Roseville Electric's Resource Adequacy Policy Narrative

The City has not adopted a formal policy on Resource Adequacy ("RA"). The City's informal policy is to meet any and all capacity requirements directly imposed through legislation, WECC requirements, SMUD Balancing Area requirements, or contract provisions with Western or SMUD.

- Legislative Requirements:
  The current legislative requirement applicable to the City is codified in AB 380 which requires the City to meet planning criteria established by the WECC.

- WECC Requirements:
  The current WECC requirements cover operational adequacy to which the City fully complies. WECC does not currently impose a planning reserve or resource adequacy standard.

- SMUD Balancing Area Requirements:
  The SMUD Balancing Area requirements are specified in the Balancing Area of Northern California ("BANC") Agreement to which the City is a party. The BANC Agreement specifies that the City meet operational criteria, including a replacement reserve, and meet a Planning Standard[1]. The City meets all applicable standards.

- Contract Provisions with Western and SMUD:
  The main contract provisions are determined in the Western Interconnected Operations Agreement ("IOA") between Western and the City, and, by reference, to provisions in the IOA between SMUD and Western. (Virtually the same provisions are included in the BANC Agreement between the City and SMUD.) The contract provisions specify a standard of "rigorous self-provision" for operating criteria including replacement reserves as well as specifying that the City meet the planning standard (see footnote 1). The City meets all applicable standards.

Operating Criteria

The City is required by the Western IOA and the BANC Agreement to meet 100% of actual load, operating reserves and to provide for contingencies. The City currently has adequate capacity to meet the 1-in-2 system peak and contracts for a 100% of required operating reserves from Western. Expected demand above the 1-in-2 peak and contingency reserves are met via short term market purchases from within the balancing area and from adjacent balancing areas, including CAISO. Contractual protocols (Western IOA) require the City to replace generation outages "as soon as practical". In the case of a non-emergency export from the CAISO to meet the generation outage, reserves are available for up to the two hour scheduling restriction in the CAISO HASP.

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1 **Planning Standard:** Each Member shall plan independently to meet its own load, reserves, and contingencies through advanced resource planning, construction of generating resources and transmission resources, and power purchases. In so planning, the Parties shall be obligated under this contract to utilize a planning standard at least equal to WECC standards, as those standards may be revised, amended or superseded from time to time.

Planning Standards

The City meets its planning standards obligation primarily through the resource position which is adequate to meet the 1-in-2 peak load, adequate transmission capacity to import 100% of its actual peak load and resource acquisition to meet renewable energy mandates. The City is currently pursuing 31 MW of renewable energy contracts and has an additional need for 30 MW of generic resources through 2020. The City has an informal policy of acquiring the capacity rights associated with the renewable energy projects.

Resource Adequacy Compliance

As discussed above, the City does not have any applicable Resource Adequacy requirements from legislation, WECC, balancing area, contract provisions, or locally adopted standards. However, the City does meet the intent of Resource Adequacy. The following table summarizes the data from form S-1 CRATs from the City's 2011 Integrated Energy Policy Report filing (IEPR):

