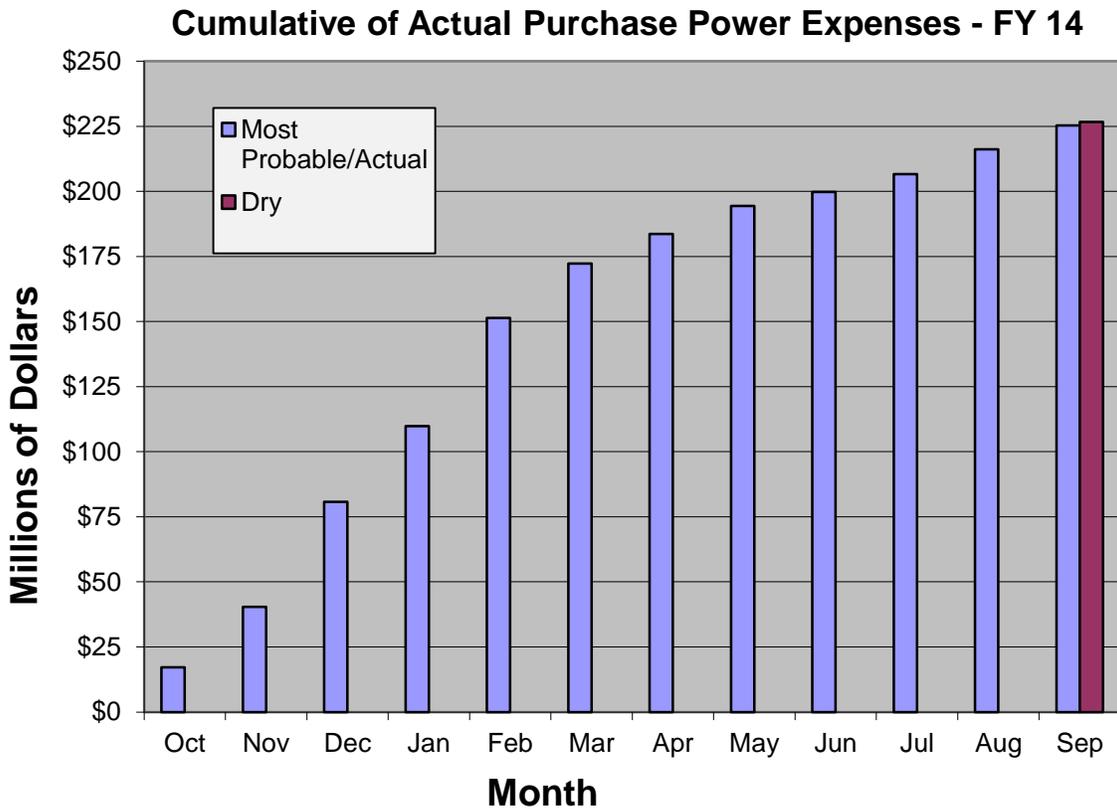


Hydro Conditions and Purchase Power Monthly Outlook September 2014

Western Summary

- The most probable forecast of net generation for fiscal year (FY) 2014 is 23,110 gigawatt-hours (GWh) or 85 percent of average. October through August generation was 84 percent of average.
- The lower level forecast of generation for FY 2014 is 22,926 GWh or 84 percent of average.
- The purchased power for FY 2014 is expected to be approximately 4,512 GWh.
- The average price for purchase power during FY 2014 across all hydro projects and off-peak and on-peak periods is expected to be \$50/megawatt-hour (MWh). The average price for FY 2013 was \$41/MWh.
- Purchase power expenses for FY 2014 are forecast to be approximately \$225 million.
- October through August purchases totaled \$216 million – compared to \$169 million for the same period last year.



Upper Great Plains Region

Canyon Ferry: The anticipated inflow for September is forecast to be 191.9 thousand acre-feet (kAF) or 111 percent of the 30-year average. As of September 7, 2014, reservoir storage at [Canyon Ferry](#) was 1,736,611 acre-feet and the active conservation pool was 91.8 percent full.

Yellowtail: Streamflows into Bighorn Lake during August continued to remain above average at 135 percent of average. Based on the September 1 water supply forecast and the planned releases out of Boysen and Buffalo Bill Reservoirs, the September runoff into Bighorn Lake is expected to equal 211,800 acre-feet (130 percent of average). As of September 7, 2014, reservoir storage at [Yellowtail](#) was 1,040,002 acre-feet and the active conservation pool was 100.0 percent full.

