

**WESTERN AREA POWER ADMINISTRATION
HYDRO CONDITIONS AND PURCHASE POWER REPORT
January 2017**

Agency-wide

	Generation (Megawatt-Hours [MWh])				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Average</u>	<u>Actual</u>	<u>Actual</u>	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Actual</u>
Oct 16	1,315,017	1,426,426	1,875,967	1,428,673	337,634	\$14,667,625	\$9,521,646	\$8,354,594
Nov 16	1,383,358	1,355,599	1,760,441	1,390,468	455,186	\$16,259,488	\$12,897,315	\$10,410,259
Dec 16	1,328,808	1,461,830	1,702,288	1,592,646				
Jan 17								
Feb 17								
Mar 17								
Apr 17								
May 17								
Jun 17								
Jul 17								
Aug 17								
Sep 17								
Total	4,027,183	4,243,855	5,338,696	4,411,788	792,820	\$30,927,113	\$22,418,961	\$18,764,853
	Actual generation as a percentage of average: 82.6%					Cost per MWh: \$23.67		

Western Area Power Administration (WAPA) generated a total of 4,412 gigawatt-hours (GWh) during October through December of fiscal year 2017, or 82.6 percent of the average. Actual purchase power data is currently available from October through November for all of WAPA's Regions, and during this period total purchase power was 793 GWh and total purchase power expenses were \$18,764,853, which equates to \$23.67 per MWh.

The following pages indicate WAPA's Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591	\$1,683,280
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,804	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,079	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17														
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							749,275	1,101,262	1,208,547	1,178,928	240,225	\$21,946,477	\$5,634,043	\$6,179,649

Actual generation as a percentage of average: 97.5%

Cost per MWh: \$25.72

Lake/Reservoir Levels

Lake Powell's elevation was 3,600 feet at the end of December, about 100 feet below the maximum reservoir level and about 110 feet above the minimum generation level. The storage volume for Lake Powell was 11,797,000 acre-feet at the end of December, which is about 49 percent of capacity.

Weather and Other Conditions

In December and January, a number of winter storms significantly increased snowpack conditions in the Upper Colorado River Basin. Despite the improved snow conditions, inflow into Lake Powell for water year 2017 is forecasted to be 88 percent of average. However, this is a significant improvement over the December inflow forecast of 72 percent of average.



Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17														
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							883,060	923,665	1,114,296	943,191	20,197	\$643,593	\$519,867	\$740,904

Actual generation as a percentage of average: 84.6%

Cost per MWh: \$36.68

Lake/Reservoir Levels

Lake Mead's elevation was 1,081 feet at the end of December, about 139 feet below full storage level and about 31 feet above the minimum generation level. Lake Mead's elevation is forecasted to peak at approximately 1,087 feet in February, and is forecasted to drop to a minimum elevation of approximately 1,072 feet in June.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 136 percent of average. This year's snowpack is certainly promising. If the above-average snowpack continues, equalization releases from Lake Powell might be imposed in April 2017 which could possibly provide Lake Mead with an additional 1 to 2 million acre-feet this year.



Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	66,326	\$1,918,912	\$1,768,512
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	108,411	\$3,104,240	\$3,033,840	\$2,315,705
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	76,477	\$2,601,536	\$2,534,336	\$1,998,501
Jan 17														
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							242,660	251,710	262,645	248,833	251,214	\$7,624,688	\$7,336,688	\$5,869,883

Actual generation as a percentage of average: 94.7%

Cost per MWh: \$23.37

Lake/Reservoir Content

The overall reservoir content at the end of December was 123 percent of average.

Weather and Other Conditions

Drought conditions have improved due to recent winter storms, with merely dry conditions persisting in parts of the Loveland Area Projects (LAP) area. The snowpack has improved significantly and is well above average across the LAP area. October through December reservoir inflows were well above average in the Bighorn River Basin, below average in the Colorado River headwaters, and well below average in the Upper North Platte River Basin. The latest National Weather Service forecast indicates February through April temperatures are just as likely to be above as below normal in the LAP area. The precipitation is more likely to be above normal in the Bighorn River Basin while just as likely to be above as below normal in the North Platte and Colorado River Basins. LAP generation deficits occurred while the Colorado-Big Thompson Project (CBT) was largely unavailable from November through mid-December. No surplus generation is expected until spring, and surpluses are then projected to continue until August when CBT generation will be restricted during a Charles Hansen Feeder Canal siphon repair scheduled from August through mid-November.

Note: The Rocky Mountain Region's (RMR) most recent reported purchase power data are provisional values and may change.



Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17														
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							304,000	199,000	410,000	258,657	167,880	\$3,498,306	\$3,498,306	\$4,398,934

Actual generation as a percentage of average: 63.1%

Cost per MWh: \$26.20

Lake/Reservoir Content

As of December 31, accumulated inflow for the water year was 213 percent of 15-year average for Trinity, 139 percent for Shasta, 217 percent for Folsom, and 126 percent for New Melones. Reservoir storage as of the same date was 89 percent of the 15-year average for Trinity, 128 percent for Shasta, 100 percent for Folsom, and 49 percent for New Melones. The Folsom and Shasta Reservoirs have both been spilling, with Folsom having spilled during most of the last half of December due to early snowmelt conditions.

Weather and Other Conditions

As of December 31, cumulative precipitation of the Northern Sierra Eight Station Index was at 158 percent of average for the date. The January 1, 2017 forecast for the 50 percent exceedence case is "above normal" as is the 90 percent exceedence case, not reflecting recent storm events.

Note: The Sierra Nevada Region's (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR's projected power expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.



Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,861	562,599	146,071	\$4,699,887	\$4,916,797	\$3,414,114
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,177	582,361	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,170	637,219	*	\$6,822,627	\$6,771,937	*
Jan 17														
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,848,189	1,768,218	2,343,208	1,782,179	306,609	\$15,898,172	\$17,497,592	\$6,647,291

Actual generation as a percentage of average: 76.1%

Cost per MWh: \$21.68

Lake/Reservoir Content

As of January 25, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 75.0 percent and 88.5 percent full, respectively.

Weather and Other Conditions

The January runoff forecast is projecting an average water year for 2017. Snowpack accumulations have increased, with 78 percent of average above Fort Peck and 104 percent of average on the Garrison to Fort Peck reach.

Note: The Upper Great Plains Region (UGPR) reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.

**WESTERN AREA POWER ADMINISTRATION
HYDRO CONDITIONS AND PURCHASE POWER REPORT
February 2017**

Agency-wide

	Generation (Megawatt-Hours [MWh])				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Average</u>	<u>Actual</u>	<u>Actual</u>	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Actual</u>
Oct 16	1,315,017	1,426,426	1,875,967	1,427,953	334,479	\$14,667,625	\$9,521,646	\$8,321,897
Nov 16	1,383,358	1,355,599	1,760,441	1,389,319	435,683	\$16,259,488	\$12,897,315	\$10,321,160
Dec 16	1,328,808	1,461,830	1,702,288	1,591,517	418,448	\$18,684,123	\$12,067,535	\$10,681,879
Jan 17	1,491,887	1,784,763	1,873,619	1,855,506				
Feb 17								
Mar 17								
Apr 17								
May 17								
Jun 17								
Jul 17								
Aug 17								
Sep 17								
Total	5,519,071	6,028,618	7,212,315	6,264,296	1,188,610	\$49,611,236	\$34,486,496	\$29,324,936
	Actual generation as a percentage of average: 86.9%					Cost per MWh: \$24.67		

Western Area Power Administration (WAPA) generated a total of 6,264 gigawatt-hours (GWh) during October through January of fiscal year 2017, or 86.9 percent of the average. Actual purchase power data is currently available from October through December for all of WAPA's Regions, and during this period total purchase power was 1,189 GWh and total purchase power expenses were \$29,324,936, which equates to \$24.67 per MWh.

The following pages indicate WAPA's Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591	\$1,683,280
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,804	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,079	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17	11.50	16.00	361.45	359.00	14.98	11.36	355,138	431,244	457,394	455,508	57,227	\$4,412,679	\$1,231,482	\$1,678,096
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,104,413	1,532,507	1,665,941	1,634,436	297,452	\$26,359,156	\$6,865,525	\$7,857,745

Actual generation as a percentage of average: 98.1%

Cost per MWh: \$26.42

Lake/Reservoir Levels

Lake Powell's elevation was 3,596 feet at the end of January, about 104 feet below the maximum reservoir level and about 106 feet above the minimum generation level. The storage volume for Lake Powell was 11,359,000 acre-feet at the end of January, which is about 47 percent of capacity.

Weather and Other Conditions

The upper Colorado River Basin experienced higher than average precipitation in January and the first part of February, which resulted in a significant increase of the forecasted April-July inflow into Lake Powell for water year 2017. Current projections indicate Lake Powell elevation will increase about 46 feet from the end of January elevation, which corresponds to an increase of about 4.8 million acre-feet in storage.



Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17	11.50	16.00	93.88	126.00	20.59	12.80	284,450	292,965	395,966	255,068	21,520	\$535,169	\$535,169	\$800,974
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,167,510	1,216,630	1,510,262	1,198,259	41,717	\$1,178,762	\$1,055,036	\$1,541,878

Actual generation as a percentage of average: 79.3%

Cost per MWh: \$36.96

Lake/Reservoir Levels

Lake Mead's elevation was 1,086 feet at the end of January, about 134 feet below full storage level and about 36 feet above the minimum generation level. Lake Mead's elevation is forecasted to peak at approximately 1,089 feet in February, and is forecasted to drop to a minimum elevation of approximately 1,075 feet in June.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 139 percent of average. This year's snowpack is certainly promising. If the above-average snowpack continues, equalization releases from Lake Powell might be imposed in April 2017 which could possibly provide Lake Mead with an additional 1 to 2 million acre-feet this year.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	63,171	\$1,918,912	\$1,768,512	\$1,522,980
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	88,908	\$3,104,240	\$3,033,840	\$2,226,606
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	73,018	\$2,601,536	\$2,534,336	\$2,020,033
Jan 17	417.90	452.40	96.60	114.70	3.79	4.67	108,118	110,236	111,274	127,252	49,028	\$2,062,592	\$1,995,392	\$1,233,982
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							350,778	361,946	373,919	376,085	274,125	\$9,687,280	\$9,332,080	\$7,003,601

Actual generation as a percentage of average: 100.6%

Cost per MWh: \$25.55

Lake/Reservoir Content

The overall reservoir content at the end of January was 123 percent of average.

Weather and Other Conditions

The snowpack remains well above average across the Loveland Area Projects (LAP) area, and none of the high-elevation areas from which LAP snowmelt originates are considered to be in drought status. The February forecasts of most probable reservoir inflows from spring runoff were well above average in all river basins. The overall LAP reservoir storage at the end of January was above average and higher than it was at this time last year. The latest National Weather Service forecast indicates March through May temperatures are more likely to be above normal in Colorado and the precipitation is more likely to be above normal in Wyoming. LAP generation deficits occurred while the Colorado-Big Thompson Project (CBT) was largely unavailable from November through mid-December. No surplus generation is expected until spring, and surpluses are then projected to continue until August when CBT generation will be restricted during a Charles Hansen Feeder Canal siphon repair scheduled from August through mid-November.

