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October 18, 2013

Dr. Robert Harrington, Director Inyo County Water Department P.O. Box 337 Independence, CA 93526-0337

Dear Dr. Harrington:

Subject: Los Angeles Department of Water and Power's (LADWP) Six Month Owens Valley Operations Plan – October 1, 2013, through March 31, 2014

This operations plan is being provided to you as Inyo County's senior Technical Group member and in conformance with Section V.D of the *Agreement between the County of Inyo and the City of Los Angeles and its Department of Water and Power on a Long Term Groundwater Management Plan for Owens Valley and Inyo County* (Water Agreement). The operations plan describes LADWP's proposed operations in the Owens Valley during the six-month period from October 1, 2013, through March 31, 2014. Elements of the proposed operations plan include the 2013 Eastern Sierra runoff forecast, soil/vegetation water balance calculations for October 2013, planned Owens Valley groundwater pumping for the second six months of the 2013-14 runoff year, historic (1981-82) and projected (2013-14) water uses within the Owens Valley, and planned Los Angeles Aqueduct operations for the 2013-14 runoff year. A summary of the enclosed plan is as follows:

Forecast Owens River Basin snowpack runoff during the 2013-14 runoff year is unrevised from the April 1, 2013, forecast and remains at 220,900 acre-feet or about 54 percent of average runoff (Table 1).

The following wellfield monitoring sites are in "ON" status pursuant to Water Agreement Section V and Green Book Section I.B: L2, BP4, TA5, TS2, SS1, and BG2. Water balance calculations for the wellfield monitoring sites are summarized in Table 2. No wellfield monitoring site that was in "ON" status on April 1, 2013, has changed to "OFF" status. No wellfield monitoring site that was in "OFF" status on April 1, 2013, has changed to "ON" status.

Total planned Owens Valley pumping between October 1, 2013, and March 31, 2014, is 25,380 acre-feet. Projected groundwater production by wellfield for the second six months of the 2013-14 runoff year is included in Table 6.

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Currently projected water resources diverted for Owens Valley uses during the 2013-14 runoff year is 163,773 acre-feet. Owens Valley water uses include irrigation, stockwater, enhancement/mitigation projects, the Lower Owens River Project, recreation, and wildlife. A summary of Owens Valley water uses is included in Table 7.

Projected aqueduct delivery to the City of Los Angeles (City) during the 2013-14 runoff year is 74,797 acre-feet. Currently projected monthly reservoir storage amounts and Los Angeles Aqueduct deliveries to the City are included in Table 9.

Please review LADWP's proposed plan of operations and provide any comments to LADWP within ten days of receipt. Please contact Mr. Robert Prendergast of my staff if you have any questions regarding the plan. Mr. Prendergast may be reached at (760) 873-0209.

Sincerely,

James G. Yannotta Manager of Aqueduct

Enclosures

c: Mr. Robert Prendergast

C. Jamotta

## 2013 EASTERN SIERRA RUNOFF FORECAST April 1, 2013

## APRIL THROUGH SEPTEMBER RUNOFF

		ROBABLE LUE	REASONABLE MAXIMUM	REASONABLE MINIMUM	LONG-TERM MEAN (1961 - 2010)
	(Acre-feet)	(% of Avg.)	(% of Avg.)	(% of Avg.)	(Acre-feet)
MONO BASIN:	64,600	62%	75%	50%	103,522
OWENS RIVER BASIN	140,500	46%	59%	33%	303,903

## **APRIL THROUGH MARCH RUNOFF**

×		ROBABLE LUE	REASONABLE MAXIMUM	REASONABLE MINIMUM	LONG-TERM MEAN (1961 - 2010)
	(Acre-feet)	(% of Avg.)	(% of Avg.)	(% of Avg.)	(Acre-feet)
MONO BASIN:	80,600	66%	79%	53%	122,333
OWENS RIVER BASIN	220,900	54%	66%	41%	412,284

NOTE - Owens River Basin Includes Long, Round and Owens Valleys (not incl Laws Area)

MOST PROBABLE - That runoff which is expected if median precipitation occurs after the forecast date.

REASONABLE MAXIMUM - That runoff which is expected to occur if precipitation subsequent to the forecast is equal to the amount which is exceeded on the average once in 10 years.

REASONABLE MINIMUM - That runoff which is expected to occur if precipitation subsequent to the forecast is equal to the amount which is exceeded on the average 9 out of 10 years.

