



California Energy Commission – September 1, 2015
Drought Hydropower Response (Docket No. 15-HYDRO-01)

- 1) Redding Electric Utility is estimating 782 GWh of energy will be needed for 2015.
- 2) The average annual hydroelectric energy procurement for Redding Electric Utility, dating back to 2003, is 322 GWh. Last year Redding Electric Utility received 187 GWh. Generation accounts for 25 GWh and purchases averaged 307 GWh.
- 3) The lowest total hydroelectric energy procurement occurred in 2014 with 171 GWh; of which, 164 GWh was purchased and 23 GWh was generated.
- 4) The lowest total hydroelectric energy procurement occurred in 2014 with 171 GWh.
- 5) Redding's most recent estimate of 2015 hydroelectric energy generation is 25 GWh (3%) and 117 GWh (14%) in purchases. If the estimates hold true, 2015 will be the lowest hydroelectric year to date for the time frame studied. This even accounts for an additional 0.5% increase in hydroelectric purchases.
- 6) The drought has raised reliability concerns. Our existing hydroelectric contracts normally provide us with operational flexibility. Reduced flexibility will put a strain on our resource reserve margins.
- 7) If access to hydroelectric generation decreases further, we would consider that a critical situation both operationally and financially.
- 8) Redding's hydroelectric purchase contracts have fixed costs that do not vary with energy delivery. The 2015 estimated hydroelectric energy is approximately 75 GWh below last year, which again was REU lowest recording, and over 150 GWh lower than an average hydro year. A 75 GWh reduction will have a financial impact ranging from \$2 to \$5 million. An additional cost of \$1 million will be incurred by Redding rate payers this year to pay an increased portion of the hydro environmental mitigation (Central Valley Project Improvement Act) due to the reduced water deliveries to the water users. When water deliveries are down, the funds that cannot be collected from the water users are shifted to the power users. This results in increased costs without increased energy delivery. There will also be cost due to the additional need of GHG allowances.
- 9) The estimated additional procurement of GHG allowances will be 24,000 MT from last year, or 57,000 MT from an average year. This assumes the additional energy (55 GWh from last year, 130 GWh from average) needed times the emission factor (0.428 MT/MWh) and transmission losses of 2%.
- 10) Beyond the reliability concerns, the drought will have negative financial effects that will need to be addressed in rates during the coming months and years.
- 11) At this time, Redding does not expect water curtailments will affect hydroelectric energy procurement other than what is discussed above.
- 12) The water curtailments in 2014 did not seem to affect the hydroelectric energy procurement or dispatch other than what is discussed above.



13) The drought will have other negative impacts on our local farmers and our regional economy.