

**Power & Water Resources Pooling
Authority**

Regular Meeting of the Board of Directors

**9:00 A.M.
Wednesday, April 5, 2023**

Power and Water Resources Pooling Authority

NOTICE OF REGULAR MEETING AND AGENDA

Notice is hereby given that a Regular Meeting of the Board of Directors of the Power and Water Resources Pooling Authority (PWRPA) will be held on **April 5, 2023, at 9:00 a.m., at the Banta Carbona Irrigation District, 3514 W. Lehman Road, Tracy, CA 95304**, by simultaneous teleconference at the following locations:

Byron Bethany Irrigation District
7995 Bruns Rd, Byron, CA 94514

Glenn Colusa Irrigation District
344 E. Laurel St., Willows, CA 95988

James Irrigation District
8749 Ninth Street, San Joaquin, CA 93660

Lower Tule River Irrigation District
357 E. Olive Ave./Ave. 152, Tipton, CA 93272

Princeton-Cordora-Glenn ID/ Provident ID
252 Commercial Street, Princeton, CA 95970

Cawelo Water District
17207 Industrial Farm Rd., Bakersfield, CA

Reclamation District 108
975 Wilson Bend Road, Grimes, CA 95950

Santa Clara Valley Water District
5750 Almaden Expressway, San Jose, CA 95118

Sonoma County Water Agency
404 Aviation Blvd., Santa Rosa, CA 95403

Westlands Water District
3130 North Fresno St., Fresno, CA 93703

Accessible Public Meetings - PWRPA shall resolve requests for reasonable modification or accommodation from individuals with disabilities, consistent with the Americans with Disabilities Act. Requests should be sent as soon as practicable via email to the attention of: ADA Request pep@cameron-daniel.com

Regular Agenda (all items below may include possible action, times are approximations)

1	Chair	Roll Call of all Directors participating
2	Chair	Matters Subsequent to Posting the Agenda
3	Chair	Public Comment – During Agenda Item 3, any member of the public may address the Board concerning any matter on the agenda.
4	Chair	Stakeholder Appointing Body (Irrigation Districts only) – Consider and possibly approve 1 representative as follows: Zone 7 – Appoint James Carney as Alternate Director.
5	Chair 2 Min	Consent Agenda A. Minutes of the Regular Board Meeting held on February 1, 2023. B. Request to terminate 4 Points of Delivery: WWD
6	TR GM 10 Min	A. Treasurer's Report - Approval of Ordering Payments of Accounts and Claims; acceptance of the Treasurer's Report and other items related to Treasurer's duties.
7	GM OM 45 Min	A. GM Report – Proposed RFPs; DOE Lab research for PWRPA; financial grant research; customer project assistance; WMP full update. B. OM Report – Ops highlights; power & RA forecast; wet hydrology discussion and Rate Review; RPS compliance update for CP 3 / CP 4. C. Consider and possibly approve Resolution 23-04-01 <i>Annual Update of Exhibits B & C to the Joint Powers Agreement and Cap & Trade Allocations</i> . D. Consider and possibly approve Resolution 23-04-02 <i>Aggregation Services Agreement Exhibit E Ver. 10</i> .

8	GM OM 30 Min	Special Projects A. Slate update / Whitney Point price. B. Lower Tule River Success Hydro PCC 1 agreement. C. Options for PWRPA-specific distributed solar and storage installations.
9	SC GC 10:30 AM 15 Min	Closed Session A. Conference with legal counsel – Existing litigation: PG&E WDT3 Rate Case, FERC ER22-619, ER20-2878 consolidated. Pursuant to Gov't Code section 54956.9(d)(1).
10	Chair	Board Matters – Other announcements.
	Chair	Adjournment - Next Regular Meeting is Wednesday , June 7, 2023, at 9:00 A.M.

Power & Water Resources Pooling Authority

Regular Agenda • Item 4

1. Board appointments for Zone 7.



100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

March 3, 2023

Zone 7 Water Agency
Board of Directors
100 North Canyons Pkwy.
Livermore, CA 94551

**Re: Power and Water Resources Authority Stakeholder
Appointing Body**

Dear Board:

The Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7) requests that the Appointing Body of the Power and Water Resources Pooling Authority at their April 2023 Board of Directors' meeting consider and take action on the appointment of the following to serve as the District's Director/Alternate on the Power and Water Resources Pooling Authority Board of Directors:

- Director – Sal Segura
- Alternate Director – James Carney

If you have any questions, or require further information, please contact me.

Sincerely,

DocuSigned by:
Valerie Pryor
FFAEC424A8EE4C9...

Valerie L. Pryor
General Manager

Cc: Bruce McLaughlin, GM (PWRPA)

Power & Water Resources Pooling Authority

Regular Agenda • Item 5

1. Minutes of the February 2, 2023, meeting.
2. Westland Termination Request of 4 POD.

Power and Water Resources Pooling Authority

Chair	<p>Directors and Alternates Present: Dave Nixon (AEWSD), Dave Weisenberger (BCID), Ed Pattison (BBID), Dave Ansolabehere (CWD), Louis Jarvis (GCID), Manny Amorelli (James), John Michael Domondon (LTRID), Gary Enos (PPID), Lance Boyd (PPID), Jordan Navarott (RD 108), John Brosnan (SCVWD), Dale Roberts (SCWA), Kiti Campbell (WWD), Sal Segura (Z7).</p> <p><i>Also participating: Bruce McLaughlin (GM), Cori Bradley (OM), Jennifer Montoya (WWD).</i></p>
Chair	Matters Subsequent to Posting the Agenda - None
Chair	Public Comment – None
Chair	<p>Stakeholder Appointing Body (Irrigation Districts only) – AEWSD presented an appointment request naming Dave Nixon as their Director, and Jeevan Mular as their Alternate Director.</p> <p>Ed Pattison moved, Manny Amorelli seconded, and participating Irrigation District Directors unanimously approved AEWSD's request.</p> <p><i>Voting Shares: 6 Yes / 0 No / 1 Absent (WSID)</i></p>
Chair	<p>Consent Agenda</p> <p>A. Minutes of the Regular Board Meeting held on December 7, 2022.</p> <p>B. P3 funds request – AEWSD FFPP Electrical Improvement Project Reimbursement #28.</p> <p>C. C&T funds request – AEWSD FFPP Electrical Improvement Project Reimbursement #29.</p> <p>Dave Ansolabehere moved, Ed Pattison seconded, and participating Directors unanimously approved the Consent Agenda.</p> <p><i>Voting Shares: 94.3% Yes / 0% No / 5.7% Absent (WSID)</i></p>
TR GM	<p>A. Treasurer's Report - Approval of Ordering Payments of Accounts and Claims; acceptance of the Treasurer's Report and other items related to Treasurer's duties.</p> <p>Mr. Nixon stated that there were no expenditures out of the ordinary in December 2022, and requested approval for payments in the total of \$143,000. He pointed out that the P3 and Cap & Trade reports in the packet reflect that the 2018 P3 monies were used up, however, there is still a significant amount of money available for district projects. He also stated that he is prepping for the audit of 2022 and has contracted with the accounting firm of Barbich Hooper King Dill Hoffman.</p> <p>Jordan Navarott moved, Gary Enos seconded, and participating Directors unanimously approved the Consent Agenda.</p> <p><i>Voting Shares: 90.2% Yes / 0% No / 9.8% Absent (PPID, WSID)</i></p>
GM OM	<p>A. OM Report – Ops highlights; power & RA forecast; wet hydrology discussion; Slate update; RPS compliance update for CP</p> <p>Ms. Bradley stated that her team has been working on Slate issues having to do with deemed delivered energy (DDE) and invoicing issues having to do with the batteries. She stated that PWRPA has also received payment from the Demand</p>

Side Grid Support (DSGS) program and Mr. Nixon will be sending checks to participating districts.

She stated that her team is in the beginning stages of data review for the pre-reconciliation and noted that December was an uncharacteristically expensive month due to gas constraints. This shortage was due to low storage on the West Coast and pipeline issues caused by the storms. The Lodi Energy Center profitability was impacted due to the gas prices.

Ms. Bradley stated that the CEC is offering workshops on upcoming changes to the DSGS program for the coming year. Two changes will be the simplification of the administrative process and the arithmetic used in the determination of netting for reduction. The CEC is also considering funding for a Distributed Electric Backup Assets (DEBA) program which would be emergency back-up specifically set aside as DSGS assets.

Her team has also have been monitoring the snowpack and reservoir levels. She stated that her team had adopted dry rates, however, they will consider revising rates down if the weather is still trending wet going forward. They will determine if another power purchase is necessary after watching precipitation levels over the next few months. She said her team has procurement of RPS in the works for the purchase of RECs for the 2021-2024 period. However, if this year ends up being wet, the purchase will be much less than previously anticipated.

Ms. Bradley discussed the cost and net benefit of PWRPA's resources. All resources performed well except for Lodi which had a net cost due to the high cost of gas. When asked how much Base Resource is expected to cost for 2023, Ms. Bradley stated that if purchased now, she would expect a price in the \$50-\$60 range. She noted that in a wet year she would anticipate a price closer to \$35 per MWh.

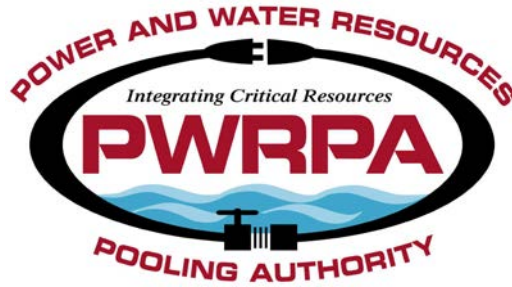
- B. GM Report – WAPA / USBR / CVPIA update; customer outreach; PWRPA-specific distributed solar/storage evaluations including presentation by White Pine Renewables.

Mr. McLaughlin stated that the Inflation Reduction Act (IRAct) has changed the landscape of the energy industry by offering tax credits and other incentives for the development of clean energy sources. The opportunities to assist the grid with the districts' DG assets have grown as well. He stated that White Pine Solar, which has worked with PWRPA on several projects, has been a brainstorming partner for ideas as to how the PWRPA districts can capitalize on these changes. Evan Riley, the CEO of White Pine joined the meeting and stated that they are investigating how to use in-District assets (i.e., onsite generation and/or storage) to lessen the cost impacts of the WDT and TAC whether through a PPA or the IRAct Direct Pay method. Then in-District assets can generate revenue in the form of RA and RECS that can be moved from one District member to another.

Mr. Riley noted that there are supply chain issues for solar projects which were actually sparked by the passage of the IRAct. He stated that projects that once took 9 months to complete have stretched to 3 years, so PWRPA Districts must plan ahead and compare the current cost to the likely cost 2-3 years out. He stated that due to rapid changes in solar technology, he does not recommend hedging by purchasing large solar components until there is an actual approved project. He said the cost of energy from solar and storage has been cheaper every year until now making long-term contracts less cost-effective as they once were. Therefore, he recommended a diverse portfolio including some contracted through CAISO, some behind-the-meter solar, etc.