Note: The Rocky Mountain Region's (RMR) most recent reported purchase power data are provisional values and may change.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17	27.78	30.00	1,167.00	3,436.00	6.13	6.43	78,000	293,000	163,000	385,479	32,535	\$499,500	\$499,500	\$643,343
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							382,000	492,000	573,000	644,137	200,414	\$3,997,806	\$3,997,806	\$5,042,277

Actual generation as a percentage of average: 112.4%

Cost per MWh: \$25.16

Lake/Reservoir Content

As of January 31, accumulated inflow for the water year was 196 percent of the 15-year average for Trinity, 170 percent for Shasta, 329 percent for Folsom, and 239 percent for New Melones. Reservoir storage as of the same date was 97 percent of the 15-year average for Trinity, 124 percent for Shasta, 94 percent for Folsom, and 75 percent for New Melones. The Shasta and Folsom Reservoirs continue to spill for flood control, while Trinity and New Melones Reservoirs respectively gained 200 and nearly 400 thousand acre-feet in January.

Weather and Other Conditions

As of January 31, cumulative precipitation of the Northern Sierra Eight Station Index was at 193 percent of average for the date. The forecast based upon February 1, 2017, for the 50 percent exceedence case is "wet" as is the 90 percent exceedence case, reflecting continuous storm events.

Note: The Sierra Nevada Region's (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR's projected power expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.



Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,861	561,879	146,071	\$4,699,887	\$4,916,797	\$3,414,114
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,177	581,212	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,170	636,090	228,602	\$6,822,627	\$6,771,937	\$5,588,539
Jan 17	10.30	7.80	6,659.00	5,727.89	54.03	57.50	666,182	657,318	745,985	632,199	*	\$4,853,151	\$5,023,264	*
Feb 17														
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							2,514,371	2,425,536	3,089,193	2,411,380	535,211	\$20,751,323	\$22,520,856	\$12,235,830

Actual generation as a percentage of average: 78.1%

Cost per MWh: \$22.86

Lake/Reservoir Content

As of February 20, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 76.4 percent and 87.6 percent full, respectively.

Weather and Other Conditions

A mid-month thaw in January produced an average runoff of 151 percent of average. Snowpack accumulations have increased to 83 percent of average above Fort Peck and 117 percent of average on the Garrison to Fort Peck reach.

Note: The Upper Great Plains Region (UGPR) reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.

**WESTERN AREA POWER ADMINISTRATION
HYDRO CONDITIONS AND PURCHASE POWER REPORT
March 2017**

Agency-wide

	Generation (Megawatt-Hours [MWh])				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Average</u>	<u>Actual</u>	<u>Actual</u>	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Actual</u>
Oct 16	1,315,017	1,426,426	1,875,969	1,427,953	334,086	\$14,667,625	\$9,521,646	\$8,311,130
Nov 16	1,383,358	1,355,599	1,760,444	1,389,326	435,683	\$16,259,488	\$12,897,315	\$10,321,160
Dec 16	1,328,808	1,461,830	1,702,290	1,591,771	418,448	\$18,684,123	\$12,067,535	\$10,681,879
Jan 17	1,491,887	1,745,023	1,873,622	1,855,506	418,457	\$12,363,090	\$9,284,807	\$10,229,253
Feb 17	1,398,791	1,649,920	1,721,646	1,734,010				
Mar 17								
Apr 17								
May 17								
Jun 17								
Jul 17								
Aug 17								
Sep 17								
Total	6,917,862	7,638,798	8,933,970	7,998,567	1,606,674	\$61,974,326	\$43,771,303	\$39,543,422
	Actual generation as a percentage of average: 89.5%					Cost per MWh: \$24.61		

Western Area Power Administration (WAPA) generated a total of 7,999 gigawatt-hours (GWh) during October through February of fiscal year 2017, or 89.5 percent of the average. Actual purchase power data is currently available from October through January for all of WAPA's Regions, and during this period total purchase power was 1,607 GWh and total purchase power expenses were \$39,543,422, which equates to \$24.61 per MWh.

The following pages indicate WAPA's Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591	\$1,683,280
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,811	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,333	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17	11.50	16.00	361.45	359.00	14.98	11.36	355,138	431,244	457,394	455,508	57,227	\$4,412,679	\$1,231,482	\$1,678,096
Feb 17	15.10	21.00	392.01	555.00	15.99	11.22	265,647	387,432	390,580	393,646	61,657	\$5,024,221	\$1,531,108	\$1,555,701
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,370,059	1,919,939	2,056,521	2,028,343	359,109	\$31,383,377	\$8,396,633	\$9,413,446

Actual generation as a percentage of average: 98.6%

Cost per MWh: \$26.21

Lake/Reservoir Levels

Lake Powell's elevation was 3,594 feet at the end of February, about 106 feet below the maximum reservoir level and about 104 feet above the minimum generation level. The storage volume for Lake Powell was 11.2 million acre-feet (MAF) at the end of February, which is about 46 percent of capacity.

Weather and Other Conditions

The upper Colorado River Basin experienced higher than average precipitation in February. The March 1 April-July inflow forecast was 145 percent of average; however, conditions have dried out in the upper Colorado River Basin and the March mid-month April-July inflow forecast was reduced to 138 percent of average.

Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17	11.50	16.00	93.88	126.00	20.59	12.80	284,450	253,225	395,966	255,068	21,520	\$535,169	\$535,169	\$800,974
Feb 17	15.10	21.00	110.31	148.00	20.62	13.11	328,350	292,965	390,077	268,179	2,595	\$0	\$0	\$83,974
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,495,860	1,469,855	1,900,339	1,466,437	44,312	\$1,178,762	\$1,055,036	\$1,625,852

Actual generation as a percentage of average: 77.2%

Cost per MWh: \$36.69

Lake/Reservoir Levels

Lake Mead's elevation was 1,090 feet at the end of February, about 130 feet below full storage level and about 40 feet above the minimum generation level. Lake Mead started the water year with a minimum elevation of 1,076 feet in October and it reached a peak elevation of 1,090 feet in February.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 123 percent of average.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	62,778	\$1,918,912	\$1,768,512
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	88,908	\$3,104,240	\$3,033,840	\$2,226,606
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	73,018	\$2,601,536	\$2,534,336	\$2,020,033
Jan 17	417.90	452.40	96.60	114.70	3.79	4.67	108,118	110,236	111,274	127,252	33,352	\$2,062,592	\$1,995,392	\$1,205,222
Feb 17	849.60	1,170.80	96.30	173.50	3.79	4.79	97,795	99,700	99,585	129,713	19,023	\$1,254,624	\$1,193,824	\$474,331
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							448,572	461,646	473,504	505,798	277,079	\$10,941,904	\$10,525,904	\$7,438,405

Actual generation as a percentage of average: 106.8%

Cost per MWh: \$26.85

Lake/Reservoir Content

The overall reservoir content at the end of February was 126 percent of average.

Weather and Other Conditions

The snowpack remains well above average across the Loveland Area Projects (LAP) area even though there has been loss of lower-elevation snow due to recent warm weather, and none of the high-elevation areas from which LAP snowmelt originates are considered to be in drought status. The overall LAP reservoir storage at the end of February was above average and higher than it was at the same time last year, and the March forecasts of most probable reservoir inflows from spring runoff were well above average in all river basins. The latest National Weather Service forecast indicates April through June temperatures are more likely to be above normal in Colorado and southern Wyoming.

Note: The Rocky Mountain Region's (RMR) most recent reported purchase power data are provisional values and may change.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17	27.78	30.00	1,167.00	3,436.00	6.13	6.43	78,000	293,000	163,000	385,479	32,534	\$499,500	\$499,500	\$643,343
Feb 17	27.78	45.00	1,339.00	5,725.00	6.71	7.68	139,000	300,000	195,000	439,436	19,673	\$479,520	\$479,520	\$579,856
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							521,000	792,000	768,000	1,083,573	220,087	\$4,477,326	\$4,477,326	\$5,622,133

Actual generation as a percentage of average: 141.1%

Cost per MWh: \$25.55

Lake/Reservoir Content

As of February 28, accumulated inflow for the water year was 234 percent of the 15-year average for Trinity, 228 percent for Shasta, 414 percent for Folsom, and 337 percent for New Melones. Reservoir storage as of the same date was 119 percent of the 15-year average for Trinity, 119 percent for Shasta, 81 percent for Folsom, and 111 percent for New Melones. The Shasta and Folsom Reservoirs are no longer spilling for flood control, while the Trinity and New Melones Reservoirs respectively gained nearly 500 thousand acre-feet (kAF) and nearly 600 kAF in February.

Weather and Other Conditions

As of February 28, cumulative precipitation of the Northern Sierra Eight Station Index was at 214 percent of average for the date. The forecast based upon March 1, 2017, for the 50 percent exceedence case is "wet" as is the 90 percent exceedence case, reflecting continuous storm events.

Note: The Sierra Nevada Region's (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR's projected power expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.



Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,863	561,879	146,071	\$4,699,887	\$4,916,797	\$3,414,114
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,179	581,212	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,173	636,090	228,602	\$6,822,627	\$6,771,937	\$5,588,539
Jan 17	10.30	7.80	6,659.00	5,727.89	54.03	57.50	666,182	657,318	745,987	632,199	273,824	\$4,853,151	\$5,023,264	\$5,901,618
Feb 17	12.90	12.70	6,300.00	5,706.99	54.34	58.54	568,000	569,823	646,404	503,036	*	\$4,759,045	\$4,738,596	*
Mar 17														
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							3,082,371	2,995,359	3,735,606	2,914,416	809,035	\$25,510,368	\$27,259,451	\$18,137,448

Actual generation as a percentage of average: 78.0%

Cost per MWh: \$22.42

Lake/Reservoir Content

As of March 20, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 79.5 percent and 81.8 percent full, respectively. Reservoir system storage rose to 56.97 MAF, above the Base Flood Control level of 56.1 MAF.

Weather and Other Conditions

Warmer weather in February melted much of the plains snowpack and produced an above-average runoff of 219 percent, with the runoff mainly originating from the lower part of the Missouri River Basin. Snowpack accumulations have increased to 97 percent of average above Fort Peck and 132 percent of average on the Garrison to Fort Peck reach.

Note: The Upper Great Plains Region (UGPR) reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.

