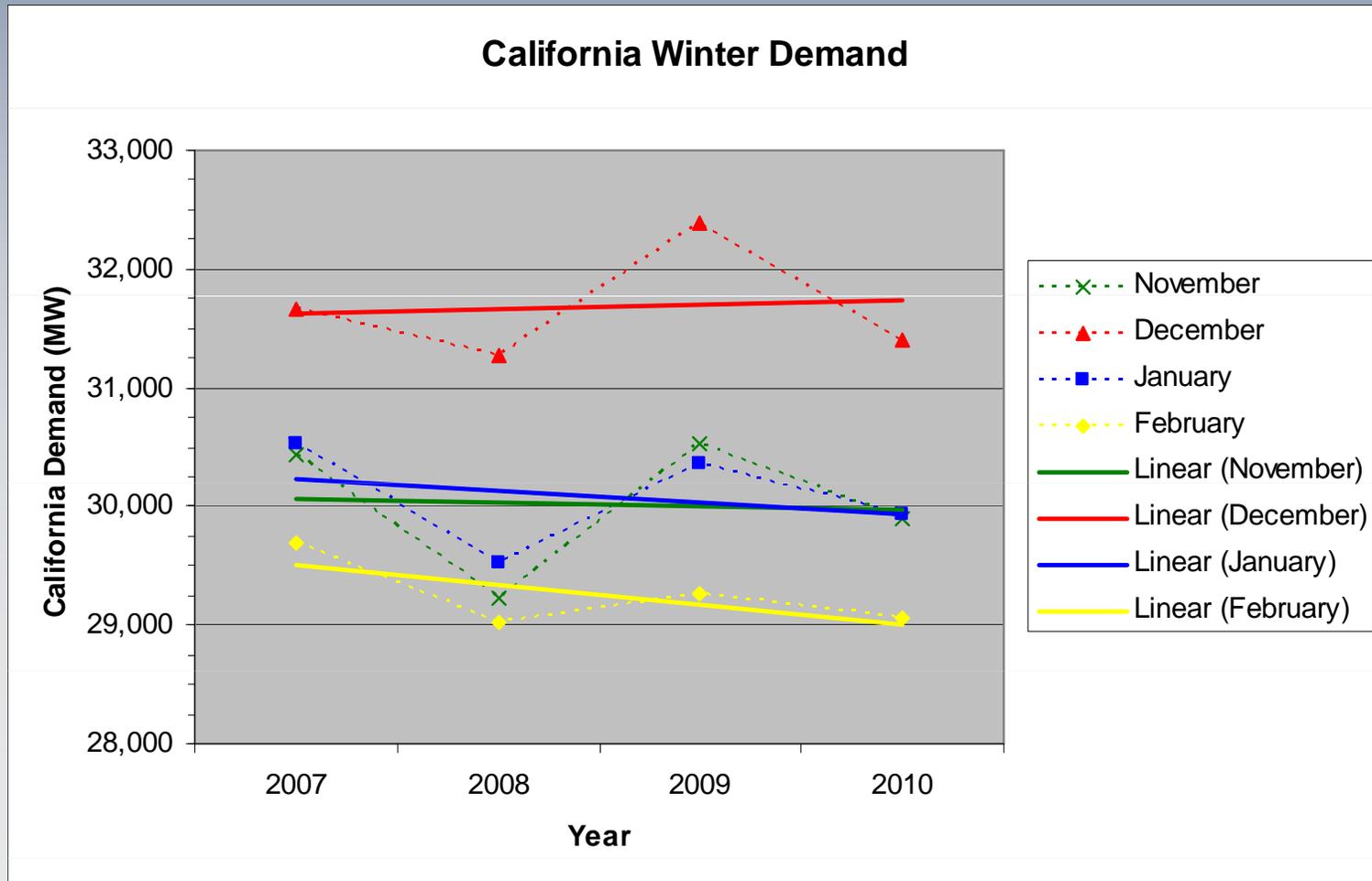
(Started Construction or On-Line)

Plant	MW	Percent Complete
Humbolt Bay	163	On-Line
Colusa	660	On-Line
Riverside	96	On-Line
Canyon	200	On-Line
Tracy	145	89%
Lodi	255	95%
Almond	174	97%
Los Esteros	140	30%
Walnut Creek	500	12%
Marsh Landing	760	36%
Sentinel Peaker	850	5%
El Segundo	630	25%
Mariposa	200	95%
Oakley	624	10%
Russel City	600	25%
	<u>5997</u>	

2017 RA Assessment	
New Gas Plants	5,997
OTC Retirements	<u>4,773</u>
Net Gas Plants	1,224
SONGS?	(2,150)

Source: CEC (approve power plants > 50 MW)

# Winter Trend Lines



# Summer Trend Lines