Mr. Riley said the IRAct has allowed for Direct Pay which allows Districts to own a project with a 30%-50% discount. On the other hand, the IRAct has also

	<p>increased the project costs by increasing the cost of employee payroll. He stated that White Pine is collaborating with PWRPA staff to develop contractual models to create the equivalent of a PWRPA “net energy metering” arrangement whereby a District installs a system onsite to reduce the TAC and WDT costs without building a distribution backbone. Additionally, the District would only be responsible for purchasing the energy it consumes on-site and then the excess would be sold to PG&E or into the CAISO by White Pine. The PWRPA-White Pine collaboration is continuing to work on this.</p>
	Special Projects – None
SC GC	<p>Closed Session</p> <p>A. Conference with legal counsel – Existing litigation: PG&E WDT3 Rate Case, FERC ER22-619, ER20-2878 consolidated. Pursuant to Gov’t Code section 54956.9(d)(1).</p> <p>After returning to open session, Mr. McLaughlin reported that no action was taken during closed session.</p>
Chair	Board Matters – Other announcements.
Chair	Adjournment - Next Regular Meeting is Wednesday , April 5, 2023, at 9:00 A.M.



David Weisenberger
Chairman

March 10, 2023

David Ansolabehere
Vice Chairman

Via E-mail

Bruce McLaughlin
Secretary

David A. Nixon
Treasurer/Auditor

Mr. Arun K. Sethi. P.E.
Power Marketing Manager
Western Area Power Administration – Sierra Nevada Region
114 Parkshore Drive
Folsom, CA 95630-4416

Re: Request for Termination of Delivery Points – Westlands

Dear Mr. Sethi:

Member Agencies
Banta-Carbona I.D.
Byron-Bethany I.D.
Glenn-Colusa I.D.
James I.D.
Lower Tule River I.D.
Princeton-Codora-Glenn I.D.
Provident I.D.
West Stanislaus I.D.

The Power and Water Resources Pooling Authority (“PWRPA”) hereby requests that the Western Area Power Administration (“WAPA”) take the following necessary actions for the Westlands Water District, a PWRPA participant being served under WAPA’s service agreement for wholesale distribution service (Contract No. 04-SNR-00789) with Pacific Gas and Electric Company.


Remove wholesale distribution service to four (4) points of delivery, as described in Attachment 1. These loads are being transferred to a private entity.

Main Address
Banta-Carbona I.D.
P.O. Box 299
Tracy, CA 95378-0299
Tel: (209) 835-4670
Fax: (209) 835-7009

Please call Katarina Campbell at (559) 241-6226 or Cori Bradley (916) 405-8923 with any questions regarding this letter or the enclosed description of the delivery points.

Billing Address
PWRPA
P.O. Box 160
Arvin, CA 93203
Tel: (661) 854-5573
Fax: (661) 854-5213

Sincerely,


Cori Bradley
Operations Manager

cc: (via e-mail) Andrew Conner – Pacific Gas & Electric Company
Lane Lewis - Pacific Gas & Electric Company
Joshua Blake - Western Area Power Administration
Amy Bolden - Western Area Power Administration
Katarina Campbell - Westlands Water District
Jennifer Montoya - Westlands Water District
Bruce McLaughlin – PWRPA General Manager
Richard Bomer – Robertson-Bryan, Inc.

ATTACHMENT 1

Loads Subject to Service Request

March 2023

Item	Load Designation / Location* ¹	Maximum Motor Input (kW)	Nominal Delivery Voltage (v)	PWRPA Meter Number	PG&E Account Number	H.P.	Form Type	Facility Type	Latitude, Longitude
1	201630N02	149	440	C43913	WTF 520 3601	800	9S	WELL	36.15440, -120.28310
2	201630L01	149	440	C43964	BTF 03 04304	200	9S	WELL	36.15709, -120.27599
3	201630Q01	597	440	C43943	BTF 03 04511	150	9S	WELL	36.15184, -120.27171
4	201621R01	112	440	C44060	BTF 03 04404	200	9S	WELL	36.16768, -120.22935

Power & Water Resources Pooling Authority

Regular Agenda • Item 6.A

1. Treasurer's Report for Month Ending February 28, 2023.

POWER AND WATER RESOURCES POOLING AUTHORITY
CASH ACTIVITY AND TREASURER'S REPORT
MONTH ENDING FEBRUARY 28, 2023

CASH ACTIVITY:

BALANCE JANUARY 31, 2023 \$ 14,068,481.65

Increases:

Power Billing Invoices	\$ 2,659,359.90	
APX - Astoria Solar	109,851.93	
Whitney Point Solar	92,578.64	
CAISO	9,973.13	
TCB - Monthly Interest	1,360.62	
		2,873,124.22

Decreases:

AEWSD, WWD, SCVWD & Zone 7 CEC Energy Reduction Program	\$ 665,766.46	
CAISO	663,244.26	
WAPA O&M	517,926.00	
Cap & Trade - AEWSD	500,000.00	
WAPA - Base Resource Power January 2023	446,073.94	
NCPA - LEC February 2023	93,405.00	
Canadian Solar - Astoria Solar - January 2023	79,489.51	
Robertson-Bryan, Inc	63,423.46	
WAPA - Restoration January 2023	55,598.34	
Trimark - Cell, Meter Reading and TM	49,195.77	
PG&E - GCID, RD 108, SCVWD, Zone 7	36,802.70	
Cameron-Daniel, P.C.	36,714.50	
Aces - February 2023	25,000.00	
Arvin-Edison Water Storage District-Treasurer	5,405.48	
Holland & Knight - Legal Fees WDT3	4,469.01	
Michael McCarty Law Office, PLLC	3,000.00	
California Special District Association	1,881.00	
White Pines Solar Santa Clara WD - January 2023	1,466.69	
WREGIS	128.29	
Braun Blaising & Wynne	115.81	
Advanced Data Storage	44.50	
		3,249,150.72

BALANCE FEBRUARY 28, 2023 \$ 13,692,455.15

TREASURERS REPORT:

Operating Account:

Tri Counties Bank - General Operating Account #1031821 \$ 1,239,985.01

Local Agency Investment Fund (LAIF) - Account # 90-39007, yield 2.624%

Reserve Funds	\$ 3,500,096.64	
Cap & Trade Allowance Revenue	5,607,106.41	
Funds on Deposit	3,345,267.09	
Total LAIF		12,452,470.14

TOTAL PWRPA OPERATING FUNDS - FEBRUARY 28, 2023 \$ 13,692,455.15

Public Purpose Program (P-3) Tri Counties Bank Account #1031856 2,846,189.19

TOTAL FUNDS ON DEPOSIT WITH PWRPA FEBRUARY 28, 2023 \$ 16,538,644.34

CAISO Collateral Deposit Account 4,711,847.63

Western Area Power Administration - PWRPA Trust Account 1,000.00

TOTAL FUNDS - PWRPA & OTHER AGENCIES - FEBRUARY 28, 2023 \$ 21,251,491.97

Treasurer's Notes:

All investments are placed in accordance with PWRPA's Statement of Investment Policy and Guidelines. The Treasurer's Report is presented on a cash basis, effective yields are based on most recent published information. PWRPA has sufficient cash flow to meet its obligations next month.

Included in the Operating Funds above is the Board approved \$10,000,000 Reserve and Funds on Deposit from the following Participants:

Participant	Amount	Participant	Amount
Banta Carbona	\$ 22,476.04	Santa Clara	570,943.29
Cawelo	851,845.46	Sonoma	753,745.63
James	43,291.60	West Stan	282,746.34
Glen-Colusa ID	118,183.47	Westlands	573,595.81
RD108	42,539.61	West Side ID	57,887.44
		Zone 7	28,012.40
		Total	\$ 3,345,267.09

Power and Water Resources Pooling Authority
P-3 Remaining Funds By Year
as of February 28, 2023

Member Agency	2019 (a)	2020 (b)	2021 (c)	2022 (d)	2023 (e)	Total Available P-3 Funds (f)	Expenditures Total to Date (g)	February-23 (h)
Arvin-Edison WSD	\$0.00	\$0.00	\$0.00	\$287,039.39	\$8,223.19	\$295,262.58	\$5,237,215.16	\$270,000.00
Banta Carbona ID	0.00	28,418.11	49,489.90	65,427.64	3,386.07	146,721.72	404,708.20	0.00
Cawelo WD	49,395.58	37,702.35	33,863.10	49,929.32	1,850.22	172,740.57	802,026.78	0.00
Glenn-Colusa ID	0.00	23,300.11	32,132.77	16,991.19	1,142.88	73,566.95	348,863.79	0.00
James ID	8,070.92	10,457.51	15,685.23	23,010.13	711.67	57,935.46	122,899.04	0.00
Lower Tule ID	0.00	0.00	0.00	32,941.76	1,647.53	34,589.29	331,806.44	0.00
Princeton ID	7,595.11	9,341.59	8,671.24	5,519.48	247.42	31,374.84	146,848.67	0.00
Santa Clara Valley WD	0.00	0.00	16,885.21	95,595.06	8,067.90	120,548.17	737,636.35	0.00
Sonoma County WA	84,011.90	99,654.97	109,040.76	145,540.92	0.00	438,248.55	1,406,740.31	0.00
West Stanislaus ID	0.00	0.00	0.00	61,317.22	1,368.10	62,685.32	496,284.30	0.00
Westlands WD (North & South)	0.00	0.00	102,451.51	1,093,235.26	31,793.10	1,227,479.87	5,531,125.34	0.00
West Side ID	5,539.13	8,928.49	9,001.39	14,164.94	376.42	38,010.37	129,954.40	0.00
RD 108	24,126.08	17,667.76	16,362.76	12,723.85	658.00	71,538.45	185,239.74	0.00
Zone 7	0.00	9,318.79	25,493.12	37,692.11	2,875.97	75,379.99	71,833.02	0.00
Undesignated/Forfeited/Misc	107.06	0.00	0.00	0.00	0.00	107.06	35,133.04	0.00
Total	\$178,845.78	\$244,789.68	\$419,076.99	\$1,941,128.27	\$62,348.47	\$2,846,189.19	\$15,988,314.58	\$270,000.00
Exclusive access Date	08/04/23	08/03/24	08/02/25					

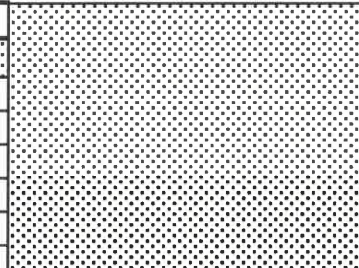
- (a) Three year exclusive access to these funds by agency begins on 8/05/20 and ends 08/04/23
- (b) Three year exclusive access to these funds by agency begins on 8/04/21 and ends 08/03/24
- (c) Three year exclusive access to these funds by agency begins on 8/03/22 and ends 08/02/25
- (d) 2022 P-3 collected through February 2023
- (e) 2023 P-3 collected through February 2023
- (f) Total available P-3 Funds
- (g) Total P-3 expenditures since inception of program
- (h) P-3 expenditures Febraury 2023