COE: Cooler than normal temperatures along with above normal runoff has been the story for the summer of 2014. Runoff was near record levels in August for the three largest reservoirs. Rains in Montana and the Dakotas have added to Fort Peck and Oahe reservoir levels. Releases at Gavins Point are normally 17,000 cubic feet per second (cfs) during the winter months, but are expected to be 20,000 cfs this winter due to the additional runoff. Spilling will take place at both Gavins Point and Fort Randall this fall to accommodate the additional water and annual maintenance at Fort Randall. System energy production for December through February should be 23,000 to 25,000 MWh daily. The September forecasted runoff for 2014 is now 141 percent of normal at 35.6 million acre-feet (MAF) (normal is 25.2 MAF).

FY Generation: The six main stem power plants generated 962 million kilowatt-hours of electricity in August. The September forecasted energy production for the year increased to 9,900 GWh, up from 9,100 GWh forecasted in August. 10,027 GWh is the 100-year average.

Purchased Power: We are in the fall months of the generating season and with loads decreasing, but more units offline for scheduled maintenance, prices are expected to be in the low \$20s for off-peak power and the low \$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.

The LAP area continues to be drought free. The year-to-date reservoir inflow has been well above average. The overall LAP reservoir storage at the end of August was above average with gains in all three Basins since the end of last August. The latest National Weather Service forecast indicates October through December temperatures will more likely be above normal in the Bighorn Basin in Wyoming and just as likely to be above normal as below normal elsewhere in Colorado and Wyoming. The precipitation is just as likely to be above normal as below normal in Colorado and Wyoming. The total spring snow melt runoff (April-July) was well above average in all three basins due to the snowpack and favorable soil moisture and bank storage carrying over from the heavy fall storms.

LAP Water Conditions At-A-Glance									
	Reservoir Storage 1,000 acre-feet			Actual Reservoir Inflow To-Date 1,000 acre-feet			Spring Reservoir Inflow 1,000 acre-feet (April - July)		
	beginning of September	average	% of average	October - August	average	% of average	actual	average	% of average
CBT	913.8	718.9	127%	1,073.0	759.3	141%	860.3	599.4	144%
North Platte	1,487.1	1,296.3	115%	1,425.7	1,055.9	135%	1,139.8	781.0	146%
Bighorn	2,319.7	1,971.6	118%	2,354.8	1,668.5	141%	1,756.9	1,199.4	146%
TOTAL	4,720.6	3,986.8	118%	4,853.5	3,483.7	139%	3,757.0	2,579.8	146%
Net At Plant Generation Projections (GWh)									
	Most Probable Case median inflow			Reasonable Minimum Case lower decile inflow			Reasonable Maximum Case upper decile inflow		
	September projection	average	% of average	September projection	average	% of average	September projection	average	% of average
Winter 13-14	555.3	718.0	77%	555.3	718.0	77%	555.3	718.0	77%
Summer 14	1,356.0	1,217.8	111%	1,351.9	1,217.8	111%	1,360.7	1,217.8	112%
TOTAL 2014	1,911.3	1,935.8	99%	1,907.2	1,935.8	99%	1,916.0	1,935.8	99%
Winter 14-15	598.8	718.0	83%	578.1	718.0	81%	625.0	718.0	87%

The summer season generation is expected to total about 111 percent of average. There was a significant drop-off in August due to a curtailment of Adams Tunnel imports and associated CBT generation from August 11 through September 1 as a means to improve water clarity in Grand Lake. There were plant bypasses in the Bighorn and North Platte basins due to the heavy spring runoff. Some of the Yellowtail bypass was at the request of Western to allow for upward regulation. In the CBT a bypass was required at the Green Mountain plant and Lake Granby spilled when East Slope CBT storage filled. The amount of upcoming winter generation will depend on how much water remains in storage after the irrigation season winds down.

Colorado River Storage Project Management Center

The total storage volume for the CRSP main stem reservoirs is 17,607,000 acre-feet, which is about 57 percent of the total main stem reservoir storage capacity. Main stem reservoir inflows for the most recent historical month (August 2014) were about 106 percent of average. Lake Powell elevation currently is about 3,606 feet, 94 feet from maximum reservoir level, and about 116 feet from the minimum generation level. Based on the current forecast, the September 24-Month study projects Lake Powell elevation will end the water year near 3,604 feet with approximately 12.112 MAF in storage (50 percent capacity).

Based on the most probable inflow forecast, estimated SLCA/IP net generation for FY 2014 is 4,160 GWh as compared to 5,584 GWh based on the long-term historical average generation.

Estimated purchase power expenses for firming during FY 2014 are about \$61.5 million as compared to about \$21.7 million based on long-term average historical releases. Purchase power availability in the region is good and prices are typical for this time of year. Firming purchases for the last month have been averaging in the low \$30s off-peak and mid \$40s on-peak.

