

**Drought Hydropower Questions  
Publicly Owned Utilities  
2015**

California Energy Commission

**DOCKETED**

**15-HYDRO-01**

TN # 75770

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Question 1: Please provide your publicly owned utility's (POUs) current estimate of total electric firm energy requirements in gigawatt hours (GWh) for calendar year 2015.

APU Response:

For calendar year 2015, APU estimates firm energy requirements to be 2,376 GWhs.

Question 2: Please provide your POU's average annual hydroelectric energy procurement in GWh since 1970, including 2014. Please differentiate between generated and purchased hydro energy supplies, and specify the timeframe over which these averages were determined if fewer years than from 1970 were used.

APU Response:

Year	Hoover (GWh)	MWD (GWh)
1988	54	
1989	46	
1990	48	
1991	47	
1992	44	
1993	39	
1994	51	
1995	47	
1996	55	
1997	53	
1998	60	
1999	60	
2000	59	
2001	54	

Year	Hoover (GWh)	MWD (GWh)
2002	59	
2003	49	
2004	47	
2005*	37	
2006	46	
2007	46	
2008	45	
2009	43	
2010	40	16
2011	44	19
2012	47	19
2013	43	13
2014	44	17

\* Lowest production year

Question 3: Please provide your POU's lowest hydroelectric energy procurement in GWh during the same time period used in Question 2, and identify the year in which this occurred. Please provide figures for both POU-owned/controlled hydroelectric generation and hydroelectric energy supply contracts.

APU Response:

Please see green highlight in Question #2 (Year 2005). All APU hydroelectric energy is procured under energy long-term energy supply contracts.

Question 4: Please provide your POU's hydroelectric energy procurement in GWh during 2014, if different from that shown in Question 2. If the same, please state so explicitly.

APU Response:

The total shown in Question #2 is the same for 2014.

Question 5: Please provide your POU's most recent estimate of 2015 hydroelectric energy procurement (generation and purchases), both in GWh and as a percentage of this year's firm energy requirement.

APU Response:

For 2015, hydro procurement estimates are expected to be 60 GWhs, or 2.5 % of total firm energy requirements.

Question 6: Does your POU expect that low hydro conditions (or the drought more generally) will raise any system or local reliability concerns? Please explain:

APU Response:

The California Independent System Operator (CAISO) is the entity responsible for the reliable operation of the bulk of California's power grid. As a member of the CAISO, APU does not expect that the drought conditions contributing to low hydro conditions will raise any system or local concerns in APU's service area.

Question 7: Under what circumstances would the adverse effects of the drought create severe or critical operational concerns for your system's electric generation or for electricity deliveries in your service area?

APU Response:

While de-rates to hydroelectric resources are expected to occur under the current conditions, APU does not expect that the effects of the current drought will create any severe or critical operational concerns in its service area.

Question 8: At what value of annual hydro generation this year (in GWh) would the effects of drought result in significant or substantial financial concerns? Please estimate additional costs your POU may incur because of low hydro conditions. Please provide the assumptions used. (Please highlight in yellow any information about specific costs, projected or potential, that are considered confidential or commercially sensitive. This could include potential impacts on rates that have not yet been considered for adoption

by your local governing board. Such information, if provided and marked as confidential, will be protected from public disclosure through December 31, 2016.)

APU Response:

Please see APU responses to questions #6 and #7 above.

Question 9: Please estimate any additional procurement of greenhouse gas allowances, in metric tons, that your POU has already incurred or that your POU expects will be necessary because of low hydro conditions in 2015. Please provide the assumptions used.

APU Response:

APU does not expect that low hydro conditions will cause additional procurement of greenhouse gas allowances to demonstrate compliance with the state's Cap and Trade Program.

Question 10: Does your POU expect that low hydro conditions (or the drought more generally) will have any other local impacts beyond local reliability? If so, are efforts underway to address these impacts?

APU Response:

As a member of the CAISO, and from a utility operations perspective, APU does not foresee any other local impacts due to low hydro conditions.

Question 11: Will water curtailments this year, such as by the State Water Resources Control Board, affect your POU's hydroelectric energy procurement or dispatch (either utility-controlled hydro generation or purchases)? If so, to what extent will these supply resources be affected in terms of GWh, and over what timeframe(s)?

APU Response:

Yes, water curtailments will affect the amount APU will receive under contract from hydroelectric energy resources; however, APU has enough flexibility in its current resource portfolio to overcome any hydroelectric energy procurement shortfalls.

Question 12: Did water curtailments in 2014 affect your POU's hydroelectric energy procurement or dispatch? If so, to what extent were supply resources affected and over what timeframe(s)? Did curtailments derate the capability to generate in megawatts (MW), and if so during what timeframes?

APU Response:

APU is unaware of any water curtailments in 2014 for its hydro resources under contract.

Question 13: Energy Commission staff would like to know about any potential drought related issues that will or could affect electric systems and/or local reliability. For example, are there known or potential issues with water allocations or supplies to

thermal plants (for example, power plant cooling)? This is an open-ended question and we hope that your POU can, to the extent possible, provide us with information regarding your POU's overall assessment regarding how drought conditions may affect reliability in your local communities.

APU Response:

To date, APU has not experienced any drought-related issues that have affected electrical systems or local reliability, and does not expect to experience operational or reliability issues in the future. APU owns and operates two peaking plants within its service area that use minimal water for emission control and power augmentation. APU does not use the water for cooling purposes.