As of February 28, 2023

District	Resolution 13-04-05		Resolution 21-11-14				
	Allocation	Revenue	2021	2022	Total Revenue	Expenditures	Balance
Arvin	37.478%	\$3,421,905.95	\$208,146.78	\$831,876.00	\$4,461,928.73	\$3,921,905.95	\$540,022.78
Banta Carbona	3.115%	284,413.18	33,717.30	132,634.85	450,765.33	0.00	450,765.33
Cawelo	8.447%	771,248.19	32,760.55	115,918.41	919,927.15	205,787.50	714,139.65
Glenn-Colusa	2.849%	260,126.21	23,174.67	86,307.16	369,608.04	369,608.04	0.00
James	0.798%	72,860.90	5,746.23	23,359.47	101,966.60	0.00	101,966.60
Lower Tule	1.005%	91,760.91	20,089.23	76,569.91	188,420.05	0.00	188,420.05
Princeton	1.334%	121,800.06	7,684.74	25,968.74	155,453.54	47,503.21	107,950.33
RD 108	1.368%	124,904.41	10,013.47	35,342.29	170,260.17	170,260.17	0.00
Santa Clara	4.853%	443,100.21	45,211.76	169,068.24	657,380.21	443,100.21	214,280.00
Sonoma	7.787%	710,987.29	71,470.54	275,734.34	1,058,192.17	196,000.00	862,192.17
Byron Bethany II	0.708%	64,643.51	5,278.35	20,240.47	90,162.33	90,162.33	0.00
West Stan	3.228%	294,730.57	31,345.36	119,698.69	445,774.62	150,789.15	294,985.47
Westlands	27.030%	2,467,957.68	202,357.42	796,569.54	3,466,884.64	1,390,020.55	2,076,864.09
Zone 7	0.000%	0.00	9,503.60	46,016.34	55,519.94	0.00	55,519.94
Total	100.000%	\$9,130,439.07	\$706,500.00	\$2,755,304.45	\$12,592,243.52	\$ 6,985,137.11	\$ 5,607,106.41

(a) Transferred as a Payment to power cost to help meet RPS

(b) GCID \$65,084.88 in approved projects remaining revenue transferred as a payment to power cost to help meet RPS

District		Exhibit B Allocation	
		2021	2022
Arvin		29.4617%	30.1918%
Banta Carbona		4.7724%	4.8138%
Cawelo		4.6370%	4.2071%
Glenn-Colusa		3.2802%	3.1324%
James		0.8133%	0.8478%
Lower Tule		2.8435%	2.7790%
Princeton		1.0877%	0.9425%
RD 108		1.4173%	1.2827%
Santa Clara	6.3994%	6.1361%	
Sonoma	10.1161%	10.0074%	
Byron Bethany II	0.7471%	0.7346%	
West Stan	4.4367%	4.3443%	
Westlands	28.6422%	28.9104%	
Zone 7	1.3452%	1.6701%	
Total		100.0000%	

Sale of Freely Allocated Allowances

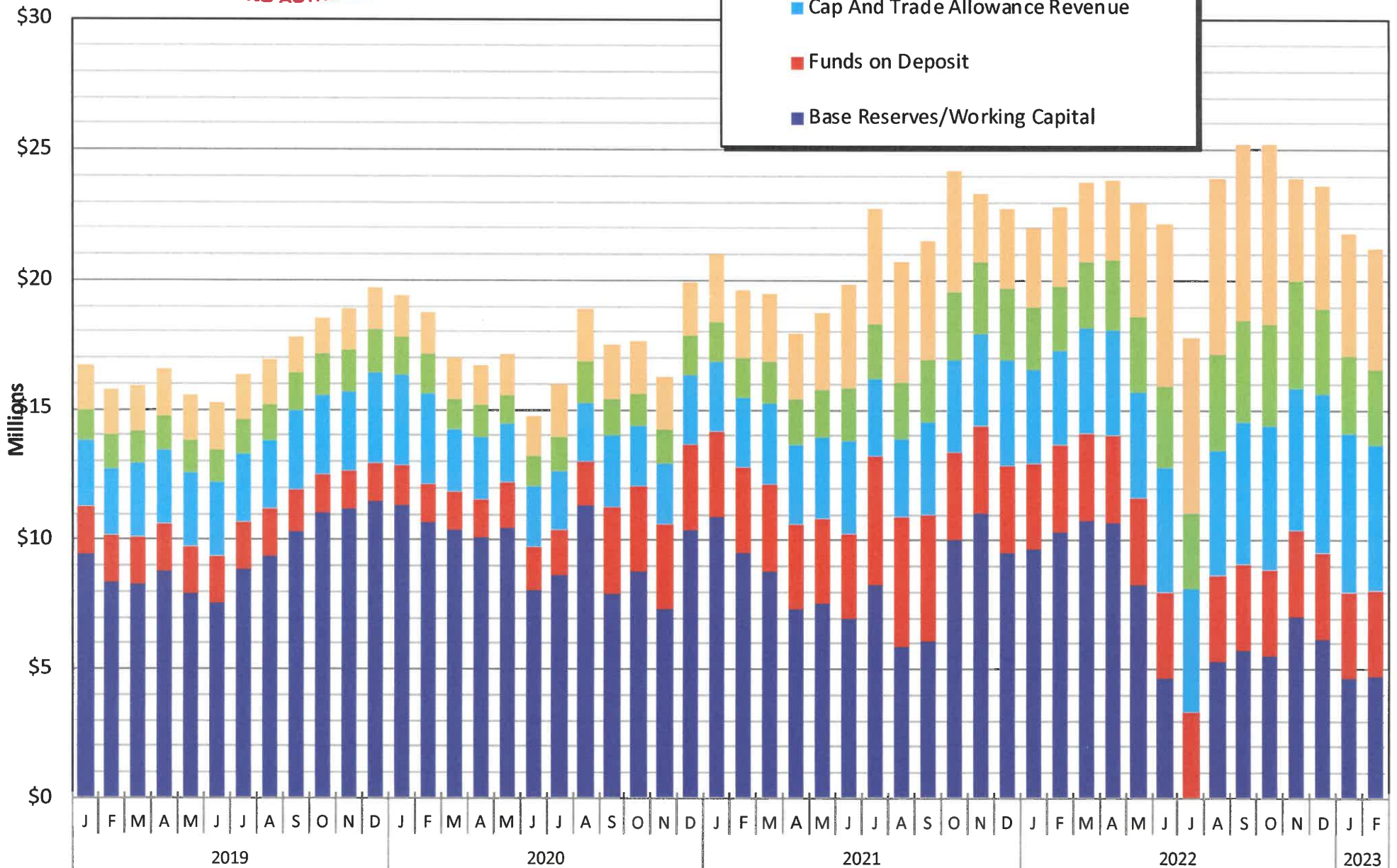
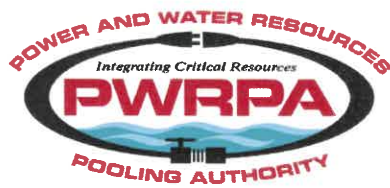
Year	March	June	September	December	Total
2012				\$ 216,935.00	\$ 216,935.00
2013	136,200.00			370,080.76	506,280.76
2014		379,500.00	184,000.00	192,511.00	756,011.00
2015	195,360.00	196,640.00	200,320.00	212,934.71	805,254.71
2016	212,158.18	89,530.09	249,317.05	296,303.48	847,308.80
2017	115,168.59	371,399.40	265,500.00	260,748.84	1,012,816.83
2018	262,980.00	263,700.00	258,408.50	264,250.60	1,049,339.10
2019	283,140.00		446,160.00	461,227.00	1,190,527.00
2020	321,660.00		500,400.00	415,783.87	1,237,843.87
2021	445,000.00	480,622.00	582,500.00	706,500.00	2,214,622.00
2022	583,000.00	827,304.45	675,000.00	670,000.00	2,755,304.45
				Total	\$12,592,243.52

Resolution 13-04-05 **\$9,130,439.07**

Resolution 21-11-14	3,461,804.45
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\$12,592,243.52

SUMMARY TREASURER REPORT



POWER & WATER RESOURCES POOLING AUTHORITY

WIRE TRANSFERS

February 1 - 28, 2023

Transaction Number	Beneficiary Name	Credit Amount	Value Date
167018	Cameron-Daniel, P.C.	\$36,714.50	2/1/2023
167019	Holland & Knight	\$4,469.01	2/1/2023
167020	ACES Power Marketing	\$25,000.00	2/1/2023
167454	CAISO Market Clearing	\$94,705.58	2/6/2023
167887	Pacific Gas and Electric	\$34,997.19	2/13/2023
167888	Western Area Power Administration	\$55,598.34	2/13/2023
167889	WAPA O M	\$517,926.00	2/13/2023
168510	Garlock Energy, LLC	\$1,466.69	2/21/2023
168511	CAISO Market Clearing	\$403,055.00	2/21/2023
168512	Pacific Gas and Electric	\$1,805.51	2/21/2023
168513	Northern California Power Agency	\$93,405.00	2/21/2023
168516	WREGIS	\$128.29	2/21/2023
169089	CAISO Market Clearing	\$165,483.68	2/27/2023
169090	Trimark Associates, Inc.	\$49,195.77	2/27/2023
169091	Western Area Power Administration	\$446,073.94	2/27/2023
169092	Astoria 2 Operating	\$79,489.51	2/27/2023
Total		2,009,514.01	



POWER AND WATER RESOURCES POOLING AUTHORITY

DISBURSEMENT LIST

March 2023

Check #	Vendor-name	Payment-description	Check-amount
3346	Advanced Data Storage	Document Storage - March 2023	\$ 44.50
3347	Arvin-Edison Water Storage District	Treasurer's Duties	11,687.58
3348	Braun Blaising & Wynne, P.C.	Legal Services - February 2023	670.25
3349	Michael McCarty Law Office PLLC	Consultant	7,883.47
3350	Robertson-Bryan Inc.	Consultant	66,303.91
Sub-Total			<u>\$ 86,589.71</u>
Wire Transfers:			
Wire	Cameron-Daniel, P.C.	General Manager/General Council	\$ 36,875.90
Total			<u><u>\$ 123,465.61</u></u>

Power & Water Resources Pooling Authority

Regular Agenda • Item 7.A

1. General Manager's Report.

Power and Water Resources Pooling Authority

April 5, 2023 Board Packet

General Manager's Report

PPA with LTRID Success hydroelectric facility for Bucket 1 RECs

Lower Tule River Irrigation District (LTRID) owns and operates the Success Power Plant, a 1.4 MW hydroelectric generator located in Tulare County, California. Success' generation runs for flood control or irrigation and, as such, it does not have dispatchability. Furthermore, the generator does not provide any capacity benefit, and this generator is not expected to attain a Net Qualifying Capacity to provide Resource Adequacy (RA) in the CAISO. However, it is an eligible renewable resource and generates energy and Bucket 1 RECs. Importantly, Success' spillway may be raised by 28,000 Acre Feet (AF), allowing for up to 30 days of additional generation in the summer.

