ROOSEVELT WATER CONSERVATION DISTRICT

Post Office Box 100
Higley, Arizona 85236

District Headquarters
2344 South Higley Road
Gilbert, Arizona 85295

Water Department
(480) 988-9581
Administration
(480) 988-9586
FAX
(480) 988-9589
www.rwcd.net

September 14, 2012

Mr. Joseph W. Mulholland, P.E.
Executive Director
Arizona Power Authority
1810 W. Adams St.
Phoenix, AZ 85007

Re: Normalize Actual Load Data to Recognize the Use of In-Lieu Water Resources

Dear Joe:

The "Draft APA Post-2017 Hoover Allocation Alternatives" document recognizes that it is appropriate to consider "normalizing" actual load data for Hoover contractors that have used In-Lieu Water resources. This letter provides a detailed example of the method that we propose to use to "normalize" our actual load data to recognize our temporary use of CAP, NCS, and Municipal Effluent In-Lieu Water, which In-Lieu Water was used in accordance with our approved Integrated Resource Plan.

We believe that we should be permitted to normalize our actual load data to recognize our use of In-Lieu Water; and, that our normalized load data should be used in place of our actual load data in all methods that may be used by the APA to allocate Post-2017 Hoover Power.

We have developed a method to normalize our load data that is accurate; and, that is consistent with our actual water scheduling practices. We believe that the results of our normalized load data are just as accurate as the actual load data metered by SRP.

We have attached a sample spreadsheet showing how we propose to normalize our actual load data. We prepared the spreadsheet for June 21, 2012 to normalize our actual load data to recognize the In-Lieu Water that we used that day.

1) We identified the total water production in acre-feet (AF) for the peak day in June 2012, which was June 21, 2012. The total water production was 473.11 AF.
2) We next subtracted the San Tan Industrial Effluent volume of 10.16 AF to arrive at total net water production of 462.95 AF.
3) We then converted the total net water production of 462.95 AF from acre-feet into Arizona miners' inches (MI) using the formula: [AF divided by 1.9835 AF/cfs and

then multiplied by 40 Ml/cfs]. This calculation resulted in total net water production of 9,336 Ml.

4) We then scheduled the amount of our SRP Salt/Verde surface water that could reasonably have been expected to be delivered through our Main Pumping Plant on June 21st.
5) We next dispatched the wells that would have been operated to satisfy the remaining total net water production requirements. We know the order in which we schedule our wells to meet daily water demands. For example, most of our highest producing and efficient wells are located at the north-end (top) of our canal system. Also, the use of the north-most wells can serve the largest geographic area of the District's total water system.
6) We know the kilowatt demand for each of our electrical loads from SRP's load research system. Therefore, we added up the kilowatt demands for those wells that would have been running on June 21st. We also determined the kilowatt demand that would have resulted from the operation of our Main Pumping Plant on June 21st. The sum of the Main Pumping Plant demand; our irrigation wells demand; and, lift and sump pumps demands resulted in the total kilowatt demand of the District for June 21, 2012.
7) We used the June 2012 SRP wheeling loss factor of 5.18% from our SRP power bill.
8) We increased the total kilowatt demand calculated in step 6 to reflect the SRP wheeling loss factor from step 7. The result is the District's total kilowatt demand reflected at the District's Hoover Delivery Point.
9) The normalized energy consumed for June 21st was calculated by multiplying the kilowatt demand calculated in Step 8 by 24 hours of operation on June 21st.
10) Our calculations resulted in a total demand and energy of **11,478.45 kW** and **275,482.89 kWh**, respectively, for June 21, 2012 reflected at the District's Hoover Delivery Point of Pinnacle Peak 230-kV Substation. Our normalized system peak demands are coincident demands by virtue of the method of their determination.

After you have reviewed the attachments, please let me know when you would be available to discuss our proposed "normalization" method. We want to learn if the APA will accept our method before we commence the detailed calculations for the required time period.

Thank you for your consideration of our method of "normalizing" our actual historical load data to appropriately recognize our use of In-Lieu Water.