**WESTERN AREA POWER ADMINISTRATION
HYDRO CONDITIONS AND PURCHASE POWER REPORT
April 2017**

Agency-wide

	Generation (Megawatt-Hours [MWh])				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Average</u>	<u>Actual</u>	<u>Actual</u>	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Actual</u>
Oct 16	1,315,017	1,426,426	1,875,969	1,427,953	334,086	\$14,667,625	\$9,521,646	\$8,311,130
Nov 16	1,383,358	1,355,599	1,760,444	1,389,326	435,683	\$16,259,488	\$12,897,315	\$10,321,160
Dec 16	1,328,808	1,461,830	1,702,290	1,591,771	418,448	\$18,684,123	\$12,067,535	\$10,681,879
Jan 17	1,491,887	1,745,023	1,873,622	1,855,506	418,457	\$12,363,090	\$9,284,807	\$10,229,253
Feb 17	1,398,791	1,649,920	1,721,646	1,734,010	461,396	\$11,517,410	\$7,943,048	\$8,691,421
Mar 17	1,925,710	2,008,918	1,965,516	2,193,546				
Apr 17								
May 17								
Jun 17								
Jul 17								
Aug 17								
Sep 17								
Total	8,843,572	9,647,716	10,899,486	10,192,113	2,068,070	\$73,491,737	\$51,714,350	\$48,234,843
	Actual generation as a percentage of average: 93.5%					Cost per MWh: \$23.32		

Western Area Power Administration (WAPA) generated a total of 10,192 gigawatt-hours (GWh) during October through March of fiscal year 2017, or 93.5 percent of the average. Actual purchase power data is currently available from October through February for all of WAPA's Regions, and during this period total purchase power was 2,068 GWh and total purchase power expenses were \$48,234,843, which equates to \$23.32 per MWh.

The following pages indicate WAPA's Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591	\$1,683,280
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,811	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,333	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17	11.50	16.00	361.45	359.00	14.98	11.36	355,138	431,244	457,394	455,508	57,227	\$4,412,679	\$1,231,482	\$1,678,096
Feb 17	15.10	21.00	392.01	555.00	15.99	11.22	265,647	387,432	390,580	393,646	61,657	\$5,024,221	\$1,531,108	\$1,555,701
Mar 17	18.90	22.00	666.27	1,110.00	16.77	11.36	272,465	405,609	390,170	458,176	29,840	\$5,517,603	\$1,111,921	\$644,587
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,642,525	2,325,548	2,446,691	2,486,519	388,949	\$36,900,980	\$9,508,554	\$10,058,033

Actual generation as a percentage of average: 101.6%

Cost per MWh: \$25.86

Lake/Reservoir Levels

Lake Powell's elevation was 3,596 feet at the end of March, about 104 feet below the maximum reservoir level and about 106 feet above the minimum generation level. The storage volume for Lake Powell was 11.36 million acre-feet (MAF) at the end of March, which is about 47 percent of capacity.

Weather and Other Conditions

The April-July inflow forecasts peaked on March 1 at 145 percent of average; however, the April 15 forecast was 123 percent of average due to drier conditions in the basin.



Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17	11.50	16.00	93.88	126.00	20.59	12.80	284,450	253,225	395,966	255,068	21,520	\$535,169	\$535,169	\$800,974
Feb 17	15.10	21.00	110.31	148.00	20.62	13.11	328,350	292,965	390,077	268,179	2,595	\$0	\$0	\$83,974
Mar 17	18.90	22.00	102.80	99.00	20.40	13.00	558,800	504,200	531,483	496,001	12,330	\$72,840	\$391,582	\$330,814
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							2,054,660	1,974,055	2,431,822	1,962,438	56,642	\$1,251,602	\$1,446,618	\$1,956,666

Actual generation as a percentage of average: 80.7%

Cost per MWh: \$34.54

Lake/Reservoir Levels

Lake Mead's elevation was 1,088 feet at the end of March, about 131 feet below full storage level and about 138 feet above the new minimum generation level of 950 feet. Lake Mead started the water year with a minimum elevation of 1,076 feet in October and reached a peak elevation of 1,090 feet in February.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 118 percent of average.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	62,778	\$1,918,912	\$1,768,512
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	88,908	\$3,104,240	\$3,033,840	\$2,226,606
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	73,018	\$2,601,536	\$2,534,336	\$2,020,033
Jan 17	417.90	452.40	96.60	114.70	3.79	4.67	108,118	110,236	111,274	127,252	33,352	\$2,062,592	\$1,995,392	\$1,205,222
Feb 17	849.60	1,170.80	96.30	173.50	3.79	4.79	97,795	99,700	99,585	129,713	19,023	\$1,254,624	\$1,193,824	\$474,331
Mar 17	1,105.20	1,524.90	159.00	293.50	4.13	4.70	124,712	136,697	118,178	191,665	1,445	\$785,728	\$401,728	\$24,749
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							573,284	598,343	591,682	697,463	278,524	\$11,727,632	\$10,927,632	\$7,463,154

Actual generation as a percentage of average: 117.9%

Cost per MWh: \$26.80

Lake/Reservoir Content

The overall reservoir content at the end of March was 114 percent of average.

Weather and Other Conditions

None of the high-elevation areas from which Loveland Area Projects (LAP) snowmelt originates are considered to be in drought status, but the eastern plains of Colorado are considered to be in drought status. The snowpack in the Bighorn Basin remains well above average; however, the snowpack is now below average in the Upper Colorado River headwaters and the Upper North Platte River Basin due to recent warm weather. The April forecasts of most probable reservoir inflows from spring runoff is above average in the Upper Colorado River and well above average in the North Platte and Bighorn basins. The overall LAP reservoir storage at the end of March was above average and higher than it was at the same time last year. The latest National Weather Service forecast indicates May through July temperatures and precipitation are more likely to be above normal in the LAP area.

Note: The Rocky Mountain Region's (RMR) most recent reported purchase power data are provisional values and may change.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286	\$1,536,064
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17	27.78	30.00	1,167.00	3,436.00	6.13	6.43	78,000	293,000	163,000	385,479	32,534	\$499,500	\$499,500	\$643,343
Feb 17	27.78	45.00	1,339.00	5,725.00	6.71	7.68	139,000	300,000	195,000	439,436	19,673	\$479,520	\$479,520	\$579,856
Mar 17	28.22	46.00	1,553.00	2,574.00	7.46	8.61	290,000	330,000	207,000	399,223	26,567	\$539,460	\$539,460	\$642,682
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							811,000	1,122,000	975,000	1,482,796	246,655	\$5,016,786	\$5,016,786	\$6,264,815

Actual generation as a percentage of average: 152.1%

Cost per MWh: \$25.40

Lake/Reservoir Content

As of March 31, accumulated inflow for the water year was 215 percent of the 15-year average for Trinity, 207 percent for Shasta, 351 percent for Folsom, and 311 percent for New Melones. Reservoir storage as of the same date was 123 percent of the 15-year average for Trinity, 112 percent for Shasta, 95 percent for Folsom, and 123 percent for New Melones. The Shasta and Folsom Reservoirs returned to flood control operations by the end of March, while snowpack above New Melones was forecast to exceed storage capacity by 1 MAF.

Weather and Other Conditions

As of March 31, cumulative precipitation of the Northern Sierra Eight Station Index was at 192 percent of average for the date. The forecast based upon April 1, 2017, for the 50 percent exceedence case is "wet" as is the 90 percent exceedence case, reflecting continuous storm events.

Note: The Sierra Nevada Region's (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR's projected power expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.



Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,863	561,879	146,071	\$4,699,887	\$4,916,797	\$3,414,114
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,179	581,212	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,173	636,090	228,602	\$6,822,627	\$6,771,937	\$5,588,539
Jan 17	10.30	7.80	6,659.00	5,727.89	54.03	57.50	666,182	657,318	745,987	632,199	273,824	\$4,853,151	\$5,023,264	\$5,901,618
Feb 17	12.90	12.70	6,300.00	5,706.99	54.34	58.54	568,000	569,823	646,404	503,036	358,448	\$4,759,045	\$4,738,596	\$5,997,559
Mar 17	15.80	14.80	8,219.00	7,544.34	56.08	59.94	679,733	632,412	718,685	648,481	*	\$2,140,470	\$2,713,970	*
Apr 17														
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							3,762,104	3,627,771	4,454,291	3,562,897	1,167,483	\$27,650,838	\$29,973,422	\$24,135,007

Actual generation as a percentage of average: 80.0%

Cost per MWh: \$20.67

Lake/Reservoir Content

As of April 19, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 84.0 percent and 73.3 percent full, respectively.

Weather and Other Conditions

Warm weather in March continued to melt the plains snowpack which produced an above-average runoff of 111 percent, with the runoff mainly originating from the lower part of the Missouri River Basin. Snowpack accumulations are 92 percent of average above Fort Peck and 135 percent of average on the Garrison to Fort Peck reach.

Note: The Upper Great Plains Region (UGPR) reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.

**WESTERN AREA POWER ADMINISTRATION
HYDRO CONDITIONS AND PURCHASE POWER REPORT
May 2017**

Agency-wide

	Generation (Megawatt-Hours [MWh])				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Average</u>	<u>Actual</u>	<u>Actual</u>	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Actual</u>
Oct 16	1,315,017	1,426,426	1,875,969	1,427,953	327,454	\$14,667,625	\$9,521,646	\$8,170,374
Nov 16	1,383,358	1,355,599	1,760,444	1,389,326	435,683	\$16,259,488	\$12,897,315	\$10,321,160
Dec 16	1,328,808	1,461,830	1,702,290	1,591,771	418,448	\$18,684,123	\$12,067,535	\$10,681,879
Jan 17	1,491,887	1,745,023	1,873,622	1,855,506	418,457	\$12,363,090	\$9,284,807	\$10,229,253
Feb 17	1,398,791	1,649,920	1,721,646	1,734,010	447,044	\$11,517,410	\$7,943,048	\$8,360,658
Mar 17	1,925,710	2,008,918	1,965,516	2,193,546	265,434	\$9,056,101	\$5,158,661	\$5,118,041
Apr 17	2,364,984	2,543,514	2,174,480	2,532,826				
May 17								
Jun 17								
Jul 17								
Aug 17								
Sep 17								
Total	11,208,556	12,191,230	13,073,966	12,724,939	2,312,521	\$82,547,838	\$56,873,011	\$52,881,365
	Actual generation as a percentage of average: 97.3%					Cost per MWh: \$22.87		

Western Area Power Administration (WAPA) generated a total of 12,725 gigawatt-hours (GWh) during October through April of fiscal year 2017, or 97.3 percent of the average. Actual purchase power data is currently available from October through March for all of WAPA's Regions, and during this period total purchase power was 2,313 GWh and total purchase power expenses were \$52,881,365, which equates to \$22.87 per MWh.

The following pages indicate WAPA's Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591	\$1,683,280
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,811	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,333	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17	11.50	16.00	361.45	359.00	14.98	11.36	355,138	431,244	457,394	455,508	57,227	\$4,412,679	\$1,231,482	\$1,678,096
Feb 17	15.10	21.00	392.01	555.00	15.99	11.22	265,647	387,432	390,580	393,646	61,657	\$5,024,221	\$1,531,108	\$1,555,701
Mar 17	18.90	22.00	666.27	1,110.00	16.77	11.36	272,465	405,609	390,170	458,176	29,840	\$5,517,603	\$1,111,921	\$644,587
Apr 17	19.40	21.00	1,057.14	1,607.00	16.74	12.15	250,695	404,074	397,861	427,891	10,935	\$3,468,325	\$93,697	\$210,181
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,893,220	2,729,621	2,844,551	2,914,410	399,884	\$40,369,305	\$9,602,250	\$10,268,214

Actual generation as a percentage of average: 102.5%

Cost per MWh: \$25.68

Lake/Reservoir Levels

Lake Powell's elevation was 3,604 feet at the end of April, about 96 feet below the maximum reservoir level and about 114 feet above the minimum generation level. The storage volume for Lake Powell was 12.15 million acre-feet at the end of April, which is about 50 percent of capacity.