PWRPA made a proposal to LTRID to purchase only the Bucket 1 RECs and enable LTRID to schedule the unit through PWRPA, whereby LTRID would bear all costs and receive all benefits of selling the unbundled energy into the CAISO market. This involves a PPA with PWRPA whereby PWRPA takes the full output, schedules and sells in to the CAISO. PWRPA shall pay \$20 per MWh for the PCC 1 REC, which will be attributable to PWRPA's RPS obligation. The PPA is for an initial 8-month term pending an evaluation by LTRID and PWRPA of the cost-effectiveness.

PWRPA financing outreach

- Over the last two months, we have conducted initial research on available grant funding mechanisms in state and federal arenas. Areas of concentration are grant funding for distributed generation, energy storage technologies, hydropower and transmission & distribution infrastructure. The current grant with the shortest lead time is the Energy Improvements in Rural or Remote Areas (ERA) program which will provide financial investment, technical assistance, and other resources to advance clean energy demonstrations and energy solutions in rural and remote areas that can be replicated and scaled. The ERA is being proposed to:
 - Deliver measurable benefits to energy customers in rural or remote areas by funding replicable energy projects that lower energy costs, improve energy access and resilience, and/or reduce environmental harm.
 - Demonstrate new rural or remote energy system models using climate-resilient technologies, business structures that promote economic resilience, new financing mechanisms, and/or new community engagement best practices.
 - Build clean energy knowledge, capacity, and self-reliance in rural America.

The deadline is April 14th for Concept papers and June 28th for Applications. The funding overview is \$1 billion over 5 years, with up to \$300 million available in this funding opportunity.

PWRPA applies to collaborate with two National Labs under the DOE HydroWIREs (Water Innovation for a Resilient Electricity System) Initiative.

- Two applications for research collaborations were submitted for review on March 10, 2023. The overviews and descriptions of the San Luis Pumped Storage project and the CVP Hybridization Assessment project are provided in the following two pages.

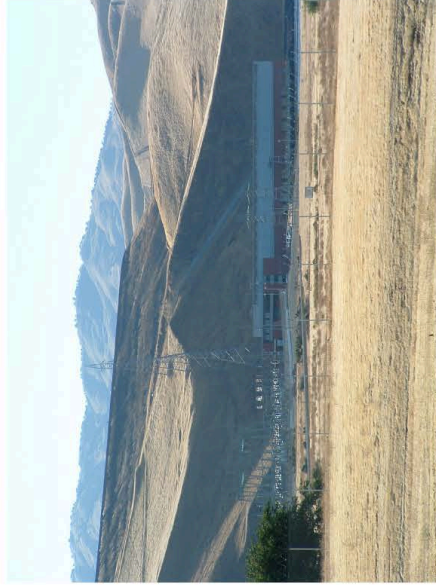
Evaluating hardware & operational options for San Luis Pumped Storage

Problem Statement

- Gianelli powerhouse was constructed in the 1960s
- The units are pump/generators, whose primary purpose is water conveyance, with seasonal operations,
- 1940's technology pumps/generators have significant limitations including hard stops and starts causes significant wear and tear. This includes all the major equipment in the facility
- Overheating cause rubber parts to deteriorate
- Does NOT have a governor such as a switch gate

Project Objectives and Approach

- Without altering water supply conditions, determine if operation as pumped storage will improve revenues and offset cost of wear and tear or cost of modification
- Determine value of modifications
 - Remove and replace 2 old turbines, add wicket gates (and potentially replace more)
 - Add variable speed drive in multi-MW scale
 - Adding hybrid battery
 - Other options as they arise
 - Change weed control – grow to 10,000 AF pump constraint
- Determine direct and indirect benefits of PSH and allocation to beneficiaries
- Determine options that may be beneficial



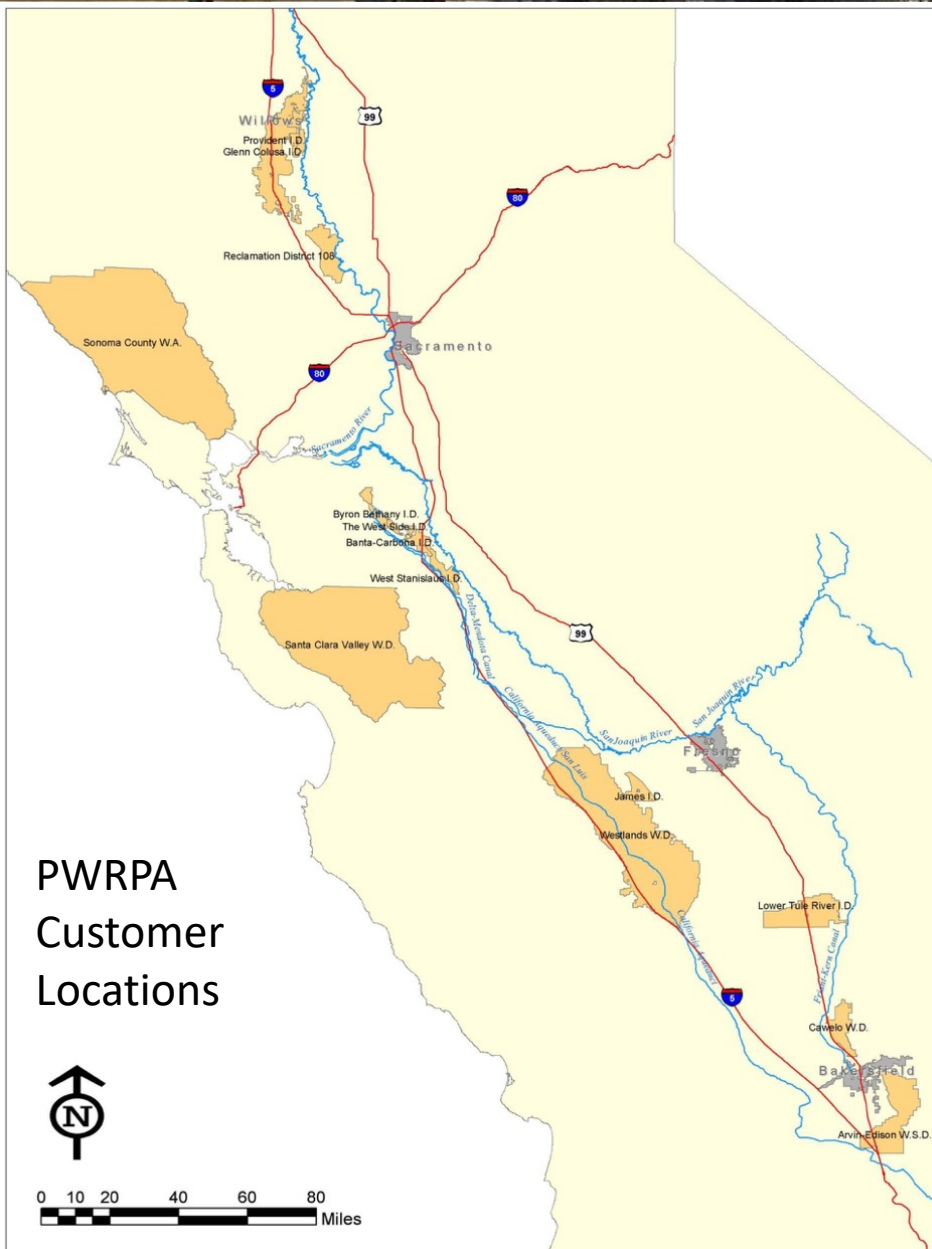
ID 30, [Applicant Name]

Lead Lab	PNNL
PI	Dr. Mark Weimar
Support Labs	ANL
Total budget	\$655K
Duration	1 year

Potential Team

- PI – Mark Weimar, Chief Economist, Electric Power Valuation
- Water or Power Customer, California Department of Water Resources, Western Area Power Administration, Bureau of Reclamation
- Argonne National Lab – Water use optimization

Hybridization Assessment for the Central Valley Project



Problem Statement

- PWRPA wants to improve electricity cost and reliability by adding a battery
- Understanding the value of hybridization requires specialized expertise
- It is not clear whether hybridization or independent deployment are better

Project Objectives and Approach

- Assess the value of hybridizing Central Valley Project hydropower plants
- Assess the value of deploying batteries at load centers that PWRPA serves
- Characterize how transmission congestion and land availability drive the decision to hybridize vs. independently deploy

Team

- PI – Hill Balliet, expert hydro-hybrids and energy storage TEA
- INL – Battery sizing and cost, reliability and resilience models
- ANL – CHEERS modeling (revenue of hybrid plant)
- NREL – Future prices, inflows, and transmission congestion

ID 29, Power & Water Resources Pooling Authority (PWRPA), Topic 2

Lead Lab	INL
PI	Hill Balliet
Support Labs	ANL, NREL
Total budget	\$575k
Duration	2 years

Power & Water Resources Pooling Authority

Regular Agenda • Item 7.B

1. Operations Manager Report.

Power and Water Resources Pooling Authority

April 5, 2023, Board Meeting

Operations Manager Report

Possible Action

n/a

Operations Staff Overview

1. April planned activity
 - a) Slate: data comms with MCG, invoice resolution, deemed energy protocol, transition to hybrid resource methods for ISO.
 - b) Start prep for 2022 Reconciliation.
 - c) 2023 budget updates for wet year trends
 - d) LTRID Hydro implementation
2. March recap
 - a) Slate coord: data flows, deemed energy discussions, PV/BESS internal cost allocation.
 - b) Various coordination w/ Solar developers on Districts request

Operations Report:

1. Pre-Reconciliation
 - a) Actual data for January – March, April - December estimates.
 - b) BR estimates as of April 1 WAPA forecast, mid-year rate letter makes the rate \$40/MWH (down from 54 in the Dry budget).
 - c) Various Slate data still outstanding.

