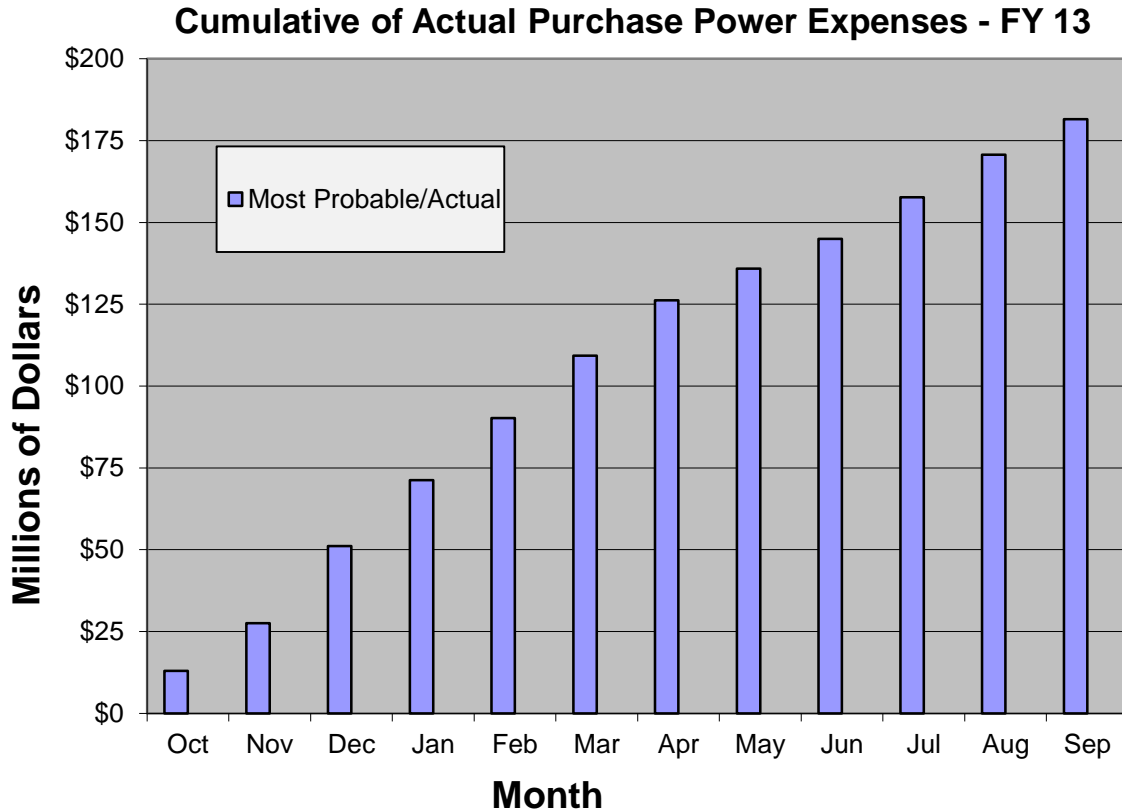


**Hydro Conditions and
Purchase Power Report
October 2013**

Western Summary

- Fiscal year (FY) 2013 ended with net generation of 22,511 gigawatt-hours (GWh) or 83 percent of average.
- The amount of power purchased for FY 2013 was 4,428 GWh compared to FY 2012 purchases of 2,112 GWh.
- The average price for purchase power across all hydro projects and off-peak and on-peak periods was \$41/megawatt-hour (MWh). This price compares to \$47/MWh last year.
- Purchase power expenses for FY 2013 were \$181.5 million, compared to \$100.3 million for FY 2012. The breakdown for the FY 2013 purchases, in millions, is: UGPR - \$47.8, RMR - \$27, CRSP - \$52.4, DSW - \$3.1, and SNR - \$51.2.



Upper Great Plains Region

Storage: September inflows resulted in 65 percent of average and the anticipated inflow for October is forecast to be 85 percent of average. Based upon the current water supply forecast, releases out of Canyon Ferry to the Missouri River below Holter Dam will be maintained near 2,900 cfs to conserve storage. Due to frequented precipitation events, streamflows into Bighorn Lake during September improved to 96 percent of average. Based on the October 1 water supply forecast and the planned releases out of Boysen and Buffalo Bill Reservoirs, the October runoff into Bighorn Lake is expected to equal 146,600 acre-feet (90 percent of average).

As of September 28, 2013, the storage level at [Canyon Ferry](#) was 1,471,193 acre feet and the active conservation pool is 77.8 percent full. Storage at [Yellowtail](#) is 1,023,225 acre feet and the active conservation pool is 100.0 percent full.

COE: Total runoff for the year is estimated to be 91 percent of normal at 23.1 MAF, due to above normal rains in the Missouri Basin. There has been very little change to the Missouri River system over the summer, up approximately one percent. The COE remains in conservation mode and are being determined by river levels for navigation in the Kansas City area. Dry conditions along the Missouri River are keeping releases at Gavins Point relatively high and steady, but has been as predicted by COE. Forecasted energy production for the calendar year remained unchanged.