Weather and Other Conditions

The April-July inflow forecasts continue to run slightly above average with a mid-May inflow forecast of 116% of average. Current forecasts estimate Lake Powell will increase about 37 feet in elevation by the end of August.



Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17	11.50	16.00	93.88	126.00	20.59	12.80	284,450	253,225	395,966	255,068	21,520	\$535,169	\$535,169	\$800,974
Feb 17	15.10	21.00	110.31	148.00	20.62	13.11	328,350	292,965	390,077	268,179	2,595	\$0	\$0	\$83,974
Mar 17	18.90	22.00	102.80	99.00	20.40	13.00	558,800	504,200	531,483	496,001	12,330	\$72,840	\$391,582	\$330,814
Apr 17	19.40	21.00	84.98	94.00	20.25	12.70	524,735	524,735	571,605	537,707	4,094	\$93,243	\$93,243	\$112,012
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							2,579,395	2,498,790	3,003,427	2,500,145	60,736	\$1,344,845	\$1,539,861	\$2,068,678

Actual generation as a percentage of average: 83.2%

Cost per MWh: \$34.06

Lake/Reservoir Levels

Lake Mead's elevation was 1,085 feet at the end of April, about 135 feet below full storage level and about 135 feet above the new minimum generation level of 950 feet. Lake Mead started the water year with a minimum elevation of 1,076 feet in October and reached a peak elevation of 1,090 feet in February.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 115 percent of average.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	56,146	\$1,918,912	\$1,768,512
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	88,908	\$3,104,240	\$3,033,840	\$2,226,606
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	73,018	\$2,601,536	\$2,534,336	\$2,020,033
Jan 17	417.90	452.40	96.60	114.70	3.79	4.67	108,118	110,236	111,274	127,252	33,352	\$2,062,592	\$1,995,392	\$1,205,222
Feb 17	849.60	1,170.80	96.30	173.50	3.79	4.79	97,795	99,700	99,585	129,713	4,671	\$1,254,624	\$1,193,824	\$143,568
Mar 17	1,105.20	1,524.90	159.00	293.50	4.13	4.70	124,712	136,697	118,178	191,665	0	\$785,728	\$401,728	\$0
Apr 17	1,342.80	1,552.90	250.20	462.40	3.85	4.50	135,854	164,886	138,114	246,662	4,244	\$1,295,328	\$367,328	\$55,309
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							709,138	763,228	729,797	944,125	260,339	\$13,022,960	\$11,294,960	\$7,022,195

Actual generation as a percentage of average: 129.4%

Cost per MWh: \$26.97

Lake/Reservoir Content

The overall reservoir content at the end of April was 117 percent of average.

Weather and Other Conditions

The entire Loveland Area Projects (LAP) area is now considered to be drought free due to recent spring storms. The snowpack is now above average in the Upper North Platte River Basin, well above average in the Upper Colorado River headwaters, and far above average in the Bighorn River Basin. The May forecasts of most probable reservoir inflows from spring runoff is above average for the Colorado-Big Thompson Project (CBT) and the North Platte River Basin, and well above average for the Bighorn River Basin. The latest National Weather Service forecast indicates June through August temperatures are just as likely to be above as below normal, and the precipitation is more likely to be above normal in the LAP area.

Note: The Rocky Mountain Region's (RMR) most recent reported purchase power data are provisional values and may change.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286	\$1,536,064
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17	27.78	30.00	1,167.00	3,436.00	6.13	6.43	78,000	293,000	163,000	385,479	32,534	\$499,500	\$499,500	\$643,343
Feb 17	27.78	45.00	1,339.00	5,725.00	6.71	7.68	139,000	300,000	195,000	439,436	19,673	\$479,520	\$479,520	\$579,856
Mar 17	28.22	46.00	1,553.00	2,574.00	7.46	8.61	290,000	330,000	207,000	399,223	26,567	\$539,460	\$539,460	\$642,682
Apr 17	25.77	42.00	1,380.00	2,758.00	7.88	9.29	431,000	426,000	288,000	426,215	20,095	\$499,500	\$499,500	\$555,974
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,242,000	1,548,000	1,263,000	1,909,011	266,749	\$5,516,286	\$5,516,286	\$6,820,789

Actual generation as a percentage of average: 151.1%

Cost per MWh: \$25.57

Lake/Reservoir Content

As of April 30, accumulated inflow for the water year was 215 percent of the 15-year average for Trinity, 207 percent for Shasta, 351 percent for Folsom, and 311 percent for New Melones. Reservoir storage as of the same date was 123 percent of the 15-year average for Trinity, 112 percent for Shasta, 95 percent for Folsom, and 123 percent for New Melones.

Weather and Other Conditions

As of April 30, cumulative precipitation of the Northern Sierra Eight Station Index was at 197 percent of average for the date. This water year will be officially designated as “wet.”

Note: The Sierra Nevada Region’s (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR does not project purchase power expenses for dry conditions, and its most probable expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.



Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,863	561,879	146,071	\$4,699,887	\$4,916,797	\$3,414,114
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,179	581,212	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,173	636,090	228,602	\$6,822,627	\$6,771,937	\$5,588,539
Jan 17	10.30	7.80	6,659.00	5,727.89	54.03	57.50	666,182	657,318	745,987	632,199	273,824	\$4,853,151	\$5,023,264	\$5,901,618
Feb 17	12.90	12.70	6,300.00	5,706.99	54.34	58.54	568,000	569,823	646,404	503,036	358,448	\$4,759,045	\$4,738,596	\$5,997,559
Mar 17	15.80	14.80	8,219.00	7,544.34	56.08	59.94	679,733	632,412	718,685	648,481	196,697	\$2,140,470	\$2,713,970	\$3,499,958
Apr 17	15.10	16.00	8,052.00	9,087.27	56.95	60.50	1,022,700	1,023,820	778,900	894,351	*	\$1,032,790	\$1,044,144	*
May 17														
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							4,784,804	4,651,591	5,233,191	4,457,248	1,364,180	\$28,683,628	\$31,017,566	\$27,634,965

Actual generation as a percentage of average: 85.2%

Cost per MWh: \$20.26

Lake/Reservoir Content

As of May 22, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 87.3 percent and 72.7 percent full, respectively.

Weather and Other Conditions

Most of the plains snowpack melted in March, which produced a below-average runoff for April of 93 percent. However, snowpack accumulations have since increased significantly to 107 percent of average above Fort Peck and 155 percent of average on the Garrison to Fort Peck reach, and late spring storms continue to add to the snowpack totals.

Note: The Upper Great Plains Region reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591	\$1,683,280
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,811	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,333	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17	11.50	16.00	361.45	359.00	14.98	11.36	355,138	431,244	457,394	455,508	57,227	\$4,412,679	\$1,231,482	\$1,678,096
Feb 17	15.10	21.00	392.01	555.00	15.99	11.22	265,647	387,432	390,580	393,646	61,657	\$5,024,221	\$1,531,108	\$1,555,701
Mar 17	18.90	22.00	666.27	1,110.00	16.77	11.36	272,465	405,609	390,170	458,176	29,840	\$5,517,603	\$1,111,921	\$644,587
Apr 17	19.40	21.00	1,057.14	1,607.00	16.74	12.15	250,695	404,074	397,861	427,891	10,935	\$3,468,325	\$93,697	\$210,181
May 17	7.90	11.00	2,337.68	2,377.00	16.30	13.67	320,070	572,228	501,886	553,204	86,530	\$2,044,585	\$1,990,190	\$1,455,945
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							2,213,290	3,301,850	3,346,438	3,467,614	486,414	\$42,413,890	\$11,592,440	\$11,724,159

Actual generation as a percentage of average: 103.6%

Cost per MWh: \$24.10

Lake/Reservoir Levels

Lake Powell's elevation was 3,619 feet at the end of May, about 81 feet below the maximum reservoir level and about 129 feet above the minimum generation level. The storage volume for Lake Powell was 13.67 million acre-feet at the end of May, which is about 56 percent of capacity.

Weather and Other Conditions

The April-July inflow forecasts continue to run slightly above average with a June inflow forecast of 116% of average. Current forecasts estimate Lake Powell elevation will be 3,632 feet at the end of water year 2017, about 22 feet higher than the end of water year 2016.

Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17	11.50	16.00	93.88	126.00	20.59	12.80	284,450	253,225	395,966	255,068	21,520	\$535,169	\$535,169	\$800,974
Feb 17	15.10	21.00	110.31	148.00	20.62	13.11	328,350	292,965	390,077	268,179	2,595	\$0	\$0	\$83,974
Mar 17	18.90	22.00	102.80	99.00	20.40	13.00	558,800	504,200	531,483	496,001	12,330	\$72,840	\$391,582	\$330,814
Apr 17	19.40	21.00	84.98	94.00	20.25	12.70	524,735	524,735	571,605	537,707	4,094	\$93,243	\$93,243	\$112,012
May 17	7.90	11.00	59.42	40.00	20.36	12.45	487,280	487,280	571,204	491,336	22,788	\$595,658	\$595,658	\$777,754
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							3,066,675	2,986,070	3,574,631	2,991,482	83,524	\$1,940,503	\$2,135,519	\$2,846,432

Actual generation as a percentage of average: 83.7%

Cost per MWh: \$34.08

Lake/Reservoir Levels

Lake Mead's elevation was 1,082 feet at the end of May, about 138 feet below the full storage level and about 132 feet above the new minimum generation level of 950 feet. Lake Mead started the water year with a minimum elevation of 1,076 feet in October and reached a peak elevation of 1,090 feet in February.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 115 percent of average.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	56,146	\$1,918,912	\$1,768,512	\$1,371,457
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	88,908	\$3,104,240	\$3,033,840	\$2,226,606
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	73,018	\$2,601,536	\$2,534,336	\$2,020,033
Jan 17	417.90	452.40	96.60	114.70	3.79	4.67	108,118	110,236	111,274	127,252	33,352	\$2,062,592	\$1,995,392	\$1,205,222
Feb 17	849.60	1,170.80	96.30	173.50	3.79	4.79	97,795	99,700	99,585	129,713	4,671	\$1,254,624	\$1,193,824	\$143,568
Mar 17	1,105.20	1,524.90	159.00	293.50	4.13	4.70	124,712	136,697	118,178	191,665	0	\$785,728	\$401,728	\$0
Apr 17	1,342.80	1,552.90	250.20	462.40	3.85	4.50	135,854	164,886	138,114	246,662	4,244	\$1,295,328	\$367,328	\$55,309
May 17	1,231.50	1,441.80	696.50	1,120.10	4.19	4.41	217,579	252,286	197,941	245,229	8,104	\$0	\$0	\$116,918
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							926,717	1,015,514	927,738	1,189,354	268,443	\$13,022,960	\$11,294,960	\$7,139,113

Actual generation as a percentage of average: 128.2%

Cost per MWh: \$26.59

Lake/Reservoir Content

The overall reservoir content at the end of May was 105 percent of average.