Sincerely,

WCPetty

William C. Petty
Associate General Manager

Attachments
c: APA Commissioners

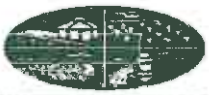
Roosevelt Water Conservation District

DAILY WATER REPORT FOR JUNE 2012

09/14/2012

Date	SRP Surface Water (AF)	Chandler In-Lieu NCS Water (AF)	ARM In-Lieu CAP Water (AF)	Gilbert In-Lieu CAP Water (AF)	USBR In-Lieu CAP Water (AF)	GRIC In-Lieu CAP Water (AF)	RWCD Ground Water (AF)	Subtotal Water Production (AF)	San Tan Industrial Effluent (AF)	Total Water Production (AF)
06/01/2012	0.03	-	75.60	140.00	118.00	-	-	333.63	11.05	344.68
06/02/2012	0.11	-	75.70	-	259.00	-	-	334.81	15.47	350.28
06/03/2012	0.10	-	75.29	-	259.00	-	-	334.39	11.05	345.44
06/04/2012	0.18	-	127.34	-	260.00	-	-	387.52	6.63	394.15
06/05/2012	0.19	-	141.07	-	260.00	-	-	401.26	4.42	405.68
06/06/2012	0.19	-	139.01	-	260.00	-	-	399.20	4.42	403.62
06/07/2012	0.17	-	124.47	-	260.00	-	-	384.64	6.63	391.27
06/08/2012	0.16	-	113.59	-	259.00	-	-	372.75	11.05	383.80
06/09/2012	0.16	-	113.59	-	257.00	-	-	370.75	11.05	381.80
06/10/2012	0.05	-	40.71	-	259.00	-	1.49	301.25	11.05	312.30
06/11/2012	0.05	-	40.45	-	260.00	-	1.12	301.62	8.84	310.46
06/12/2012	0.06	-	41.26	-	259.00	-	-	300.32	6.63	306.95
06/13/2012	0.13	-	99.48	-	258.00	-	-	357.61	8.84	366.45
06/14/2012	0.17	-	116.90	-	258.00	-	-	375.07	13.26	388.33
06/15/2012	0.16	-	116.83	-	258.00	-	-	374.99	13.26	388.25
06/16/2012	0.08	-	61.86	-	257.00	-	-	318.94	11.05	329.99
06/17/2012	0.07	-	43.25	-	257.00	-	-	300.32	11.05	311.37
06/18/2012	0.16	-	115.14	-	182.00	-	-	297.30	11.05	308.35
06/19/2012	0.24	-	181.90	-	161.00	-	-	343.14	8.84	351.98
06/20/2012	0.38	-	275.09	-	160.00	-	-	435.47	8.84	444.31
06/21/2012	0.41	-	301.54	-	161.00	-	-	462.95	10.16	473.11
06/22/2012	0.41	-	299.24	-	162.00	-	-	461.65	11.05	472.70
06/23/2012	0.29	-	213.23	-	161.00	-	1.12	375.64	9.72	385.36
06/24/2012	0.28	-	213.32	-	155.00	-	1.30	369.90	9.72	379.62
06/25/2012	0.19	-	139.51	-	158.00	-	-	297.70	11.05	308.75
06/26/2012	0.10	-	63.00	-	158.00	-	-	221.10	12.15	233.25
06/27/2012	0.05	-	41.94	-	160.00	-	-	201.99	15.47	217.46
06/28/2012	0.05	-	42.00	-	161.00	-	-	203.05	18.87	221.92
06/29/2012	0.07	-	42.50	-	160.00	-	-	202.57	24.31	226.88
06/30/2012	0.11	-	80.30	-	160.00	-	-	240.41	24.31	264.72
Total	4.80	-	3,555.11	140.00	6,357.00	-	5.03	10,061.94	341.29	10,403.23

NORMALIZED LOAD DATA FOR:	JUNE 21, 2012	SAMPLE
	Total Monthly Peak Day Water Production (AF)	473.11
	Less: San Tan Industrial Effluent (AF)	(10.16)
	Total Net Water Production (AF)	462.95
	Total Net Water Production (MI) [AF / 1.9835 * 40]	9,336



ROOSEVELT WATER CONSERVATION DISTRICT

09/14/2012

		Flow Rates (MI)	Demands (kW)		Flow Rates (MI)	Demands (kW)	Energy (kWh)	Production (AF)
	Main Pumping Plant	1,600	276.48		0	0.00	0.00	0.00
	Main Pumping Plant	2,800	433.44	x	2,800	433.44	10,402.56	138.85
	Total M.P.P.	4,400	709.92		2,800	433.44	10,402.56	138.85