Table 1: Revenue and Expense: January - December 2023							
Participant	Revenue	Expenses			Balance	Summary	
	Power Invoice	Power & Ops Costs	P3	Direct Consulting	Over/(Under) Funded	Total Costs	Composite Rate (c/ kWh)
Arvin-Edison	\$ 15,817,433	\$ 15,380,697	\$ 438,350	\$ 122	\$ (1,736)	\$ 15,819,169	\$ 13.77
Banta-Carbona	\$ 2,373,895	\$ 2,056,524	\$ 58,611	\$ -	\$ 258,760	\$ 2,115,135	\$ 11.66
Cawelo	\$ 1,608,073	\$ 1,455,227	\$ 41,474	\$ -	\$ 111,372	\$ 1,496,701	\$ 15.96
Glenn-Colusa	\$ 1,548,610	\$ 1,314,648	\$ 37,467	\$ -	\$ 196,495	\$ 1,352,115	\$ 12.66
James	\$ 665,086	\$ 649,857	\$ 18,521	\$ -	\$ (3,292)	\$ 668,378	\$ 16.66
Lower Tule	\$ 1,592,404	\$ 1,409,000	\$ 40,156	\$ -	\$ 143,248	\$ 1,449,156	\$ 17.27
Princeton	\$ 451,690	\$ 517,632	\$ 14,753	\$ -	\$ (80,694)	\$ 532,384	\$ 15.15
RD108	\$ 431,102	\$ 433,742	\$ 12,362	\$ 1,826	\$ (16,828)	\$ 447,930	\$ 26.42
Santa Clara	\$ 3,695,614	\$ 3,667,461	\$ 104,523	\$ 189	\$ (76,560)	\$ 3,772,174	\$ 17.46
Sonoma	\$ 5,713,522	\$ 5,085,979	\$ 144,950	\$ -	\$ 482,592	\$ 5,230,929	\$ 14.54
West Stan	\$ 1,581,364	\$ 1,667,743	\$ 47,531	\$ -	\$ (133,910)	\$ 1,715,274	\$ 12.12
Westlands	\$ 16,370,306	\$ 13,303,117	\$ 379,139	\$ -	\$ 2,688,050	\$ 13,682,256	\$ 20.84
Westside	\$ 367,147	\$ 411,792	\$ 11,736	\$ -	\$ (56,381)	\$ 423,528	\$ 16.00
Zone 7	\$ 1,449,253	\$ 1,475,355	\$ 42,048	\$ -	\$ (68,149)	\$ 1,517,402	\$ 19.10
PWRPA	\$ 53,665,499	\$ 48,828,775	\$ 1,391,620	\$ 2,137	\$ 3,442,967	\$ 50,222,532	\$ 15.76

Power and Water Resources Pooling Authority
April 5, 2023, Board Meeting
Operations Manager Report

2. Budget Update

- a) Board adopted Dry Budget
- b) Current estimates use April 1 BR forecast and mid-year rate letter. We are optimistic that the BR forecast is still too low, and we should get additional revenue to bring costs down.
- c) Rate update: too early, we anticipate the June meeting to be a better indicator.

Table 2: Summary of Dry budget and Current Estimates

	Current Estimate		Dry Budget		Change		\$ / kWh	
	kWh	Estimated Cost	kWh	Budgeted Cost	kWh	Costs	Current	Budget
Arvin-Edison	114,844,608	\$ 15,380,697	132,982,944	\$ 27,143,261	-14%	-43%	0.134	0.204
Banta-Carbona	18,143,306	\$ 2,056,524	19,435,000	\$ 3,373,308	-7%	-39%	0.113	0.174
Bryon-Bethany	2,647,769	\$ 411,792	2,749,931	\$ 802,703	-4%	-49%	0.156	0.292
Cawelo	9,374,930	\$ 1,455,227	10,045,345	\$ 2,886,591	-7%	-50%	0.155	0.287
Glenn-Colusa	10,676,546	\$ 1,314,648	10,596,545	\$ 2,202,478	1%	-40%	0.123	0.208
James	4,012,239	\$ 649,857	5,048,277	\$ 1,053,989	-21%	-38%	0.162	0.209
Lower Tule	8,392,643	\$ 1,409,000	9,729,565	\$ 1,902,575	-14%	-26%	0.168	0.196
Princeton	3,513,791	\$ 517,632	2,175,714	\$ 617,371	62%	-16%	0.147	0.284
RD108	1,695,371	\$ 433,742	1,870,915	\$ 679,619	-9%	-36%	0.256	0.363
Santa Clara	21,600,194	\$ 3,667,461	22,076,892	\$ 4,389,820	-2%	-16%	0.170	0.199
Sonoma	35,980,763	\$ 5,085,979	37,894,001	\$ 6,441,325	-5%	-21%	0.141	0.170
West Stan	14,150,312	\$ 1,667,743	20,975,424	\$ 3,596,531	-33%	-54%	0.118	0.171
Westlands	65,665,524	\$ 13,303,117	205,708,394	\$ 44,980,039	-68%	-70%	0.203	0.219
Zone 7	7,945,057	\$ 411,792	8,157,477	\$ 1,599,362	-3%	-74%	0.052	0.196
PWRPA	318,643,054	\$ 47,765,212	489,446,425	\$ 101,668,972	-35%	-53%	0.150	0.208

3. February operations

- a) Energy is 29% over budget for the month.
- b) Load averaged 34 MW (20 MW more than January 2023)
- c) Average schedule deviation of 6.6 MW for an estimated credit of 17,000.

4. Pricing

- a) Average monthly prices

Table 3: Average monthly cost and ISO revenue rates

	Cost	Revenue
BR	\$ 34.95	\$ (76.89)
Displacement	\$ -	\$ -
WWD BOR	\$ -	\$ (71.13)
Whitney Point	\$ 58.75	\$ (63.55)
Astoria	\$ 63.00	\$ (66.80)
Slate	\$ 26.81	\$ (60.62)
Lodi	\$ 91.55	\$ (91.54)
Market		

Power and Water Resources Pooling Authority
April 5, 2023, Board Meeting
Operations Manager Report

Generator Reports

1. Astoria Solar
 - a) Generation
 - 1,651MWh, 24% capacity
 - Net credit \$49,000 or \$30 /MWh
2. Whitney Point Solar
 - a) Generation
 - 1,518 MWh, 20% capacity factor
 - Net credit \$38,000, or \$25 /MWh
 - b) Buyer Agent changed negative price to -\$25 (from -\$15)
3. Slate Solar + Battery
 - a) Generation
 - 3,225 MWh, 18% capacity factor
 - Net value \$287,200, or \$89/MWh
 - b) Staff work
 - ACES & MCG to setup data flows: working through data translations.
 - Deemed Energy issues being worked out for all months.
 - February data not received at time of this report and is estimated.
 - Changed negative price floor to -\$25 from -\$15
4. Lodi Energy Center
 - a) Generation
 - 3,250 MWh, 58% capacity factor
 - Net credit \$14,000, or \$4/MWh

Power Planning & Regulatory

1. Power Net Short
 - a) 2023 – Tracking a wet year, WAPA’s current forecast is April 1, 2023.
 - b) WAPA overview
 - Reservoirs (as of March 30) – majority of them are over the historical average.
 - Snow pack % of normal for this date:
 1. Northern Sierra/Trinity 188%
 2. Central Sierra: 232%
 3. Southern Sierra 289%

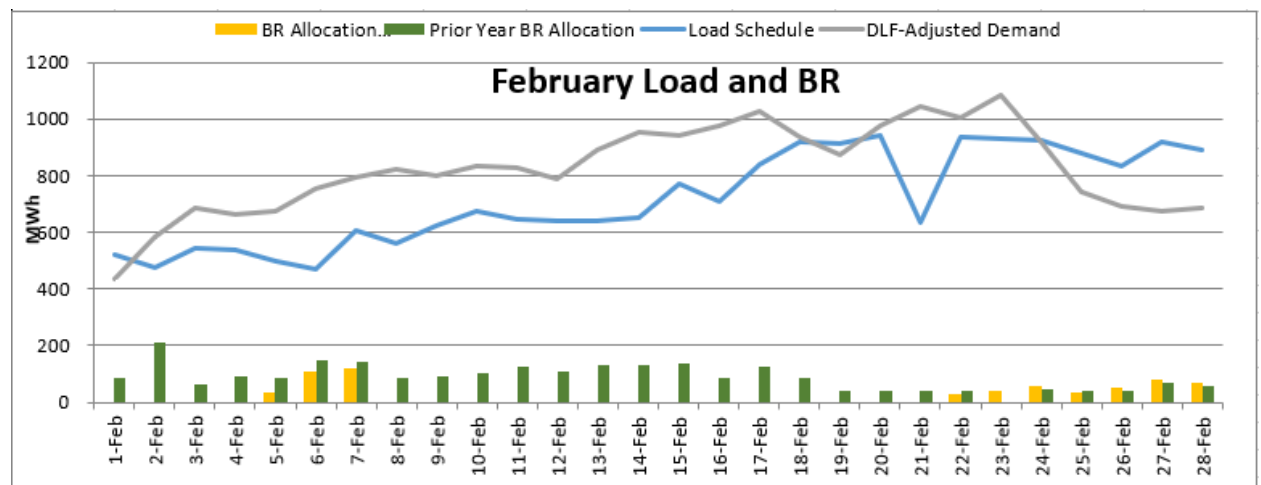
Power and Water Resources Pooling Authority
April 5, 2023, Board Meeting
Operations Manager Report