Weather and Other Conditions

The entire Loveland Area Projects (LAP) area is now considered to be drought free. The snowpack has almost completely melted at all but the highest elevations and the peak spring runoff has passed. The June forecasts of most probable reservoir inflows from the spring runoff remain above average for the Colorado-Big Thompson Project (CBT) and the North Platte River Basin and well above average for the Bighorn River Basin. The storage in the CBT and North Platte reservoirs was above average at the end of May but the storage in the Bighorn Basin reservoirs was below average as Reclamation made record releases in anticipation of very large spring runoff volumes. The latest National Weather Service forecast indicates July through September temperatures are more likely to be above normal and the precipitation is just as likely to be above as below normal in the LAP area. Surplus LAP generation is expected to continue into early July.

Note: The Rocky Mountain Region's (RMR) most recent reported purchase power data are provisional values and may change.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286	\$1,536,064
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17	27.78	30.00	1,167.00	3,436.00	6.13	6.43	78,000	293,000	163,000	385,479	32,534	\$499,500	\$499,500	\$643,343
Feb 17	27.78	45.00	1,339.00	5,725.00	6.71	7.68	139,000	300,000	195,000	439,436	19,673	\$479,520	\$479,520	\$579,856
Mar 17	28.22	46.00	1,553.00	2,574.00	7.46	8.61	290,000	330,000	207,000	399,223	26,567	\$539,460	\$539,460	\$642,682
Apr 17	25.77	42.00	1,380.00	2,758.00	7.88	9.29	431,000	426,000	288,000	426,215	20,089	\$499,500	\$499,500	\$555,974
May 17	27.87	17.00	1,303.00	2,259.00	7.91	9.66	526,000	516,000	442,000	617,375	11,820	\$519,480	\$519,480	\$582,074
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							1,768,000	2,064,000	1,705,000	2,526,386	278,565	\$6,035,766	\$6,035,766	\$7,402,863

Actual generation as a percentage of average: 148.2%

Cost per MWh: \$26.58

Lake/Reservoir Content

As of May 31, accumulated inflow for the water year was 185 percent of the 15-year average for Trinity, 195 percent for Shasta, 308 percent for Folsom, and 292 percent for New Melones. Reservoir storage as of the same date was 123 percent of the 15-year average for Trinity, 116 percent for Shasta, 116 percent for Folsom, and 142 percent for New Melones.

Weather and Other Conditions

As of May 31, cumulative precipitation of the Northern Sierra Eight Station Index was at 189 percent of average for the date; however, May ended at only 17 percent of its monthly average. The May 1 forecast for the 50 percent exceedance case is the basis for the official year type declaration, which is "wet" for this water year.

Note: The Sierra Nevada Region's (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR does not project purchase power expenses for dry conditions, and its most probable expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.



Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,863	561,879	146,071	\$4,699,887	\$4,916,797	\$3,414,114
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,179	581,212	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,173	636,090	228,602	\$6,822,627	\$6,771,937	\$5,588,539
Jan 17	10.30	7.80	6,659.00	5,727.89	54.03	57.50	666,182	657,318	745,987	632,199	273,824	\$4,853,151	\$5,023,264	\$5,901,618
Feb 17	12.90	12.70	6,300.00	5,706.99	54.34	58.54	568,000	569,823	646,404	503,036	358,448	\$4,759,045	\$4,738,596	\$5,997,559
Mar 17	15.80	14.80	8,219.00	7,544.34	56.08	59.94	679,733	632,412	718,685	648,481	196,697	\$2,140,470	\$2,713,970	\$3,499,958
Apr 17	15.10	16.00	8,052.00	9,087.27	56.95	60.50	1,022,700	1,023,820	778,900	894,351	25,646	\$1,032,790	\$1,044,144	\$274,598
May 17	6.60	6.50	9,692.00	10,815.22	58.22	61.97	1,114,646	1,104,515	794,995	983,787	*	\$308,233	\$329,579	*
Jun 17														
Jul 17														
Aug 17														
Sep 17														
Total							5,899,450	5,756,106	6,028,186	5,441,035	1,389,826	\$28,991,861	\$31,347,145	\$27,909,563

Actual generation as a percentage of average: 90.3%

Cost per MWh: \$20.08

Lake/Reservoir Content

As of June 19, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 99.2 percent and 87.6 percent full, respectively.

Weather and Other Conditions

Good spring rains throughout the Missouri River Basin created an above-normal runoff of 129 percent for May. Snowpack accumulations peaked on May 2 at 99 percent of average above Fort Peck and 148 percent of average on the Garrison to Fort Peck reach. Bird peaking schedules continued in May at Garrison. Fort Randall is experiencing extended maintenance outages that have caused the Corps of Engineers to spill to meet water releases, and two units will remain out of service until the end of June.

Note: The Upper Great Plains Region reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.

**WESTERN AREA POWER ADMINISTRATION
HYDRO CONDITIONS AND PURCHASE POWER REPORT
July 2017**

Agency-wide

	Generation (Megawatt-Hours [MWh])				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Average</u>	<u>Actual</u>	<u>Actual</u>	Projected <u>Dry</u>	Most <u>Probable</u>	<u>Actual</u>
Oct 16	1,315,017	1,426,426	1,875,969	1,427,953	327,454	\$14,667,625	\$9,521,646	\$8,170,374
Nov 16	1,383,358	1,355,599	1,760,444	1,389,326	435,683	\$16,259,488	\$12,897,315	\$10,321,160
Dec 16	1,328,808	1,461,830	1,702,290	1,591,771	418,448	\$18,684,123	\$12,067,535	\$10,681,879
Jan 17	1,491,887	1,745,023	1,873,622	1,855,506	418,457	\$12,363,090	\$9,284,807	\$10,229,253
Feb 17	1,398,791	1,649,920	1,721,646	1,734,010	447,044	\$11,517,410	\$7,943,048	\$8,360,658
Mar 17	1,925,710	2,008,918	1,965,516	2,193,546	265,434	\$9,056,101	\$5,158,661	\$5,118,041
Apr 17	2,364,984	2,543,514	2,174,480	2,532,826	65,008	\$6,389,186	\$2,097,912	\$1,208,074
May 17	2,665,575	2,932,309	2,508,027	2,891,132	140,001	\$3,467,957	\$3,434,907	\$2,990,589
Jun 17	2,768,173	3,078,396	2,621,548	2,966,706				
Jul 17								
Aug 17								
Sep 17								
Total	16,642,304	18,201,935	18,203,540	18,582,777	2,517,531	\$92,404,981	\$62,405,830	\$57,080,028
	Actual generation as a percentage of average: 102.1%					Cost per MWh: \$22.67		

Western Area Power Administration (WAPA) generated a total of 18,583 gigawatt-hours (GWh) during October through June of fiscal year 2017, or 102.1 percent of the average. Actual purchase power data is currently available from October through May for all of WAPA's Regions, and during this period total purchase power was 2,518 GWh and total purchase power expenses were \$57,080,028, which equates to \$22.67 per MWh.

The following pages indicate WAPA's Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591	\$1,683,280
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,811	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,333	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17	11.50	16.00	361.45	359.00	14.98	11.36	355,138	431,244	457,394	455,508	57,227	\$4,412,679	\$1,231,482	\$1,678,096
Feb 17	15.10	21.00	392.01	555.00	15.99	11.22	265,647	387,432	390,580	393,646	61,657	\$5,024,221	\$1,531,108	\$1,555,701
Mar 17	18.90	22.00	666.27	1,110.00	16.77	11.36	272,465	405,609	390,170	458,176	29,840	\$5,517,603	\$1,111,921	\$644,587
Apr 17	19.40	21.00	1,057.14	1,607.00	16.74	12.15	250,695	404,074	397,861	427,891	10,935	\$3,468,325	\$93,697	\$210,181
May 17	7.90	11.00	2,337.68	2,377.00	16.30	13.67	320,070	572,228	501,886	553,204	86,530	\$2,044,585	\$1,990,190	\$1,455,945
Jun 17	0.00	1.00	2,668.50	3,115.00	16.00	15.41	337,289	607,167	585,467	592,541	2,885	\$2,301,440	\$22,746	\$44,051
Jul 17														
Aug 17														
Sep 17														
Total							2,550,579	3,909,016	3,931,905	4,060,155	489,299	\$44,715,330	\$11,615,186	\$11,768,210

Actual generation as a percentage of average: 103.3%

Cost per MWh: \$24.05

Lake/Reservoir Levels

Lake Powell's elevation was 3,635 feet at the end of June, about 65 feet below the maximum reservoir level and about 145 feet above the minimum generation level. The storage volume for Lake Powell was 15.41 million acre-feet at the end of June, which is about 63 percent of capacity.

Weather and Other Conditions

Current forecasts estimate Lake Powell elevation will be 3,631 feet at the end of water year 2017, about 20 feet higher than at the end of water year 2016.



Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17	11.50	16.00	93.88	126.00	20.59	12.80	284,450	253,225	395,966	255,068	21,520	\$535,169	\$535,169	\$800,974
Feb 17	15.10	21.00	110.31	148.00	20.62	13.11	328,350	292,965	390,077	268,179	2,595	\$0	\$0	\$83,974
Mar 17	18.90	22.00	102.80	99.00	20.40	13.00	558,800	504,200	531,483	496,001	12,330	\$72,840	\$391,582	\$330,814
Apr 17	19.40	21.00	84.98	94.00	20.25	12.70	524,735	524,735	571,605	537,707	4,094	\$93,243	\$93,243	\$112,012
May 17	7.90	11.00	59.42	40.00	20.36	12.45	487,280	487,280	571,204	491,336	22,788	\$595,658	\$595,658	\$777,754
Jun 17	0.00	1.00	26.38	18.00	20.56	12.26	467,615	467,615	537,300	466,470	8,885	\$582,202	\$582,202	\$687,310
Jul 17														
Aug 17														
Sep 17														
Total							3,534,290	3,453,685	4,111,931	3,457,952	92,409	\$2,522,705	\$2,717,721	\$3,533,742

Actual generation as a percentage of average: 84.1%

Cost per MWh: \$38.24

Lake/Reservoir Levels

Lake Mead's elevation was 1,080 feet at the end of June, about 140 feet below the full storage level and about 130 feet above the new minimum generation level of 950 feet. Lake Mead started the water year with a minimum elevation of 1,076 feet in October and reached a peak elevation of 1,090 feet in February.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 109 percent of average.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	56,146	\$1,918,912	\$1,768,512
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	88,908	\$3,104,240	\$3,033,840	\$2,226,606
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	73,018	\$2,601,536	\$2,534,336	\$2,020,033
Jan 17	417.90	452.40	96.60	114.70	3.79	4.67	108,118	110,236	111,274	127,252	33,352	\$2,062,592	\$1,995,392	\$1,205,222
Feb 17	849.60	1,170.80	96.30	173.50	3.79	4.79	97,795	99,700	99,585	129,713	4,671	\$1,254,624	\$1,193,824	\$143,568
Mar 17	1,105.20	1,524.90	159.00	293.50	4.13	4.70	124,712	136,697	118,178	191,665	0	\$785,728	\$401,728	\$0
Apr 17	1,342.80	1,552.90	250.20	462.40	3.85	4.50	135,854	164,886	138,114	246,662	4,244	\$1,295,328	\$367,328	\$55,309
May 17	1,231.50	1,441.80	696.50	1,120.10	4.19	4.41	217,579	252,286	197,941	245,430	8,104	\$0	\$0	\$116,918
Jun 17	304.70	579.90	1,124.80	2,054.20	4.76	5.78	231,289	311,890	244,139	300,898	2,747	\$0	\$0	\$68,880
Jul 17														
Aug 17														
Sep 17														
Total							1,158,006	1,327,404	1,171,877	1,490,453	271,190	\$13,022,960	\$11,294,960	\$7,207,993

Actual generation as a percentage of average: 127.2%

Cost per MWh: \$26.58

Lake/Reservoir Content

The overall reservoir content at the end of June was 121 percent of average.