Snow pack: The September 1 forecasted runoff for calendar year 2013 is 22.7 million acre-feet (MAF). This runoff would be 90 percent of normal runoff.

FY Generation: The six main stem power plants generated 812 million kilowatt-hours (kWh) of electricity in September. Total energy production for 2013 was earlier forecasted to reach 8.0 billion kWh, but has been reduced to around 7.6 billion kWh. The long-term average is approximately 10 billion kWh.

Purchased Power: Purchased power is holding steady at low \$20s for off-peak power and upper \$30s for on-peak power.

Rocky Mountain Region

The Loveland Area Projects (LAP) reside in both the Upper Missouri and Upper Colorado basins. Hydrologic conditions can vary from one river basin and watershed to another. The three LAP watersheds are the Bighorn River Basin in Wyoming, the North Platte River Basin in Colorado and Wyoming, and the headwaters of the Colorado River Basin in Colorado.

Drought conditions remain in some of the LAP area this year but are much improved over this time last year. The snowpack peaked later than normal and the peaks were 98 percent of average in the Bighorn Basin, 92 percent in the North Platte, and 110 percent in the Upper Colorado headwaters of the Colorado-Big Thompson Project (CBT). Low soil moisture and stream bank storage carrying over from last year and hot and dry conditions immediately after the snowpack peaked resulted in reservoir inflows less than what just the snowpack peaks would indicate. The resulting overall LAP reservoir storage at the end of September was below average with gains in the CBT and significant losses in the North Platte Basin since last September. The latest

National Weather Service forecast indicates November through January temperatures will more likely be above average in Colorado with an equal chance of being above or below normal in Wyoming. The precipitation in that same period will more likely be above average in Wyoming with an equal chance of being above or below normal in Colorado.

	LAP Water Conditions At-A-Glance						Net At Plant LAP Generation (GWh)			
	Reservoir Storage 1,000 acre-feet			Actual Reservoir Inflow 1,000 acre-feet			FY2013 Actual Generation FY2014 Winter Projection			
	end of September	average	% of average	annual FY2013	average	% of average		average	% of average	
CBT	622.5	672.1	93%	738.2	787.3	94%	Winter 12-13	512.8	724.0	71%
North Platte	773.8	1,246.2	62%	549.5	1,135.2	48%	Summer 13	875.6	1,214.7	72%
Bighorn	1,915.4	1,988.1	96%	1,219.9	1,785.8	68%	TOTAL FY13	1,388.4	1,938.7	72%
TOTAL	3,311.7	3,906.4	85%	2,507.6	3,708.3	68%	Winter 13-14	470.8	724.0	65%

LAP generation was below average in FY2013 with the winter generation well below average. Extended scheduled unit outages required some plant bypass releases in the North Platte Basin over the winter. LAP generation was below average all summer with significant shortfalls in August and September due to the Grand Lake water clarity operation and then the historic flooding in Colorado. The Adams Tunnel import and associated CBT generation was curtailed for a six week period starting on June 23 as a means to improve the water clarity in Grand Lake. Flooding along Colorado's Front Range in mid-September forced Reclamation to again curtail Adams Tunnel imports and CBT generation to avoid adding West Slope water to damaging flows in the Big Thompson River. No surplus firm generation was available for LAP customers at the regular LAP energy rate.

The upcoming winter season generation is expected to be about 65 percent of average and seasonal energy purchases have been arranged to support LAP firm electric service commitments. There continues to be an extended CBT outage due the September flooding. Reclamation has drained Lake Estes and will import little if any water through Adams Tunnel through November to allow for the removal of sediment and debris washed into the Lake by the flood. Heavier Adams Tunnel imports later in the winter will shift normal October and November CBT generation into February and March. There will also be minimum reservoir releases and associated generation in the North Platte Basin due to the deteriorating reservoir storage situation.

Colorado River Storage Project Management Center

The total storage volume for the CRSP main stem reservoirs is 15,272,000 acre feet, which is about 49 percent of the total main stem reservoir storage capacity. Main stem reservoir inflows for the most recent historical month (September 2013) were about 200 percent of average. Lake Powell elevation currently is about 3,591 feet, 109 feet from maximum reservoir level, and about 101 feet from the minimum generation level. The strong runoff in September 2013 boosted water year (WY) 2013 unregulated inflow to 5.12 MAF or 47 percent of average. That is six percent higher than was projected last month.

The hydrologic forecast for WY 2014 for Lake Powell, issued by the Colorado Basin River Forecast Center, projects that the most probable (median) unregulated inflow volume will be

9.65 MAF (89 percent of average based on the period 1981-2010). The Lake Powell operational tier for WY 2014 is the Mid-Elevation Release Tier with an annual release volume of 7.48 MAF.