2012 Forecast vib forecast 45/2012 8:27 AM

Table 2 - Soil/Vegetation Water Balance Calculations for October 2013 According to Section III of the Green Book

Site	July 1, 2013 Status	October 2013 Veg. Water Req./Soil AWC for Turn-On (cm)	October 2013 Soil AWC (cm)	+ 40 Percent Annual ppt. (cm)	Oct. 1, 2013 Status	Soil AWC Req. for Well Turn-On (cm)
L1	OFF	2.9/15.6	1.4	NA	OFF	15.6, OFF 7-10
L2	ON	6.1/NA	13.6	13.6 + 6.3 = 19.9	ON	. NA
L3	OFF	5.6/25.2	7.8	NA	OFF	25.2, OFF 10-11
BP1	OFF	4.6/22.9	2.7	NA	OFF	22.9†, OFF 10-97
BP2	OFF	8.6/28.4	1.1	NA	OFF	28.4, OFF 7-98
BP3	OFF	7.3/10.6	2.9	NA	OFF	10.6. OFF 7-12
BP4	ON	10.1/NA	43.2	43.2 + 6.6 = 49.8	ON	NA
TA3	OFF	12.9/26.0	6.8	NA	OFF	26.0, OFF 10-11
TA4	OFF	7.4/23.3	14	NA	OFF	23.3, OFF 10-11
TA5	ON	1.9/NA	20.8	20.8 + 6.6 = 27.4	ON	NA
TA6	OFF	7.7/17.6	9.7	NA	OFF	17.6, OFF 10-11
TS1	OFF	5.3/20.4	1.8	NA	OFF	20.4†, OFF 10-96
TS2	ON	4.9/NA	8.0	8.0 + 5.8 = 13.8	ON	NA
TS3	OFF	16.0/32.9	21.7	NA	OFF	32.9, OFF 10-12
TS4	OFF	37.0/55.9	29.2	NA	OFF	55.9, OFF 10-11
101	OFF	48.6/42.2	21	NA	OFF	42.2, OFF 10-98
102	OFF	4.0/18.9	4.6	NA	OFF	18.9, OFF 7-11
SS1	ON	12.4/NA	19.3	19.3 + 5.2 = 30.8	ON	NA
SS2	OFF	5.4/25.6	4.1	NA	OFF	25.6, OFF 7-11
SS3	OFF	10.6/33.8	20.7	NA	OFF	33.8, OFF 10-11
SS4	OFF	4.9/15.9	4.2	NA	OFF	15.9, OFF 7-05
BG2	ON	3.7/NA	25.3	25.3 + 5.3 = 30.6	ON	

H - These values of soil water required for well turn-on were derived using calculations based on percent cover that were routinely performed in the past. The values have not been updated to conform to the Greenbook equations in Section III.D.2, p. 57-59.

Table 6 - Planned Owens Valley Pumping for the Second Six Months of 2013-14 Runoff Year (acre-feet)

Month	Laws	Bishop	Big Pine	Taboose- Aberdeen	Thibaut- Sawmill	Indep Oak	Symmes- Shepherd	Bairs- Georges	Lone Pine	TOTAL
October	25	465	2,000	245	1,050	500	0	145	50	4,480
November	25	465	1,700	245	1,050	500	0	145	50	4,180
December	25	465	1,700	245	1,050	500	0	145	50	4,180
January	25	465	1,700	245	1,050	500	0	145	50	4,180
February	25	465	1,700	245	1,050	500	0	145	50	4,180
March	25	465	1,700	245	1,050	500	0	145	50	4,180
TOTAL	150	2,790	10,500	1,470	6,300	3,000	0	870	300	25,380

Table 7 - Historic (1981-82) and Projected (2013-14) LADWP Supplied Water Uses within the Owens Valley (acre-feet)