	CY2011	CY2012	CY2013	CY2014	CY2015	CY2016	CY2017	CY2018	CY2019	CY2020
Capacity Requirement:										
System Peak (1 in 2)	327.6	333.7	336.0	338.7	341.1	343.1	346.4	349.1	351.3	353.9
Dispatchable DSM	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
	322.6	328.7	331.0	333.7	336.1	338.1	341.4	344.1	346.3	348.9
Planning Reserve @ 15%	48.4	49.3	49.7	50.1	50.4	50.7	51.2	51.6	51.9	52.3
Total Capacity Requirement	371.0	378.0	380.7	383.8	386.5	388.8	392.6	395.7	398.2	401.2
Capacity Credits	(6.2)	(6.6)	(6.7)	(6.7)	(6.7)	(6.6)	(6.7)	(6.7)	(6.7)	(5.5)
Capacity Requirement	364.8	371.4	374.0	377.1	379.8	382.3	385.9	389.0	391.6	395.7
Capacity Resources:										
Control Area Resources										
Roseville Energy Park	154.0	154.0	154.0	154.0	154.0	154.0	154.0	154.0	154.0	154.0
CT1	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0
Western	61.3	60.9	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4
	263.3	262.9	262.4	262.4	262.4	262.4	262.4	262.4	262.4	262.4
CAISO Resources										
Energy 2001	2.2	2.2	2.2	2.2	2.2	-	-	-	-	-
CT2	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
Geo	8.8	7.6	7.4	7.2	6.9	6.9	6.6	6.5	6.3	6.3
Calaveras	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3
Purchases	-	-								
	61.9	60.7	60.4	60.2	59.9	57.7	57.5	57.3	57.2	57.2
Renewables	-	36.0	33.0	28.0	33.0	38.0	46.0	51.0	56.0	61.0
Total	325.1	359.5	355.9	350.7	355.4	358.2	366.0	370.8	375.7	380.6
Contractual Reserves	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Capacity Including Reserves	350.1	384.5	380.9	375.7	380.4	383.2	391.0	395.8	400.7	405.6
Capacity Balance										
Capacity Surplus/(Deficit)	(14.7)	13.1	6.9	(1.4)	0.5	0.9	5.1	6.8	9.1	9.9
Planning Reserve Margin	33.7	62.4	56.6	48.6	50.9	51.6	56.3	58.4	61.0	62.2
Planning Reserve Margin Percent	10.4%	19.0%	17.1%	14.6%	15.2%	15.3%	16.5%	17.0%	17.6%	17.8%
Capacity Requirement at 15.0% Planning Reserve										
Long-Term (90% by September)	-	-	-	-	-	-	-	-	-	-
Short-Term (115% by April)	14.7	-	-	1.4	-	-	-	-	-	-
Non-Capacity Resources										
Powerex	30.0	-	-	-	-	-	-	-	-	-
Generic										

- **Capacity Requirement:**
  - Forecast peak load is derived using an econometric, demographic and weather load forecasting model and is based on expected customer growth, expected economics and typical weather patterns. This is the City's 1-in-2 forecast.
  - Dispatch-able Demand Side Management includes the City's expected contribution from interruptible load programs including interruptible air conditioning.
  - Planning reserve is computed at 15% forecast peak load after adjustment for dispatch-able DSM programs. The 15% planning reserve is adopted from the IEPR and does not reflect any mandated or locally adopted requirement.
  - Capacity credits are computed for resources that include reserves at the rate of 5%. These resources include the WAPA Base Resource and the City's capacity entitlements in the CAISO. WAPA Base Resource schedules include reserves and are operationally firmed. Exports from the CAISO are firmed on export, and automatically incur additional reserve cost from the CAISO.

- **Capacity Resources:**
  - Control Area Resources include the Roseville Energy Park, the Roseville CTs, and the WAPA Base Resource.
  - CAISO Resources are counted to the extent the City owns the capacity rights (designated as non-RA capacity in the CAISO) for resources within the CAISO. These resources include Calaveras hydro, Geysers geothermal, NCPA CT2 thermal, and Energy 2001. The CAISO operating protocols include mandated reserves on exports. Additionally, the City has contractual transmission rights for 100% of the actual peak load.
  - Proposed resources include projects that the City is actively seeking to acquire. These projects include the Modesto Biomass facility, US Geothermal expansion, and the West Geo project at the geysers.
  - Generic resources are added primarily to meet renewable energy mandates and include the capacity rights under an informal policy.
  - Contractual Reserves include regulation and operating reserves contracted with Western. The City purchases 10 MW of Regulation and Frequency Response Service and has a right to purchase Western 100% of the City's requirement for spinning and non-spinning reserves (including restoration of reserves, if called). The spinning and non-spinning reserve requirements are determined by contract as the City's responsibility under a Load Ratio Share of the balancing area's single largest contingency. The total estimated reserve purchases at time of peak are 25 MW (approximately 7.5% of peak).

- **Capacity Balance:**
  - Capacity Surplus/(Deficit) shows the net capacity position. The City has a small deficit in 2011 and 2014. No determination for filling the 2011 deficit has been made at this time.