Desert Southwest Region

Current Aggregate Storage (Mead, Mohave & Havasu): 12.396 MAF (12.347 MAF July-2014), 20.728 MAF (64-Year Historical Avg). The Lake Mead end of August 2014 elevation was 1,081.55 feet (0.95 feet higher than end of July 2014 elevation), or about 138.09 feet below full storage elevation of 1,219.64 feet and 31.6 feet above the minimum generation elevation for Hoover of 1,050 feet. Lake Mead's elevation peaked at 1,108.75 feet in January of water year (WY) 2014 (13.57 feet below the WY 2013 peak elevation of 1,122.32 feet), and is projected to drop to a minimum elevation of 1,080.07 feet in September of WY 2014, a maximum fluctuation in lake elevation of 28.68 feet. The Lake Powell operational tier for WY 2014 is currently the Mid-Elevation Release Tier. Total releases from Lake Powell to Lake Mead are projected to average about 7.48 MAF for WY 2014 (actual of 8.232 MAF for WY 2013). The observed 2014 April-July unregulated inflow into Lake Powell (as of September 10, 2014) was 6.923 MAF or 97 percent of average (actual of 2.56 MAF or 36 percent of average for 2013).

Basin Snow Pack and Precipitation: DSW hydrology, or the Lower Colorado River Basin, is mostly dependent on the Colorado River Basin snow pack and precipitation above Lake Powell. The WY 2014 precipitation is currently 103 percent of average and the snowpack is gone.

Lower Basin Runoff: The lower basin tributary inflow into Lake Mead for August 2014 was 112 kAF. The projected side inflow into Lake Mead for WY 2014 is 635 kAF which represents a 30 percent decrease over last year's actual of 824 kAF, and represents 49 percent of the normal annual side inflow of 1.3 MAF.

Forecasted WY 2014 Generation: 5,307 GWh compared to 5,637 GWh (Historical Average). The projected Hoover and Parker-Davis generation for WY 2014 is 94 percent of the average historical generation.

Wholesale Power Market Conditions: The August market prices in the Desert Southwest averaged about \$41/MWh firm on-peak, \$32/MWh firm off-peak compared to \$46/MWh firm on-peak, \$32/MWh firm off-peak for the previous month.

Sierra Nevada Region

The total storage of the four major CVP reservoirs is 2.668 MAF, compared to 4.661 MAF this time last year. Accumulated inflow for the water year-to-date is 29 percent of the 15-year average for Trinity, 52 percent for Shasta, 42 percent for Folsom, and 36 percent for New Melones. None of the reservoirs is in flood control operations at this time. Trinity storage is at 25 percent capacity; Shasta at 26 percent, Folsom at 36 percent, and New Melones is at 21 percent of its capacity. End of September carryover could be at an all-time low.

The Northern Sierra Eight Station index averages slightly more than 50 inches of precipitation per water year. October recorded precipitation totaled 0.72 inches, or 23 percent of the monthly average. November recorded precipitation totaled 1.66 inches, or 26 percent of average. December came in at 0.92 inches, or 10 percent of average. January came in at 1.20 inches or 13 percent of its average. February ended at 14.20 inches or 130 percent of its average. March came in at 10.21 inches, or 153 percent of average. April ended at 3.95 inches or 67 percent of average. May which averages 2.20 inches ended at 0.75 inches, only 34 percent of average. June which averages 0.97

inches ended at 0.05 inches. July which averages 0.17 inches ended at 0.22 inches or 128 percent of average. August which averages 0.27 inches ended at 0.64 inches. September which averages 0.79 inches was at 0.59 inches as of September 25, 2014. The cumulative total on that date was 30.3 inches or 60 percent of the annual average.

Water year type forecasting begins in December, but snow surveying doesn't begin until January. The snowpack is assumed to reach its peak as of April 1. Snow water equivalents are reported as a percentage of this average. As of May 23, the North is at 2 percent, the Central is at 3 percent and the South is at 1 percent of this average. The Sacramento River Index forecast of water supply, based upon the May 1 conditions forecast, remains "critical" for the 90 percent exceedence as well as the 50 percent case. The 40-30-30 year type declaration based upon May 1 conditions at the 50 percent exceedence level is "critical."

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 past fiscal year ended at approximately 91 percent of that average. Reclamation forecasts are based upon January 1 conditions, which were based upon water supply forecast of "critical" for the 90 percent exceedence and "critical" for the 50 percent exceedence. These forecasts are both 60 percent of this "Green Book" average net generation. Reclamation stopped the cycling of Delta pumping due to a problem with the State's pumping. Reclamation is currently at two units of pumping and is providing 1 kAF of water to the State.