Table 4: April Net Short

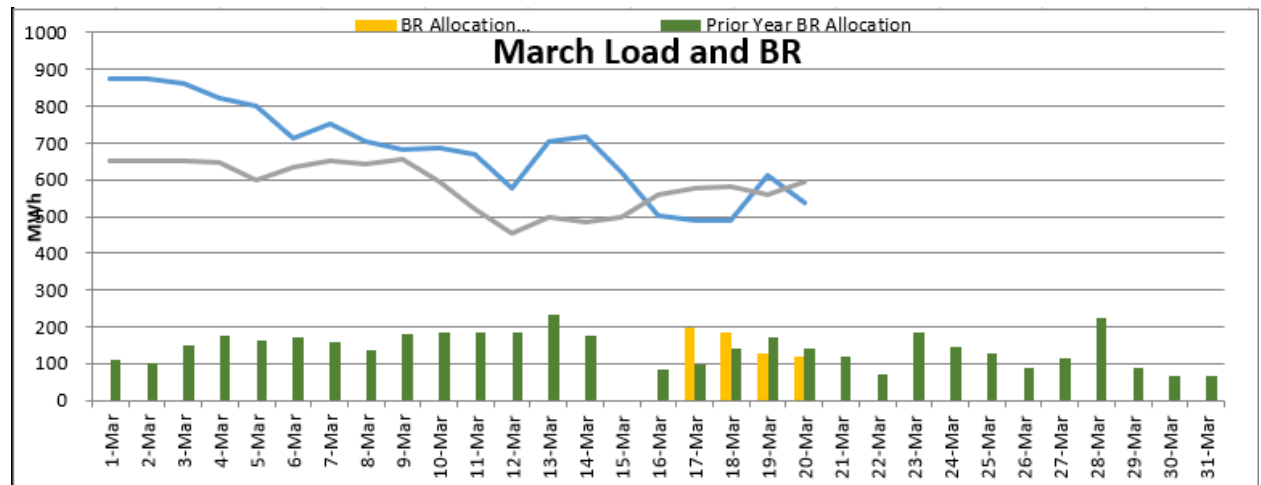
April 2023 NSP

ON-PEAK	On Peak															3/27/2023 Forward Mkt	Change from last NSP
	Demand, MW				Resources, MW			Net Long/(Short), MW			Net (Short)/Long based on RMP						
	Wet	Average	Dry		Wet	Average	Dry	Wet	Average	Dry	RMP	Wet	Average	Dry			
4/1/2023	40.4	46.1	46.2		62.7	40.1	41.0	22.3	(6.0)	(5.3)	100%	22.3	(6.0)	(5.3)	\$ 63.54	\$ 6.86	
5/1/2023	49.9	61.6	60.3		84.8	60.2	59.0	34.9	(1.4)	(1.4)	100%	34.9	(1.4)	(1.4)	\$ 59.38	\$ 13.20	
6/1/2023	62.8	66.5	64.9		89.9	68.4	62.0	27.1	1.9	(2.9)	90%	33.3	8.6	3.5	\$ 47.88	\$ (22.98)	
7/1/2023	59.6	64.1	61.8		93.8	71.7	71.2	34.2	7.6	9.4	90%	40.2	14.0	15.6	\$ 60.48	\$ (58.33)	
8/1/2023	52.5	56.1	54.2		90.7	67.0	67.0	38.2	10.9	12.8	70%	54.0	27.7	29.0	\$ 95.65	\$ (36.45)	
9/1/2023	38.9	41.0	40.4		75.4	59.6	52.7	36.5	18.6	12.4	70%	48.2	30.9	24.5	\$ 129.55	\$ 16.28	
10/1/2023	30.8	32.1	32.1		55.6	41.7	41.7	24.8	9.6	9.6	70%	34.1	19.3	19.3	\$ 114.03	\$ 38.33	
11/1/2023	19.6	19.2	19.2		39.9	27.8	33.4	20.3	8.6	14.1	50%	30.1	18.2	23.7	\$ 76.15	\$ (6.07)	
12/1/2023	11.9	13.5	13.7		28.7	20.8	24.8	16.8	7.3	11.1	50%	22.8	14.0	18.0	\$ 86.30	\$ (31.73)	
Off-Peak	Off Peak															3/27/2023 Forward Mkt	Change from last NSP
	Demand, MW				Resources, MW			Net Long/(Short), MW			Net (Short)/Long based on RMP						
	Wet	Average	Dry		Wet	Average	Dry	Wet	Average	Dry	RMP	Wet	Average	Dry			
4/1/2023	32.5	38.0	38.2		33.9	17.6	18.5	1.4	(20.4)	(19.7)	100%	1.4	(20.4)	(19.7)	\$ 68.88	\$ 11.20	
5/1/2023	41.6	52.2	51.3		48.2	41.8	40.4	6.5	(10.4)	(10.9)	100%	6.5	(10.4)	(10.9)	\$ 59.40	\$ 10.00	
6/1/2023	55.2	59.4	58.2		55.5	45.8	39.6	0.3	(13.6)	(18.6)	90%	5.8	(7.7)	(12.8)	\$ 48.05	\$ (14.20)	
7/1/2023	53.5	57.8	55.7		56.1	39.5	39.1	2.7	(18.3)	(16.5)	90%	8.0	(12.5)	(10.9)	\$ 53.35	\$ (27.11)	
8/1/2023	46.6	49.7	48.0		45.7	32.8	32.8	(0.9)	(16.9)	(15.2)	70%	13.0	(2.0)	(0.8)	\$ 72.73	\$ (12.15)	
9/1/2023	34.0	35.9	35.3		39.8	22.0	19.5	5.8	(13.8)	(15.8)	70%	16.0	(3.1)	(5.2)	\$ 84.25	\$ (2.38)	
10/1/2023	25.3	26.2	26.3		30.4	15.1	15.1	5.2	(11.1)	(11.2)	70%	12.7	(3.3)	(3.3)	\$ 83.93	\$ 14.38	
11/1/2023	17.5	16.9	16.9		20.6	10.3	12.4	3.1	(6.6)	(4.6)	50%	11.9	1.8	3.9	\$ 67.63	\$ (7.90)	
12/1/2023	11.4	12.5	12.7		13.8	8.9	10.7	2.5	(3.6)	(2.0)	50%	8.1	2.6	4.4	\$ 80.08	\$ (28.25)	

BR output: only covering less 5% of load for February and March.



Power and Water Resources Pooling Authority
April 5, 2023, Board Meeting
Operations Manager Report



2. Regulatory

a) Resource Adequacy:

- o No shortfall capacity calls from the CAISO so far in 2023.

b) RPS: Compliance snapshot:

- o PWRPA staff working with solar developers on various District project solicitations.
- o 2023 REC purchase is included in the budget, however, we'll reevaluate the volumes late Summer when we have a better feel for the loads/hydro year estimates as well as new project start dates.

Table 5: Current Renewable Compliance Period Exposure Summary

				\$/REC:	\$	20.0	\$	5.0
2021-2024	Net short / (Long)		Short Districts		Estimated Cost			
	PCC1/2	PCC3	PCC1/2	PCC3	PCC1/2		PCC3	
AEWSD	25,634	(8,003)	-	(8,003)	\$	-	\$	40,016
BCID	(8,460)	(2,787)	(8,460)	(2,787)	\$	169,207	\$	13,936
CWD	27,351	7,629	-	-	\$	-	\$	-
GCID	(934)	(1,626)	(934)	(1,626)	\$	18,690	\$	8,131
JID	(879)	(571)	(879)	(571)	\$	17,584	\$	2,855
LTRID	(12,713)	(1,413)	(12,713)	(1,413)	\$	254,266	\$	7,063
PPCGID	303	(500)	-	(500)	\$	-	\$	2,502
RD 108	924	2,024	-	-	\$	-	\$	-
SCVWD	(3,885)	(3,489)	(3,885)	(3,489)	\$	77,693	\$	17,443
SCWA	33,981	(4,122)	-	(4,122)	\$	-	\$	20,612
TWID	(626)	(389)	(626)	(389)	\$	12,521	\$	1,943
WSID	(3,083)	(2,455)	(3,083)	(2,455)	\$	61,667	\$	12,277
WWD	(33,041)	(17,636)	(33,041)	(17,636)	\$	660,813	\$	88,178
Z7	(1,143)	2,515	(1,143)	-	\$	22,859	\$	-
PWRPA	23,428	(30,822)	(64,765)	(42,991)	\$	1,295,299	\$	214,955

Power and Water Resources Pooling Authority

April 5, 2023, Board Meeting

Operations Manager Report

- CEC is near completion of the CP3 validation. Staff working on final validation and acceptance.
- PWRPA staff working to add LTRID Hydro into PWRPA's portfolio, those REC estimates are not included in the data yet.
- PWRPA forward look:

Table 6: RPS requirements summarized by Compliance Period

		MWh/RECs				
Compliance Period		Retail Sales	RPS Req	RPS%	LT RECs	LT%
2021-2024	CP4	1,485,330	590,920	40%	512,609	87%
2025-2027	CP5	1,278,933	631,516	49%	482,657	76%
2028-2030	CP6	1,275,258	736,028	58%	489,364	66%

Table 7: PCC1/PCC2 REC Summary

	PCC1/2 Req	In Portfolio	Coverage
CP4	518,226	554,421	107%
CP5	560,265	443,147	79%
CP6	654,325	440,881	67%

Table 8: PCC3 REC Summary

	PCC3	In Portfolio	Coverage
CP4	57,581	33,074	57%
CP5	62,252	39,510	63%
CP6	72,703	39,483	54%

Power & Water Resources Pooling Authority

Regular Agenda • Item 7.C

1. Resolution 23-04-01 Annual Update of Exhibit B & C.

Power and Water Resources Pooling Authority
April 5, 2023 Regular Board Meeting
Agenda Item 7.C JPA Exhibits B & C

Action Requested

Approve Resolution 23-04-01 as presented.

Issue Description

Annual energy use and voting share determination as required by JPA Sections 1.3, 3.8 and 8.10. This also is used to calculate the annual percentages used for the Cap & Trade Allocation in accordance with Resolution

Discussion

Annual Energy

The relevant sections of the PWRPA Joint Powers Agreement are as follows:

1.3 Annual Energy Use: [is] the five-year average electricity usage, expressed in kilowatt hours (“kWhs”), associated with the electricity accounts that an individual Party or Stakeholder has the Authority manage on its behalf through Project Agreements. The initial values for Annual Energy Use are designated in Exhibit B, and shall be adjusted annually as soon as reasonably practicable after January 1, but no later than March 1, in accordance with Section 8.10.

3.8.2 Unless otherwise stated herein, voting rights shall be determined as follows: (1) an equal number of voting shares for each Board member in accordance with the formula detailed in Section 3.8.2.1, below; and (2) an additional number of voting shares in accordance with the formula detailed in Section 3.8.2.2, below. The total voting shares for each Board member shall equal the sum of (1) and (2) for that member.

3.8.2.1 Each Board member shall have an equal voting share as determined by the following formula: $(1/(\text{total number of Board members}))$ multiplied by fifty.

3.8.2.2 Each Board member shall have a voting share based upon its Annual Energy Use as determined by the following formula: $(\text{Annual Energy Use}/\text{Total Annual Energy})$ multiplied by fifty. This voting share shall be annually recalculated as described in Section 1.3

3.8.2.3 The voting shares are set forth in Exhibit C.

8.10 Approval and Revision of Exhibits: . . . The exhibits may be revised upon the review and approval of the Board. The Authority shall provide notice to Parties and Stakeholders of the revision of any exhibit.

Power and Water Resources Pooling Authority
April 5, 2023 Regular Board Meeting
Agenda Item 7.C JPA Exhibits B & C

Annual adjustment to Cap & Trade allocation tracking sheet

The current Cap & Trade allocation policy was adopted in November 2021 through Resolution 21-11-14. The first two resolving paragraphs outline the procedure as presented here:

1. [The Board] Determines that PWRPA's ratepayer pro rata cost burden resulting from the ARB Cap-and-Trade Program may be accurately forecast by the 5-Year Average Retail Sales shown in Exhibit B to the Joint Powers Agreement, as amended annually.
2. [The Board] Determines for the purpose of allocating the allowance revenue received in each calendar year, the Exhibit B approved in that calendar year shall be effective January 1 of that same calendar year.

Accordingly, the allocation percentages to be effective January 1, 2023, have been updated by using the new Exhibit B 5-Year Average Retail Sales values.