	Ар	ril	Ma	av I	Jui	ne l	Ju	lv I	Aug	uet	Septe	mher		TAL -Sep		
Use	1981	2013	1981	2013	1981	2013	1981	2013	1981	2013	1981	2013	1981	2013		
Irrigation	3,980	5,395	7,958	8,161	10,373	9,090	9,476	8,391	8,295	8,134	6,321	6,000	46,403	45,171		
Stockwater	1,141	975	1,319	1,093	1,244	1,118	1,245	1,044	1,219	1,022	1,319	900	7,487	6,152		
E/M	0	1,442	0	1,403	0	1,605	0	1,566	0	1,122	0	1,200	0	8,338		
LORP	0	722	0	1,477	0	4,266	0	4,227	0	2,612	0	2,500	0	15,804		
Owens Lake	0	10,005	0	9,440	0	5,960	0	1,072	0	3,571	0	8,479	0	38,527		
Rec. & Wildlife	379	567	804	715	1,160	396	1,455	1,009	1,381	1,064	1,406	1,250	6,585	5,001		
		The second second		11111		NAME OF THE OWNER,		50 10037 5434				and the state of		HISCHIOCALNI		
Total	5,500	19,106	10,081	22,289	12,777	22,435	12,176	17,309	10,895	17,525	9,046	20,329	60,475	118,993		
Total	5,500	19,106	10,081	22,289	12,777	22,435	12,176	17,309	10,895	17,525	9,046	20,329	•	118,993   TAL	TO	ΓAL
Total	5,500 Octo		10,081 Nove		12,777 Decei		12,176 Janu		10,895 Febr		9,046 Mar		TO <sup>-</sup>			ΓAL ·Mar
<i>Total</i> Use													TO <sup>-</sup>	ΓAL		Mar
Use	Octo	ber	Nove	mber	Decei	mber	Janu	ıary	Febr	uary	Mar	ch	TO <sup>-</sup> Oct-	TAL -Mar	Apr-	Mar 13-14
Use Irrigation	Octo	ber 2013	Nove	mber 2013	Decei	mber 2013	Janu 1982	ary 2014	Febr	uary 2014	Mar 1982	ch 2014	TO <sup>-</sup> Oct- 81-82	TAL -Mar 13-14	Apr- 81-82	Mar 13-14 45,4
Use Irrigation Stockwater	Octo	ober 2013 200	Nove 1981	mber 2013	<b>Dece</b> 1981	mber 2013	Janu 1982	<b>1ary</b> <b>2014</b>	Febr	uary 2014	Mar 1982	ch 2014	TO <sup>-</sup> Oct- 81-82	TAL -Mar 13-14 300	Apr- 81-82 46,680	Mar 13-14 45,47 11,18
Use Irrigation Stockwater E / M	Octo 1981 263 1,065	2013 200 900	Nove 1981 0 1,045	mber 2013 0 800	Decei 1981 0 1,050	mber 2013 0 800	Janu 1982 0 1,007	2014 0 800	Febr 1982 0 1,010	uary 2014 0 800	Mar 1982 14 1,098	<b>2014</b> 100 900	TO Oct- 81-82 277 6,275	TAL -Mar 13-14 300 5,000	Apr- 81-82 46,680 13,762	45,4 11,15 9,1
	Octo 1981 263 1,065	2013 200 900 300	Nove 1981 0 1,045	mber 2013 0 800 100	Decei 1981 0 1,050	mber 2013 0 800 100	Janu 1982 0 1,007	2014 0 800 100	February 1982 0 1,010 0	uary 2014 0 800 100	Mar 1982 14 1,098	2014 100 900 100	TO <sup>-</sup> Oct- 81-82 277 6,275	TAL -Mar 13-14 300 5,000 800	Apr- 81-82 46,680 13,762	
Use Irrigation Stockwater E / M LORP	Octo 1981 263 1,065 0	200 900 300 1,000	Nove 1981 0 1,045 0	mber 2013 0 800 100 500	Decei 1981 0 1,050 0	mber 2013 0 800 100 700	Janu 1982 0 1,007 0	0 800 100 500	February 1982 0 1,010 0 0	0 800 100 400	Mar 1982 14 1,098 0	2014 100 900 100 900	TO Oct- 81-82 277 6,275 0	TAL -Mar 13-14 300 5,000 800 4,000	Apr- 81-82 46,680 13,762 0	45,41 13-14 45,41 11,18 9,13 19,80

Notes: 1) Rec. & Wildlife uses include Lower Owens River Project (LORP) off-river lake and pond water use. 2) Uses for April through September were measured uses (not projected).

Table 9 - Planned Los Angeles Aqueduct Operations for 2013-14 Runoff Year

Month	Owens Valley-Bouquet Reservoir Storage 1 <sup>st</sup> of month Storage (acre-feet)	Aqueduct Delivery to Los Angeles (acre-feet)
April	144,516	1,196
May	145,682	1,230
June	144,130	4,272
July	140,054	8,275
August	136,912	9,673
September	129,467	11,248
October	115,884	4,866
November	116,223	5,276
December	116,352	3,967
January	130,667	3,769
February	144,086	8,727
March	152,417	12,298
TOTAL		74,797