Estimated SLCA/IP net generation for FY 2014 is 3,740 GWh as compared to 5,607 GWh based on the long-term historical average generation.

Estimated purchase power expenses for firming during the FY 2014 are about \$48.2 million as compared to about \$14.8 million based on long-term median historical releases. Purchase power availability in the region is abundant and prices are reasonable for this time of year. Firming purchases for the last month have been in the upper \$30s on-peak and upper \$20s to low \$30s off-peak.

Desert Southwest Region

End of September Aggregate Storage (Mead, Mohave & Havasu): 14.546 MAF (14.629 MAF Aug 2013), 20.750 MAF (63-Year Historical Avg).

The Lake Mead end of September 2013 elevation was 1,106.92 ft. (0.79 ft. higher than end of Aug 2013 elevation), or about 112.72 ft. below full storage elevation of 1,219.64 ft. and 56.92 ft. above the minimum generation elevation for Hoover of 1,050 ft.

Lake Mead's elevation peaked at 1122.32 ft. in January of WY 2013 (11.86 ft. below the WY 2012 peak elevation of 1134.18 ft.), and dropped to a minimum elevation of 1105.92 ft. in July of WY 2013, a maximum fluctuation in lake elevation of 16.4 ft.

The Lake Powell operational tier for WY 2013 was the Upper Elevation Balancing Tier. Total releases from Lake Powell were 8.232 MAF for WY 2013 (actual of 9.47 MAF for WY 2012). The observed 2013 April-July unregulated inflow into Lake Powell was 2.56 MAF or 36 percent of average (actual of 2.06 MAF or 29 percent of average for 2012).

Basin Snow Pack and Precipitation: DSW hydrology is mostly dependent on the Colorado River Basin snow pack and precipitation above Lake Powell. The end of year WY 2013 precipitation was 91 percent of average.

Lower Basin Runoff: The lower basin tributary inflow into Lake Mead for Sept 2013 was 155 thousand acre-feet (KAF). The actual side inflow into Lake Mead for WY2013 was 824 KAF which represents a 12.9 percent increase over last year's actual of 730 KAF, and represents 63.4 percent of the normal annual side inflow of 1.3 MAF.

Actual WY 2013 Generation: 5,082 GWh compared to 5,640 GWh (Historical Average). The projected Hoover and Parker-Davis generation for WY 2013 is 90 percent of the average historical generation.

Wholesale Power Market Conditions: The September market prices in the Desert Southwest averaged about \$35/MWh firm on-peak, \$27/MWh firm off-peak compared to \$37/MWh firm on-peak, \$26/MWh firm off-peak for the previous month.

Sierra Nevada Region

The total storage of the four major CVP reservoirs is 4.368 MAF, compared to 6.130 MAF last year. WY 2013 ended with 1.738 MAF less storage than last water year. Accumulated inflow for the water year ended at 61 percent for Trinity, 72 percent for Shasta, 68 percent for Folsom and 55 percent for New Melones.

The Northern Sierra Eight Station index averages slightly more than 50 inches of precipitation per water year. WY 2013 started out with October recorded precipitation totaling 2.70 inches, which is below average for this month. November recorded precipitation totaled 13.00 inches, which is more than 200 percent of average. December came in at 17.10 inches, or 193 percent of average. January came in at 1.50 inches or 17 percent of its average. It ranks as one of the sixth driest. February ended at 0.90 inches or 11 percent of its average. March ended at only at 4.38 inches or 65 percent of its average. April ended at 1.52 inches or 41 percent of its average. May ended at 1.30 inches or 59 percent of its average. June ended at 1.80 inches or 186 percent of its average. July ended at zero inches. August ended at zero inches. September ended at 1.90 inches of recorded precipitation which is 239 percent of its monthly average. The cumulative total at this time is 46.20 inches or 92 percent of the total average of 50.30 inches.

The snowpack is assumed to reach its peak April 1. Therefore, snow water equivalents are reported as a percentage of this average. As of May 23, the North is at two percent, the Central is at two percent and the South is at one percent of this average. The Sacramento River Index forecast of water supply based upon May 1 conditions is “dry” (close to critical) for the 90 percent exceedence case and “dry” for the 50 percent case, reflecting the poor January, February and March, which has set records, but not in a good way. The State’s final yeartype declaration is based upon May 1 conditions at the 50 percent exceedence level. This year is officially “dry.”

The average projection of net generation is again taken from the latest modeling using the update to our customers’ “Green Book.” This average, at 3.34 GWh, is less than the 3.63 GWh from the CVPIA PEIS planning studies. Under the Post 2004 Marketing Plan, net generation, after Project Use load, First Preference Customer load and sub-control area reserve requirement, becomes the Base Resource which is allocated among the Base Resource, Variable Resource and Full Load Service Customers. This year ended at 91 percent of that average. Delta outflow is currently an issue. Reclamation has been working to conserve storage, so Delta pumping has been cut to meet this requirement.