Dispatch Sequence	RWCD Well Location	Flow Rates (MI)	Demands (kW)		Flow Rates (MI)	Demands (kW)	Energy (kWh)	Production (AF)
5	1/4 - 1 1/2W	270	333.41	x	270	333.41	8,001.84	13.39
6	1/4 - 1 3/4W	240	349.39	x	240	349.39	8,385.36	11.90
7	3/8 - 1 3/4W	235	343.32	x	235	343.32	8,239.68	11.65
8	1/2 - 1 3/4W	220	342.84	x	220	342.84	8,228.16	10.91
9	3/4 - 1 1/2W	255	333.24	x	255	333.24	7,997.76	12.64
10	1 - 1 1/2W	220	384.91	x	220	384.91	9,237.84	10.91
11	1 1/2 - 1 3/8W	270	411.79	x	270	411.79	9,882.96	13.39
12	2 - 1 1/4W	225	336.48	x	225	336.48	8,075.52	11.16
13	2 1/2 - 1 1/8W	190	369.00	x	190	369.00	8,856.00	9.42
14	3 - 3/4W	255	394.56	x	255	394.56	9,469.44	12.64
15	3 - 1 1/4W	180	330.73	x	180	330.73	7,937.52	8.93
16	3 1/4 - 5/8W	225	365.28	x	225	365.28	8,766.72	11.16
17	3 1/2 - 1/2W	160	248.76	x	160	248.76	5,970.24	7.93
18	3 3/4 - 1/2W	165	357.50	x	165	357.50	8,580.00	8.18
19	4 - 1/4W	120	224.81	x	120	224.81	5,395.44	5.95
20	4 1/2 - 0	210	322.80	x	210	322.80	7,747.20	10.41
21	5 - 1/4E	210	314.21	x	210	314.21	7,541.04	10.41
22	5 1/4 - 1/4E	239	328.87	x	239	328.87	7,892.88	11.85
24	5 3/4 - 5/8E	190	311.18	x	190	311.18	7,468.32	9.42
25	6 - 3/4E	190	275.09	x	190	275.09	6,602.16	9.42
27	6 1/8 - 7/8E	250	368.95	x	250	368.95	8,854.80	12.40
28	6 1/2 - 1E	235	382.80	x	235	382.80	9,187.20	11.65
30	7 - 1 1/2E	210	325.27	x	210	325.27	7,806.48	10.41
31	7 3/8 - 1 3/4E	175	331.25	x	175	331.25	7,950.00	8.68
32	7 1/2 - 1 1/2E	231	289.78	x	231	289.78	6,954.72	11.45
33	7 3/4 - 1 3/4E	180	211.25	x	180	211.25	5,070.00	8.93
34	8 - 1E	210	362.16	x	210	362.16	8,691.84	10.41
35	8 1/2 - 2 1/4E	130	215.47	x	130	215.47	5,171.28	6.45
37	9 - 2 1/4E	135	214.06	x	135	214.06	5,137.44	6.69
40	11 - 2 1/4E	120	116.43	x	120	116.43	2,794.32	5.95
41	11 3/4 - 2E	150	234.17	x	150	234.17	5,620.08	7.44
53	14 1/2 - 0	135	199.98	x	135	199.98	4,799.52	6.69
57	15 1/2 - 1/2W	150	273.82	x	150	273.82	6,571.68	7.44
66	17 1/2 - 1W	143	249.60		0	0.00	0.00	0.00
47	13 1/4 - 3W	195	219.74		0	0.00	0.00	0.00
	Total Wells	6,918	10,672.90		6,580	10,203.56	244,885.44	326.26
	15 - Extension	Lift #1	47.42	x		47.42	1,138.08	
	16 - Extension	Lift #2	63.82	x		63.82	1,531.68	
	16 1/2 - 4 1/8W	Lake #2	38.85	x		38.85	932.40	
	17 1/2 - 4W	Lake #3	96.78	x		96.78	2,322.72	
	Total Net Water Production (MI)				9,380			
	Over (-) or Under (+) Target Water Production (MI)				(44)			
	Total Load at Load			kW=>		10,883.87	261,212.88	<=kWh
	SRP Wheeling Loss Factor (%)					5.18%	5.18%	
	Total Load at P.P. Substation			kW Demand=>		11,478.45	275,482.89	<=kWh Energy