SUPPORT FOR EXHIBIT B and C
DETERMINATION OF ANNUAL ENERGY USE

Party/Stakeholder	2018	2019	2020	2021	2022	Ex. B Avg.	3.8.2.1	3.8.2.2	2023	Previous	Increase or (Decrease)
									Ex. C Share	Ex. C Share	
Arvin-Edison WSD	90,761,554	91,838,576	116,229,180	140,237,455	117,771,840	111,367,721	3.5714	14.0073	17.5789	18.6674	(1.0885)
Banta-Carbona ID	22,707,188	14,339,393	17,166,278	20,309,827	20,218,615	18,948,260	3.5714	2.3832	5.9547	5.9784	(0.0237)
Byron Bethany ID	2,971,051	2,406,123	2,750,658	2,644,862	2,634,241	2,681,387	3.5714	0.3373	3.9087	3.9387	(0.0300)
Cawelo WD	11,425,264	20,232,549	11,561,093	8,094,054	9,975,987	12,257,789	3.5714	1.5417	5.1132	5.6752	(0.5620)
Glenn-Colusa ID	11,984,313	11,386,589	11,552,532	10,788,057	2,901,236	9,722,545	3.5714	1.2229	4.7943	5.1376	(0.3433)
James ID	3,592,071	1,987,097	3,386,124	4,849,822	5,020,842	3,767,191	3.5714	0.4738	4.0452	3.9954	0.0498
Lower Tule River ID	7,985,446	11,077,326	9,662,829	8,530,372	6,775,462	8,806,287	3.5714	1.1076	4.6790	4.9609	(0.2819)
Provident/Princeton	4,075,991	3,469,281	3,277,199	2,134,654	94,481	2,610,321	3.5714	0.3283	3.8997	4.0427	(0.1430)
Reclamation District 108	4,051,338	6,031,506	4,054,673	3,052,268	1,779,121	3,793,781	3.5714	0.4772	4.0486	4.2128	(0.1642)
Santa Clara Valley WD	19,739,003	21,801,083	24,635,649	21,147,433	21,314,566	21,727,547	3.5714	2.7328	6.3042	6.6395	(0.3353)
Sonoma County WA	36,224,875	34,841,846	38,920,405	35,865,391	34,678,888	36,106,281	3.5714	4.5413	8.1127	8.5751	(0.4624)
West Stanislaus ID	15,418,493	14,589,025	18,364,508	18,797,720	20,291,277	17,492,204	3.5714	2.2001	5.7715	5.7436	0.0279
Westlands WD	90,111,502	36,936,956	150,211,208	206,014,809	222,688,266	141,192,548	3.5714	17.7586	21.3299	18.0266	3.3033
Zone 7 WA	3,703,061	6,954,917	7,970,423	8,037,861	8,633,638	7,059,980	3.5714	0.8880	4.4594	4.4065	0.0529
Totals	324,751,151	277,892,266	419,742,760	490,504,585	474,778,459	397,533,842	50.0000	50.0000	100.0000	100.0004	(0.0004)

Notes:

Energy data rounded to the nearest whole number

SCWA energy data includes solar offsets

3.8.2.1 and 3.8.2.2 shown to four decimal places for presentation only

Non-DLF metered data

As reflected in Minute Order 11-04-02 from the March 4, 2009 PWRPA Board meeting, the Board determined that load of new Designated Accounts for existing Project Participants should be reflected in the 5-year average on a prospective, incremental basis (namely, only actual load served by PWRPA will be included in the 5-year average). Pursuant to this same minute order, the Board further determined that RD 108's actual load should be divided by five for purposes of the 5-year average. The Board further determined that this treatment may not be appropriate for a "new" Project Participant.

As reflected in Minute Order 11-04-03 from the April 6, 2011 PWRPA Board meeting, the Board determined that past year's corrected meter data will be incorporated into the 5-year average in the year in which such meter data has been discovered and corrected. The 5-year average for the 2011 determination is the first 5-year average in which past year's corrected meter data has been incorporated.

As of Dec 1, 2011 CWD's energy is without Pump C and LTRID's energy is Pump C only (transferred PP2 back to PGE).

Power & Water Resources Pooling Authority
Resolution 23-04-01

**ANNUAL UPDATE OF EXHIBITS B AND C
TO THE JOINT POWERS AGREEMENT AND CAP AND TRADE
ALLOCATION PERCENTAGES**

WHEREAS, the Power and Water Resources Pooling Authority ("PWRPA") was formed by a joint powers agreement ("JPA") by and between various Irrigation Districts; and

WHEREAS, Sections 1.3 and 3.8.2.2 of the JPA provide that Appendix B (Annual Energy Use) and Exhibit C (Voting Shares) shall be adjusted annually as soon as reasonably practicable after January 1, in accordance with 8.10 of the JPA; and

WHEREAS, pursuant to Resolution 21-11-14, PWRPA's ratepayer pro rata cost burden resulting from the ARB Cap-and-Trade Program may be accurately forecast by the 5-Year Average Retail Sales shown in Exhibit B to the Joint Powers Agreement, as amended annually.

NOW, THEREFORE, BE IT RESOLVED that the Pooling Authority Board of Directors hereby:

1. Determines that the support and calculations for Exhibits B and C, attached hereto as Attachment A, is consistent with Section 3.8.2 of the Joint Powers Agreement.
2. Authorizes the General Counsel to prepare final versions of Exhibits B and C and provide notice to Parties and Stakeholders.
3. Authorizes these Exhibits to be effective April 1, 2023, for the purpose of voting rights for Board actions as provided in Section 3.8 of the Joint Powers Agreement.
4. Authorizes these Exhibits to be effective January 1, 2023, for the purpose of the 2021 Annual Reconciliation as provided in Exhibit E of the Aggregation Services Agreement.
5. Authorizes these Exhibits to be effective January 1, 2023, for the purpose of the 2023 Cap and Trade Allocation Policy as provided in Resolution 21-11-14.

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Resolution 23-04-01

PASSED AND ADOPTED by the Pooling Authority Board of Directors this 5th day of April 2023, by the following vote on roll call:

AYES	Arvin-Edison WSD, Banta Carbona ID, Byron Bethany ID, Cawelo WD, Glenn-Colusa ID, James ID, Lower Tule River ID, Princeton/Provident ID, RD 108, Santa Clara Valley WD, Sonoma County WA, West Stanislaus ID, Westlands WD, Zone 7 WA (100.0% Voting Shares)
NOES	
ABSENT	

David Weisenberger
Chairman

Attest by: Bruce McLaughlin
Secretary

Exhibit B
To the
Joint Powers Agreement

- Annual Energy Use -

This Exhibit B is effective as of **April 1, 2023** and applicable to the period from April 1, 2023 until the date it is amended.

Party/Stakeholder	kWh (5 Year Average)
Arvin-Edison Water Storage District	111,367,721
Banta-Carbona Irrigation District	18,948,260
Byron Bethany Irrigation District	2,681,387
Cawelo Water District	12,257,789
Glenn-Colusa Irrigation District	9,722,545
James Irrigation District	3,767,191
Lower Tule River Irrigation District	8,806,287
Princeton/Provident Irrigation Dist.	2,610,321
Reclamation District 108	3,793,781
Santa Clara Valley Water District	21,727,547
Sonoma County Water Agency	36,106,281
West Stanislaus Irrigation District	17,492,204
Westlands Water District	141,192,548
Zone 7 Water Agency	7,059,980
Authority (Total Energy Use)	397,533,842

Exhibit C
To the
Joint Powers Agreement

- Voting Shares -

This Exhibit C is effective as of **April 1, 2023** and applicable to the period from April 1, 2023 until the date it is amended.

Party/Stakeholder	kWh (5 Year Average)	JPA Section 3.8.2.1	JPA Section 3.8.2.2	Voting Share
Arvin-Edison Water Storage District	111,367,721	3.5714	14.0073	<i>17.5789</i>
Banta-Carbona Irrigation District	18,948,260	3.5714	2.3832	<i>5.9547</i>
Byron Bethany Irrigation District	2,681,387	3.5714	0.3373	<i>3.9087</i>
Cawelo Water District	12,257,789	3.5714	1.5417	<i>5.1132</i>
Glenn-Colusa Irrigation District	9,722,545	3.5714	1.2229	<i>4.7943</i>
James Irrigation District	3,767,191	3.5714	0.4738	<i>4.0452</i>
Lower Tule River Irrigation District	8,806,287	3.5714	1.1076	<i>4.6790</i>
Princeton/Provident Irrigation District	2,610,321	3.5714	0.3283	<i>3.8997</i>
Reclamation District 108	3,793,781	3.5714	0.4772	<i>4.0486</i>
Santa Clara Valley Water District	21,727,547	3.5714	2.7328	<i>6.3042</i>
Sonoma County Water Agency	36,106,281	3.5714	4.5413	<i>8.1127</i>
West Stanislaus Irrigation District	17,492,204	3.5714	2.2001	<i>5.7715</i>
Westlands Water District	141,192,548	3.5714	17.7586	<i>21.3299</i>
Zone 7 Water Agency	7,059,980	3.5714	0.8880	<i>4.4594</i>
	397,533,842	50.0000	50.0000	100.0000

Voting Shares – Section 3.8.2.3 Only

This Table 2 is effective as of January 1, 2016.

Number of Parties	Number of Stakeholders	Total	Voting Share for each Party / Stakeholder
<i>7</i>	<i>7</i>	14	<i>7.143</i>

Power & Water Resources Pooling Authority

Regular Agenda • Item 7.D

1. Resolution 23-04-02 Updated Exhibit E Cost Allocation for Demand Response.

Power and Water Resources Pooling Authority
April 5, 2023 Regular Board Meeting
Item 7.D DSGS Summary for ASA Exhibit E Amendment

Actions Requested

Consider amending Aggregation Services Agreement (ASA) Exhibit E Ver. 10 to add language to the Load Cost section I to account for Demand Response activity.

Issue Description

PWRPA enters forecasted load into the day-ahead (DA) market as required by the WAPA contract. Imbalance energy (difference from actual energy and load forecast) is settled in the real-time (RT) market. ASA Exhibit E Section I for Load cost allocates all costs (DA and RT) pro rata on actual energy.

Demand Response activity is a specific act to serve a determined amount in DA and change (usually reduce) that amount in RT. Therefore, we should change our algorithms accordingly when there is participation in an official Demand Response program event. DA energy costs to be allocated on forecasted energy, and RT energy costs on imbalance energy.

This cost allocation will be used only during the event hours.

Discussion

PWRPA allocates all load costs (DA energy, RT energy, congestion, and losses) on an hourly basis based on hourly energy since its inception. In other words, we do not differentiate cost allocation based on performance of the load forecast. We did this because when PWRPA started up, all meters were energy meters (not interval) and we created software to shape total monthly energy into hourly (as required by the CAISO). Also, most Districts schedule in water volumes and we use the software to convert that number to power, which is not an exact science.

Staff revisited this in 2019 when PWRPA went through a major cost allocation review (aiming to handle Base Resource and overhead costs differently). Staff ultimately did not recommend a change in how we allocate load costs as there was not a compelling reason to make the change. While we do have interval meters now, we did not want to penalize any District on the performance of their load forecast and also because we schedule as PWRPA, and may choose to change the load forecast due to economics in the DA versus RT.