Weather and Other Conditions

The Loveland Area Projects (LAP) area remains drought free but the trend is for drier conditions in some areas. The latest National Weather Service forecast indicates August through October temperatures are more likely to be above normal, and the precipitation is just as likely to be above as below normal in Wyoming and eastern Colorado while more likely to be above normal west of the Continental Divide in Colorado. LAP generation is expected to be less than the marketed amount through next March. Releases to evacuate space in reservoirs for the anticipated runoff required bypasses at some power plants, and a portion of the Yellowtail plant bypass was initiated at the request of WAPA to provide reserve capacity and regulating capability as other plants are loaded to capacity. Furthermore, Colorado-Big Thompson Project generation will be restricted during a Charles Hansen Feeder Canal siphon repair scheduled from August through mid-November.

Note: The Rocky Mountain Region's (RMR) most recent reported purchase power data are provisional values and may change.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286	\$1,536,064
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17	27.78	30.00	1,167.00	3,436.00	6.13	6.43	78,000	293,000	163,000	385,479	32,534	\$499,500	\$499,500	\$643,343
Feb 17	27.78	45.00	1,339.00	5,725.00	6.71	7.68	139,000	300,000	195,000	439,436	19,673	\$479,520	\$479,520	\$579,856
Mar 17	28.22	46.00	1,553.00	2,574.00	7.46	8.61	290,000	330,000	207,000	399,223	26,567	\$539,460	\$539,460	\$642,682
Apr 17	25.77	42.00	1,380.00	2,758.00	7.88	9.29	431,000	426,000	288,000	426,215	20,089	\$499,500	\$499,500	\$555,974
May 17	27.87	17.00	1,303.00	2,259.00	7.91	9.66	526,000	516,000	442,000	617,375	11,820	\$519,480	\$519,480	\$582,074
Jun 17	0.00	2.00	804.00	1,320.00	7.49	9.51	537,000	522,000	440,000	469,577	31,382	\$519,480	\$519,480	\$845,693
Jul 17														
Aug 17														
Sep 17														
Total							2,305,000	2,586,000	2,145,000	2,995,963	309,947	\$6,555,246	\$6,555,246	\$8,248,555

Actual generation as a percentage of average: 139.7%

Cost per MWh: \$26.61

Lake/Reservoir Content

As of June 30, accumulated inflow for the water year was 175 percent of the 15-year average for Trinity, 190 percent for Shasta, 298 percent for Folsom and 288 percent for New Melones. Reservoir storage as of the same date was 120 percent of the 15-year average for Trinity, 122 percent for Shasta, 127 percent for Folsom and 149 percent for New Melones.

Weather and Other Conditions

As of June 30, cumulative precipitation of the Northern Sierra Eight Station Index was at 187 percent of average for the date. May ended at only 17 percent of its monthly precipitation average; however, June ended at 87 percent of its monthly average. The May 1 forecast for the 50 percent exceedence case is the basis for the official year type declaration, which is "wet" for this water year.

Note: The Sierra Nevada Region's (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR does not project purchase power expenses for dry conditions, and its most probable expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.



Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,863	561,879	146,071	\$4,699,887	\$4,916,797	\$3,414,114
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,179	581,212	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,173	636,090	228,602	\$6,822,627	\$6,771,937	\$5,588,539
Jan 17	10.30	7.80	6,659.00	5,727.89	54.03	57.50	666,182	657,318	745,987	632,199	273,824	\$4,853,151	\$5,023,264	\$5,901,618
Feb 17	12.90	12.70	6,300.00	5,706.99	54.34	58.54	568,000	569,823	646,404	503,036	358,448	\$4,759,045	\$4,738,596	\$5,997,559
Mar 17	15.80	14.80	8,219.00	7,544.34	56.08	59.94	679,733	632,412	718,685	648,481	196,697	\$2,140,470	\$2,713,970	\$3,499,958
Apr 17	15.10	16.00	8,052.00	9,087.27	56.95	60.50	1,022,700	1,023,820	778,900	894,351	25,646	\$1,032,790	\$1,044,144	\$274,598
May 17	6.60	6.50	9,692.00	10,815.22	58.22	61.97	1,114,646	1,104,515	794,995	983,787	10,759	\$308,233	\$329,579	\$57,898
Jun 17	0.60	0.20	11,809.00	12,545.36	60.45	63.67	1,194,980	1,169,724	814,641	1,137,220	*	\$54,138	\$65,770	*
Jul 17														
Aug 17														
Sep 17														
Total							7,094,430	6,925,830	6,842,827	6,578,255	1,400,585	\$29,046,000	\$31,412,916	\$27,967,461

Actual generation as a percentage of average: 96.1%

Cost per MWh: \$19.97

Lake/Reservoir Content

As of July 12, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 98.9 percent and 100 percent full, respectively.

Weather and Other Conditions

The June runoff in the upper basin was 106 percent of average, with snowpack being the primary source of runoff in the Fort Peck and Garrison reaches. However, the lower basin had precipitation of less than 50 percent of average which resulted in below-average runoff for Oahe, Fort Randall, and Gavins Point. Drought conditions have been worsening this past month, with extreme drought in northeastern Montana, western North Dakota, and north central South Dakota. Two units at Fort Randall are out of service through the summer due to cable tray replacements.

Note: The Upper Great Plains Region reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.

WESTERN AREA POWER ADMINISTRATION
HYDRO CONDITIONS AND PURCHASE POWER REPORT
August 2017

Due to the lack of current hydro data and related information for a Western Area Power Administration (WAPA) Region, this August 2017 hydro conditions report is being issued in preliminary form without an agency-wide data table or narrative summary. A final report with the table and summary will be distributed at a later date when all current Regional data is available.

The following pages indicate WAPA's Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,811	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,333	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17	11.50	16.00	361.45	359.00	14.98	11.36	355,138	431,244	457,394	455,508	57,227	\$4,412,679	\$1,231,482	\$1,678,096
Feb 17	15.10	21.00	392.01	555.00	15.99	11.22	265,647	387,432	390,580	393,646	61,657	\$5,024,221	\$1,531,108	\$1,555,701
Mar 17	18.90	22.00	666.27	1,110.00	16.77	11.36	272,465	405,609	390,170	458,176	29,840	\$5,517,603	\$1,111,921	\$644,587
Apr 17	19.40	21.00	1,057.14	1,607.00	16.74	12.15	250,695	404,074	397,861	427,891	10,935	\$3,468,325	\$93,697	\$210,181
May 17	7.90	11.00	2,337.68	2,377.00	16.30	13.67	320,070	572,228	501,886	553,204	86,530	\$2,044,585	\$1,990,190	\$1,455,945
Jun 17	0.00	1.00	2,668.50	3,115.00	16.00	15.41	337,289	607,167	585,467	592,541	2,885	\$2,301,440	\$22,746	\$44,051
Jul 17	0.00	1.10	1,093.88	1,073.00	15.88	15.39	436,357	505,605	612,093	556,270	4,635	\$708,807	\$70,408	\$97,798
Aug 17														
Sep 17														
Total							2,986,936	4,414,621	4,543,998	4,616,425	493,934	\$45,424,137	\$11,685,594	\$11,866,008

Actual generation as a percentage of average: 101.6%

Cost per MWh: \$24.02

Lake/Reservoir Levels

Lake Powell's elevation was 3,635 feet at the end of July, about 65 feet below the maximum reservoir level and about 145 feet above the minimum generation level. The storage volume for Lake Powell was 15.39 million acre-feet at the end of July, which is about 63 percent of capacity.

Weather and Other Conditions

Lake Powell elevation peaked for water year 2017 at 3,635 feet in July, and will decrease to an elevation of about 3,630 feet by the end of the water year.

Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17	11.50	16.00	93.88	126.00	20.59	12.80	284,450	253,225	395,966	255,068	21,520	\$535,169	\$535,169	\$800,974
Feb 17	15.10	21.00	110.31	148.00	20.62	13.11	328,350	292,965	390,077	268,179	2,595	\$0	\$0	\$83,974
Mar 17	18.90	22.00	102.80	99.00	20.40	13.00	558,800	504,200	531,483	496,001	12,330	\$72,840	\$391,582	\$330,814
Apr 17	19.40	21.00	84.98	94.00	20.25	12.70	524,735	524,735	571,605	537,707	4,094	\$93,243	\$93,243	\$112,012
May 17	7.90	11.00	59.42	40.00	20.36	12.45	487,280	487,280	571,204	491,336	22,788	\$595,658	\$595,658	\$777,754
Jun 17	0.00	1.00	26.38	18.00	20.56	12.26	467,615	467,615	537,300	466,470	8,885	\$582,202	\$582,202	\$687,310
Jul 17	0.00	1.10	66.54	88.00	20.47	12.27	462,330	462,330	548,865	465,914	14,972	\$904,397	\$904,397	\$1,130,449
Aug 17														
Sep 17														
Total							3,996,620	3,916,015	4,660,796	3,923,866	107,381	\$3,427,102	\$3,622,118	\$4,664,191

Actual generation as a percentage of average: 84.2%

Cost per MWh: \$43.44

Lake/Reservoir Levels

Lake Mead's elevation was 1,079 feet at the end of July, about 141 feet below the full storage level and about 129 feet above the new minimum generation level of 950 feet. Lake Mead started the water year with a minimum elevation of 1,076 feet in October and reached a peak elevation of 1,090 feet in February.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 112 percent of average.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	56,146	\$1,918,912	\$1,768,512	\$1,371,457
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	88,908	\$3,104,240	\$3,033,840	\$2,226,606
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	73,018	\$2,601,536	\$2,534,336	\$2,020,033
Jan 17	417.90	452.40	96.60	114.70	3.79	4.67	108,118	110,236	111,274	127,252	33,352	\$2,062,592	\$1,995,392	\$1,205,222
Feb 17	849.60	1,170.80	96.30	173.50	3.79	4.79	97,795	99,700	99,585	129,713	4,671	\$1,254,624	\$1,193,824	\$143,568
Mar 17	1,105.20	1,524.90	159.00	293.50	4.13	4.70	124,712	136,697	118,178	191,665	0	\$785,728	\$401,728	\$0
Apr 17	1,342.80	1,552.90	250.20	462.40	3.85	4.50	135,854	164,886	138,114	246,662	4,244	\$1,295,328	\$367,328	\$55,309
May 17	1,231.50	1,441.80	696.50	1,120.10	4.19	4.41	217,579	252,286	197,941	245,430	8,104	\$0	\$0	\$116,918
Jun 17	304.70	579.90	1,124.80	2,054.20	4.76	5.78	231,289	311,890	244,139	300,898	2,747	\$0	\$0	\$68,880
Jul 17														
Aug 17														
Sep 17														
Total							1,158,006	1,327,404	1,171,877	1,490,453	271,190	\$13,022,960	\$11,294,960	\$7,207,993

Actual generation as a percentage of average: 127.2%

Cost per MWh: \$26.58

Lake/Reservoir Content

The overall reservoir content at the end of July was 121 percent of average.

Weather and Other Conditions

The Loveland Area Projects (LAP) area remained drought free during July, but the trend was for drier conditions in some areas. In August, the National Weather Service forecast indicated August through October temperatures are more likely to be above normal, and the precipitation is just as likely to be above as below normal in Wyoming and eastern Colorado while more likely to be above normal west of the Continental Divide in Colorado.

Note: July hydro data and related information are not currently available for WAPA's Rocky Mountain Region (RMR). This page will be updated and a final hydro conditions report will be distributed when the data is available.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286	\$1,536,064
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17	27.78	30.00	1,167.00	3,436.00	6.13	6.43	78,000	293,000	163,000	385,479	32,534	\$499,500	\$499,500	\$643,343
Feb 17	27.78	45.00	1,339.00	5,725.00	6.71	7.68	139,000	300,000	195,000	439,436	19,673	\$479,520	\$479,520	\$579,856
Mar 17	28.22	46.00	1,553.00	2,574.00	7.46	8.61	290,000	330,000	207,000	399,223	26,567	\$539,460	\$539,460	\$642,682
Apr 17	25.77	42.00	1,380.00	2,758.00	7.88	9.29	431,000	426,000	288,000	426,215	20,089	\$499,500	\$499,500	\$555,974
May 17	27.87	17.00	1,303.00	2,259.00	7.91	9.66	526,000	516,000	442,000	617,375	11,820	\$519,480	\$519,480	\$582,074
Jun 17	0.00	2.00	804.00	1,320.00	7.49	9.51	537,000	522,000	440,000	469,577	31,382	\$519,480	\$519,480	\$845,693
Jul 17			451.00	623.00	6.71	8.98	539,000	564,000	524,000	438,703	40,530	\$499,500	\$499,500	\$899,558
Aug 17														
Sep 17														
Total							2,844,000	3,150,000	2,669,000	3,434,666	350,477	\$7,054,746	\$7,054,746	\$9,148,113

Actual generation as a percentage of average: 128.7%

Cost per MWh: \$26.10

Lake/Reservoir Content

As of July 31, accumulated inflow for the water year was 172 percent of the 15-year average for Trinity, 187 percent for Shasta, 291 percent for Folsom, and 282 percent for New Melones. Reservoir storage as of the same date was 120 percent of the 15-year average for Trinity, 131 percent for Shasta, 144 percent for Folsom, and 153 percent for New Melones.

Weather and Other Conditions

As of July 31, cumulative precipitation of the Northern Sierra Eight Station Index was at 186 percent of average for the date. The May 1 forecast for the 50 percent exceedence case is the basis for the official year type declaration, which is "wet" for this water year.

Note: The Sierra Nevada Region's (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR does not project purchase power expenses for dry conditions, and its most probable expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.

Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,863	561,879	146,071	\$4,699,887	\$4,916,797	\$3,414,114
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,179	581,212	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,173	636,090	228,602	\$6,822,627	\$6,771,937	\$5,588,539
Jan 17	10.30	7.80	6,659.00	5,727.89	54.03	57.50	666,182	657,318	745,987	632,199	273,824	\$4,853,151	\$5,023,264	\$5,901,618
Feb 17	12.90	12.70	6,300.00	5,706.99	54.34	58.54	568,000	569,823	646,404	503,036	358,448	\$4,759,045	\$4,738,596	\$5,997,559
Mar 17	15.80	14.80	8,219.00	7,544.34	56.08	59.94	679,733	632,412	718,685	648,481	196,697	\$2,140,470	\$2,713,970	\$3,499,958
Apr 17	15.10	16.00	8,052.00	9,087.27	56.95	60.50	1,022,700	1,023,820	778,900	894,351	25,646	\$1,032,790	\$1,044,144	\$274,598
May 17	6.60	6.50	9,692.00	10,815.22	58.22	61.97	1,114,646	1,104,515	794,995	983,787	10,759	\$308,233	\$329,579	\$57,898
Jun 17	0.60	0.20	11,809.00	12,545.36	60.45	63.67	1,194,980	1,169,724	814,641	1,137,220	1,120	\$54,138	\$65,770	\$20,263
Jul 17			10,764.00	10,522.78	60.42	63.24	1,192,301	1,222,587	920,579	1,158,064	*	\$2,367	\$995	*
Aug 17														
Sep 17														
Total							8,286,731	8,148,417	7,763,406	7,736,319	1,401,705	\$29,048,366	\$31,413,911	\$27,987,724

Actual generation as a percentage of average: 99.7%

Cost per MWh: \$19.97

Lake/Reservoir Content

As of August 21, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 89.0 percent and 98.8 percent full, respectively.

Weather and Other Conditions

The July runoff in the upper basin was 101 percent of normal, and runoff in the Garrison reach was 124 percent of average due to the abundant mountain snowpack. All other reaches were well below average. Drought conditions are present in all states of the Missouri River Basin and over a majority of the upper Basin. In Montana, 82 percent of the state is impacted by drought, and 24 percent is impacted by Extreme (D3) and Exceptional (D4) Drought with the most severe conditions present over the northeastern quarter of the state. In North Dakota, 94 percent of the state is impacted by drought, and 46 percent is impacted by D3 and D4 Drought mostly in western North Dakota. In South Dakota, 100 percent of the state is impacted by drought, and 15 percent is impacted by D3 and D4 Drought with the most severe conditions in north central South Dakota. Two units at Fort Randall are out of service through the summer due to cable tray replacements.

Note: The Upper Great Plains Region reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.

WESTERN AREA POWER ADMINISTRATION
HYDRO CONDITIONS AND PURCHASE POWER REPORT
September 2017

Due to the lack of current hydro data and related information for a Western Area Power Administration (WAPA) Region, this September 2017 hydro conditions report is being issued in preliminary form without an agency-wide data table or narrative summary. A final report with the table and summary will be distributed at a later date when all current Regional data is available.

The following pages indicate WAPA's Regional snowpack, lake/reservoir inflow and content, generation, and purchase power expenses, among other things. Snowpack is reported as snow water equivalent, which is the depth of water that theoretically would result if the entire snowpack is melted instantaneously.

Colorado River Storage Project

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16	1.30	0.20	514.42	381.00	15.01	12.68	248,012	340,536	382,430	384,045	64,165	\$6,704,081	\$1,491,591
Nov 16	4.80	2.60	474.23	383.00	14.91	12.31	230,952	315,541	388,155	334,811	127,238	\$7,549,826	\$2,850,078	\$3,213,841
Dec 16	8.10	8.50	362.96	300.00	14.86	11.80	270,310	445,186	437,962	460,333	48,822	\$7,692,571	\$1,292,373	\$1,282,528
Jan 17	11.50	16.00	361.45	359.00	14.98	11.36	355,138	431,244	457,394	455,508	57,227	\$4,412,679	\$1,231,482	\$1,678,096
Feb 17	15.10	21.00	392.01	555.00	15.99	11.22	265,647	387,432	390,580	393,646	61,657	\$5,024,221	\$1,531,108	\$1,555,701
Mar 17	18.90	22.00	666.27	1,110.00	16.77	11.36	272,465	405,609	390,170	458,176	29,840	\$5,517,603	\$1,111,921	\$644,587
Apr 17	19.40	21.00	1,057.14	1,607.00	16.74	12.15	250,695	404,074	397,861	427,891	10,935	\$3,468,325	\$93,697	\$210,181
May 17	7.90	11.00	2,337.68	2,377.00	16.30	13.67	320,070	572,228	501,886	553,204	86,530	\$2,044,585	\$1,990,190	\$1,455,945
Jun 17	0.00	1.00	2,668.50	3,115.00	16.00	15.41	337,289	607,167	585,467	592,541	2,885	\$2,301,440	\$22,746	\$44,051
Jul 17	0.00	1.10	1,093.88	1,073.00	15.88	15.39	436,357	505,605	612,093	556,270	4,635	\$708,807	\$70,408	\$97,798
Aug 17	0.00	1.00	496.08	446.00	15.68	14.95	429,891	556,396	554,076	555,562	3,979	\$1,004,331	\$3,076	\$67,921
Sep 17														
Total							3,416,827	4,971,017	5,098,074	5,171,987	497,913	\$46,428,468	\$11,688,670	\$11,933,929

Actual generation as a percentage of average: 101.4%

Cost per MWh: \$23.97

Lake/Reservoir Levels

Lake Powell's elevation was 3,631 feet at the end of August, about 69 feet below the maximum reservoir level and about 141 feet above the minimum generation level. The storage volume for Lake Powell was 14.95 million acre-feet at the end of August, which is about 61 percent of capacity.

Weather and Other Conditions

Lake Powell elevation peaked for water year 2017 at 3,635 feet in August, and will decrease to an elevation of about 3,630 feet by the end of the water year.

Desert Southwest Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16	1.30	0.20	60.29	79.00	20.40	11.75	282,630	282,630	378,811	290,888	5,020	\$165,459	\$165,459
Nov 16	4.80	2.60	54.10	78.00	20.31	11.90	345,830	373,020	363,391	374,705	1,919	\$90,031	\$64,805	\$65,277
Dec 16	8.10	8.50	73.53	63.00	20.44	12.31	254,600	268,015	372,094	277,597	13,258	\$388,103	\$289,603	\$510,168
Jan 17	11.50	16.00	93.88	126.00	20.59	12.80	284,450	253,225	395,966	255,068	21,520	\$535,169	\$535,169	\$800,974
Feb 17	15.10	21.00	110.31	148.00	20.62	13.11	328,350	292,965	390,077	268,179	2,595	\$0	\$0	\$83,974
Mar 17	18.90	22.00	102.80	99.00	20.40	13.00	558,800	504,200	531,483	496,001	12,330	\$72,840	\$391,582	\$330,814
Apr 17	19.40	21.00	84.98	94.00	20.25	12.70	524,735	524,735	571,605	537,707	4,094	\$93,243	\$93,243	\$112,012
May 17	7.90	11.00	59.42	40.00	20.36	12.45	487,280	487,280	571,204	491,336	22,788	\$595,658	\$595,658	\$777,754
Jun 17	0.00	1.00	26.38	18.00	20.56	12.26	467,615	467,615	537,300	466,470	8,885	\$582,202	\$582,202	\$687,310
Jul 17	0.00	1.10	66.54	88.00	20.47	12.27	462,330	462,330	548,865	465,914	14,972	\$904,397	\$904,397	\$1,130,449
Aug 17	0.00	1.00	99.68	94.00	20.34	12.41	362,615	362,615	512,355	370,861	36,996	\$2,334,718	\$2,334,718	\$2,158,555
Sep 17														
Total							4,359,235	4,278,630	5,173,151	4,294,726	144,377	\$5,761,820	\$5,956,836	\$6,822,746

Actual generation as a percentage of average: 83.0%

Cost per MWh: \$47.26

Lake/Reservoir Levels

Lake Mead's elevation was 1,081 feet at the end of August, about 138 feet below the full storage level and about 131 feet above the new minimum generation level of 950 feet. Lake Mead started the water year with a minimum elevation of 1,076 feet in October and reached a peak elevation of 1,090 feet in February.

Weather and Other Conditions

The Desert Southwest Region's hydrology is mostly dependent on the Colorado River Basin snowpack and precipitation above Lake Powell. The water year 2017 precipitation is currently 109 percent of average.

Rocky Mountain Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			138.60	177.30	3.85	4.66	93,769	98,500	82,866	90,186	56,146	\$1,918,912	\$1,768,512	\$1,371,457
Nov 16			120.30	145.10	3.85	4.72	57,639	59,762	78,718	56,073	88,908	\$3,104,240	\$3,033,840	\$2,226,606
Dec 16	268.10	160.50	98.80	106.40	3.82	4.69	91,252	93,448	101,061	102,574	73,018	\$2,601,536	\$2,534,336	\$2,020,033
Jan 17	417.90	452.40	96.60	114.70	3.79	4.67	108,118	110,236	111,274	127,252	33,352	\$2,062,592	\$1,995,392	\$1,205,222
Feb 17	849.60	1,170.80	96.30	173.50	3.79	4.79	97,795	99,700	99,585	129,713	4,671	\$1,254,624	\$1,193,824	\$143,568
Mar 17	1,105.20	1,524.90	159.00	293.50	4.13	4.70	124,712	136,697	118,178	191,665	0	\$785,728	\$401,728	\$0
Apr 17	1,342.80	1,552.90	250.20	462.40	3.85	4.50	135,854	164,886	138,114	246,662	4,244	\$1,295,328	\$367,328	\$55,309
May 17	1,231.50	1,441.80	696.50	1,120.10	4.19	4.41	217,579	252,286	197,941	245,430	8,104	\$0	\$0	\$116,918
Jun 17	304.70	579.90	1,124.80	2,054.20	4.76	5.78	231,289	311,890	244,139	300,898	2,747	\$0	\$0	\$68,880
Jul 17														
Aug 17														
Sep 17														
Total							1,158,006	1,327,404	1,171,877	1,490,453	271,190	\$13,022,960	\$11,294,960	\$7,207,993

Actual generation as a percentage of average: 127.2%

Cost per MWh: \$26.58

Lake/Reservoir Content

The overall reservoir content at the end of July was 121 percent of average.

Weather and Other Conditions

The Loveland Area Projects (LAP) area remained drought free during July, but the trend was for drier conditions in some areas. In August, the National Weather Service forecast indicated August through October temperatures are more likely to be above normal, and the precipitation is just as likely to be above as below normal in Wyoming and eastern Colorado while more likely to be above normal west of the Continental Divide in Colorado.

Note: July and August hydro data and related information are not currently available for WAPA's Rocky Mountain Region (RMR). This page will be updated and a final hydro conditions report will be distributed when the data is available.

Sierra Nevada Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
Oct 16			336.00	561.00	5.26	4.66	121,000	146,000	163,000	100,955	56,052	\$1,179,286	\$1,179,286	\$1,536,064
Nov 16	4.76	3.00	399.00	706.00	5.21	4.99	104,000	34,000	104,000	42,525	57,080	\$1,139,734	\$1,139,734	\$1,582,259
Dec 16	9.09	6.00	1,046.00	1,621.00	5.72	5.63	79,000	19,000	143,000	115,177	54,748	\$1,179,286	\$1,179,286	\$1,280,611
Jan 17	27.78	30.00	1,167.00	3,436.00	6.13	6.43	78,000	293,000	163,000	385,479	32,534	\$499,500	\$499,500	\$643,343
Feb 17	27.78	45.00	1,339.00	5,725.00	6.71	7.68	139,000	300,000	195,000	439,436	19,673	\$479,520	\$479,520	\$579,856
Mar 17	28.22	46.00	1,553.00	2,574.00	7.46	8.61	290,000	330,000	207,000	399,223	26,567	\$539,460	\$539,460	\$642,682
Apr 17	25.77	42.00	1,380.00	2,758.00	7.88	9.29	431,000	426,000	288,000	426,215	20,089	\$499,500	\$499,500	\$555,974
May 17	27.87	17.00	1,303.00	2,259.00	7.91	9.66	526,000	516,000	442,000	617,375	11,820	\$519,480	\$519,480	\$582,074
Jun 17	0.00	2.00	804.00	1,320.00	7.49	9.51	537,000	522,000	440,000	469,577	31,382	\$519,480	\$519,480	\$845,693
Jul 17			451.00	623.00	6.71	8.98	539,000	564,000	524,000	438,703	40,530	\$499,500	\$499,500	\$899,558
Aug 17			350.00	452.00	6.05	8.34	445,000	515,000	402,000	420,428	42,722	\$539,460	\$539,460	\$708,381
Sep 17														
Total							3,289,000	3,665,000	3,071,000	3,855,094	393,198	\$7,594,206	\$7,594,206	\$9,856,494

Actual generation as a percentage of average: 125.5%

Cost per MWh: \$25.07

Lake/Reservoir Content

As of August 31, accumulated inflow for the water year was 171 percent of the 15-year average for Trinity, 184 percent for Shasta, 286 percent for Folsom, and 277 percent for New Melones. Reservoir storage as of the same date was 122 percent of the 15-year average for Trinity, 137 percent for Shasta, 149 percent for Folsom, and 154 percent for New Melones.

Weather and Other Conditions

As of August 31, cumulative precipitation of the Northern Sierra Eight Station Index was at 186 percent of average for the date. While there was no measurable precipitation in July, August had 0.06 inches. The May 1 forecast for the 50 percent exceedence case is the basis for the official year type declaration, which is "wet" for this water year.

Note: The Sierra Nevada Region's (SNR) average generation is based upon long-term modeling done for its "Green Book." SNR does not project purchase power expenses for dry conditions, and its most probable expenses are based upon term purchases of 35 to 65 percent of projected power needs, with the difference being left to day-ahead markets after project pumping and generation have been scheduled.

Upper Great Plains Region

	Snowpack (Inches in Snow Water Equivalent)		Lake/Reservoir Inflow (Thousand Acre-Feet)		Lake/Reservoir Content (Million Acre-Feet)		Generation (MWh)				Purchase Power (MWh)	Purchase Power Expenses (Dollars)		
	Median	Actual	Average	Actual	Average	Actual	Projected Dry	Most Probable	Average	Actual	Actual	Projected Dry	Most Probable	Actual
	Oct 16	1.20	0.40	8,092.00	5,601.83	55.94	58.67	569,606	558,761	868,863	561,879	146,071	\$4,699,887	\$4,916,797
Nov 16	3.80	1.40	7,411.00	5,690.87	54.83	58.32	644,937	573,277	826,179	581,212	160,538	\$4,375,658	\$5,808,858	\$3,233,177
Dec 16	7.10	5.60	6,468.00	5,454.05	54.23	57.60	633,647	636,181	648,173	636,090	228,602	\$6,822,627	\$6,771,937	\$5,588,539
Jan 17	10.30	7.80	6,659.00	5,727.89	54.03	57.50	666,182	657,318	745,987	632,199	273,824	\$4,853,151	\$5,023,264	\$5,901,618
Feb 17	12.90	12.70	6,300.00	5,706.99	54.34	58.54	568,000	569,823	646,404	503,036	358,448	\$4,759,045	\$4,738,596	\$5,997,559
Mar 17	15.80	14.80	8,219.00	7,544.34	56.08	59.94	679,733	632,412	718,685	648,481	196,697	\$2,140,470	\$2,713,970	\$3,499,958
Apr 17	15.10	16.00	8,052.00	9,087.27	56.95	60.50	1,022,700	1,023,820	778,900	894,351	25,646	\$1,032,790	\$1,044,144	\$274,598
May 17	6.60	6.50	9,692.00	10,815.22	58.22	61.97	1,114,646	1,104,515	794,995	983,787	10,759	\$308,233	\$329,579	\$57,898
Jun 17	0.60	0.20	11,809.00	12,545.36	60.45	63.67	1,194,980	1,169,724	814,641	1,137,220	1,120	\$54,138	\$65,770	\$20,263
Jul 17			10,764.00	10,522.78	60.42	63.24	1,192,301	1,222,587	920,579	1,158,064	2,924	\$2,367	\$995	\$96,343
Aug 17			9,775.00	9,460.01	58.83	62.04	1,154,495	1,153,358	947,063	1,130,901	*	\$62,490	\$64,611	*
Sep 17														
Total							9,441,225	9,301,775	8,710,469	8,867,220	1,404,629	\$29,110,856	\$31,478,522	\$28,084,067

Actual generation as a percentage of average: 101.8%

Cost per MWh: \$19.99

Lake/Reservoir Content

As of September 13, the active conservation pools for the Canyon Ferry and Yellowtail Dams were 82.9 percent and 98.1 percent full, respectively.

Weather and Other Conditions

The August runoff in the upper basin was 129 percent of normal. Runoff at Fort Peck was 78 percent of normal, with Oahe and Fort Randall well above normal due to 150 percent of average precipitation. Drought conditions are present in all states of the Missouri River Basin and over a majority of the upper Basin. In Montana, 90 percent of the state is impacted by drought, and 40 percent is impacted by Extreme (D3) and Exceptional (D4) Drought with the most severe conditions present over the northeastern quarter of the state. In North Dakota, 60 percent of the state is impacted by drought, and 22 percent is impacted by D3 and D4 Drought mostly in the western half. In South Dakota, 69 percent of the state is impacted by drought, and 6 percent is impacted by D3 and D4 Drought with the most severe conditions in north central South Dakota. Two units at Fort Randall remain out of service due to cable tray replacements.

Note: The Upper Great Plains Region reports its 50 percent share of generation from Yellowtail Dam, while RMR reports the snowpack, inflow, content, and remaining share of generation. Asterisks indicate that actual data is not available for the month.