Because Demand Response is a specific act to change load in real-time, staff is recommending to use forecasted energy versus actual energy in these event hours only. Districts elect to be in the Demand Response program, elect what hours to participate, and elect their participation level. Therefore, they are taking an active role to set their load forecast in PWRPA's software system during these event times. PWRPA staff is making all efforts for all Districts to have reliable load forecasts for this reason during event times. This is in alignment with PWRPA's program application for the State Demand Response Program.

Author: Cori Bradley

Review: Bruce McLaughlin

Power and Water Resources Pooling Authority
April 5, 2023 Regular Board Meeting
Item 7.D DSGS Summary for ASA Exhibit E Amendment

Attachment A to this memo summarizes the difference in the load cost allocations from the normal way, versus the proposed change for Demand Response hours.

Recommendation

Amend the Aggregation Services Agreement as shown in the three resolving paragraphs below:

1. Approves the amendment to ASA Exhibit E, Section VI Cost Allocation Algorithms, Subsection I Load Costs, as shown here in italics:
 1. Cost Allocation: Participant hourly Energy.
 2. Costs include all day-ahead and real-time energy, congestion, and loss charges.
 3. *Demand Response programs will use a combination of Participant hourly energy and Participant load forecast for Cost Allocation.*
2. Authorizes this Resolution to have an Effective Date of January 1, 2023, thereby, being applicable to the demand response cost allocations in the 2022 Annual Reconciliation.
3. Directs the General Counsel to prepare a conformed blackline full copy of Exhibit E signified as Version 10 and attach it to the official version of this Resolution.

Author: Cori Bradley

Review: Bruce McLaughlin

Power and Water Resources Pooling Authority
April 5, 2023 Regular Board Meeting
Item 7.D DSGS Summary for ASA Exhibit E Amendment

Attachment A to Memo

SUMMARY of California Energy Commission's Demand Side Grid Support Program

PWRPA participated in the 2022 Demand Side Grid Support (DSGS) Program administered by the California Energy Commission (CEC) which provided financial incentives to reduce customer load during extreme events. The program was open from August – October 31, but only had curtailment events from August 31 to September 9, 2022. Participants were AEWS, SCVWD, WWD and Z7. In all, they curtailed 296 MWhs and received a payment of \$665,767 (\$2,250 per MWh) from the CEC.

In addition to the CEC incentive payment, Districts received the associated cost or savings based on the day-ahead (DA) and real-time (RT) prices in the CAISO. This is because PWRPA schedules forecasted load on the DA market and the imbalance (difference in the DA forecast and the actual meter) is priced in RT.

Table 1: Net Savings	AEWS	SCVWD	WWD	Z7	Total
Load Cost/(Savings)	\$ 33,464	\$ 3,529	\$ (17,545)	\$ 18,099	\$ 37,547
DSGS Program Credit	\$ (347,995)	\$ (20,035)	\$ (217,901)	\$ (79,834)	\$ (665,766)
Net Savings	\$ (314,531)	\$ (16,506)	\$ (235,446)	\$ (61,735)	\$ (628,219)
Curtailed MWh	155.1	8.9	96.8	35.1	295.9

DETAIL

1. DSGS Program Credit:

The DSGS program credit is straightforward. They were providing a \$2,250 per curtailed MWh. Curtailment events for load shedding were triggered by an CAISO alert of EEA Watch or higher alert (e.g., EEA 1 – 3). Participation could be for any hours of the event and for any volume of curtailment. PWRPA's baseline for measuring the curtailment was the DA load forecast submitted into its EAS software system.

2. Load Cost

Per Aggregation Services Agreement Exhibit E, Section I, load costs per hour are allocated by bundling all the DA and RT load costs, and allocating that total to the districts based on their actual metered load. In other words, the forecasted load is not used. The intent of this is to avoid penalizing individual districts for the software forecast, and for any scheduling deviations due to Scheduling Agent activity.

However, for the duration of the DSGS program hours, it is important to make sure we are allocating the DA and RT load costs to the districts to account for the intended difference between DA forecast and RT actual load due to curtailments. PWRPA staff kept a close watch on the forecasts in those days for all districts to keep these calculations fair to PWRPA's districts.

This adjustment shifts costs for all districts during the program hours due to the split of DA and RT cost calculations, i.e., the cost for the hour in total for PWRPA must remain unchanged. The series of tables below show the calculated costs to the district before and after making those adjustments for the specific hours in which the DSGS program was active for any PWRPA participants. The highlighted entries indicate the participation in the given DSGS interval.

Table 2 shows the aggregated DA and RT costs allocated on metered load before changes were made to account for the DSGS program hours.

Date	Hours	AEWSD	BCID	CWD	GCID	JID	LTRID	PPCID	RD108	SCVWD	SCWA	WSID	WWD	TWID	Z7	PWRPA
8/31/2022	17-20	\$ 68,605	\$ 6,217	\$ 6,818	\$ 1,147	\$ 2,242	\$ 4,314	\$ 43	\$ 1,136	\$ 12,014	\$ 13,791	\$ 6,828	\$ 130,850	\$ 1,236	\$ 4,286	\$ 259,527
9/3/2022	18-20	\$ 59,009	\$ 7,011	\$ 7,229	\$ 1,633	\$ 2,163	\$ 3,100	\$ 42	\$ 895	\$ 9,643	\$ 14,701	\$ 5,230	\$ 110,408	\$ 1,673	\$ 2,611	\$ 225,347
9/4/2022	17-20	\$ 49,740	\$ 5,493	\$ 6,154	\$ 1,121	\$ 2,197	\$ 805	\$ 45	\$ 769	\$ 10,198	\$ 12,832	\$ 6,195	\$ 106,226	\$ 1,659	\$ 1,971	\$ 205,407
9/5/2022	17-22	\$ 86,047	\$ 7,515	\$ 9,234	\$ 2,152	\$ 3,003	\$ 4,646	\$ 51	\$ 1,353	\$ 13,061	\$ 14,258	\$ 9,363	\$ 154,717	\$ 2,832	\$ 3,433	\$ 311,665
9/6/2022	16-21	\$ 118,292	\$ 9,603	\$ 12,976	\$ 3,583	\$ 4,230	\$ 10,164	\$ 96	\$ 1,892	\$ 17,790	\$ 21,508	\$ 15,778	\$ 217,277	\$ 3,224	\$ 5,221	\$ 441,632
9/7/2022	16-21	\$ 124,974	\$ 19,519	\$ 12,943	\$ 3,936	\$ 1,965	\$ 9,663	\$ 104	\$ 2,028	\$ 26,540	\$ 27,505	\$ 17,879	\$ 253,325	\$ 3,572	\$ 5,854	\$ 509,808
9/8/2022	15-21	\$ 111,120	\$ 22,864	\$ 13,457	\$ 3,801	\$ 1,569	\$ 9,364	\$ 101	\$ 1,716	\$ 22,052	\$ 26,343	\$ 15,518	\$ 251,533	\$ 2,832	\$ 6,267	\$ 488,537
9/9/2022	16-20	\$ 58,348	\$ 11,773	\$ 6,872	\$ 2,238	\$ 2,010	\$ 4,610	\$ 49	\$ 1,060	\$ 12,875	\$ 12,653	\$ 7,002	\$ 123,338	\$ 1,150	\$ 3,798	\$ 247,776
Total		\$ 676,134	\$ 89,996	\$ 75,684	\$ 19,612	\$ 19,381	\$ 46,667	\$ 531	\$ 10,849	\$ 124,172	\$ 143,590	\$ 83,792	\$ 1,347,673	\$ 18,178	\$ 33,439	\$ 2,689,698

Table 3 shows the adjusted load cost due to the calculation changes **only** in the hours the DSGS program ran.

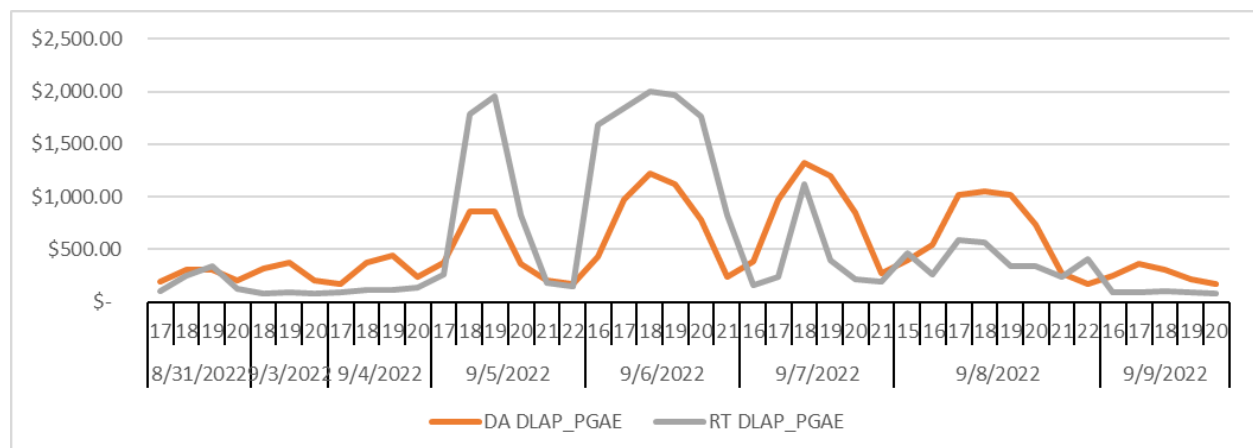
Date	Hours	AEWSD	BCID	CWD	GCID	JID	LTRID	PPCID	RD108	SCVWD	SCWA	WSID	WWD	TWID	Z7	PWRPA
8/31/2022	17-20	\$ 70,214	\$ 5,386	\$ 6,905	\$ 725	\$ 1,547	\$ 4,464	\$ 44	\$ 1,966	\$ 13,529	\$ 14,089	\$ 6,719	\$ 131,196	\$ 777	\$ 1,965	\$ 259,527
9/3/2022	18-20	\$ 53,431	\$ 6,321	\$ 6,394	\$ 1,250	\$ 2,200	\$ 4,388	\$ 41	\$ 235	\$ 10,625	\$ 13,672	\$ 6,098	\$ 113,518	\$ 894	\$ 6,280	\$ 225,347
9/4/2022	17-20	\$ 51,614	\$ 5,304	\$ 6,156	\$ 1,110	\$ 2,033	\$ 614	\$ 45	\$ 878	\$ 10,045	\$ 12,240	\$ 6,112	\$ 105,850	\$ 1,749	\$ 1,655	\$ 205,407
9/5/2022	17-22	\$ 87,296	\$ 8,002	\$ 8,475	\$ 1,766	\$ 2,855	\$ 3,644	\$ 52	\$ 834	\$ 15,444	\$ 16,103	\$ 9,416	\$ 149,998	\$ 2,215	\$ 5,565	\$ 311,665
9/6/2022	16-21	\$ 117,309	\$ 9,326	\$ 13,216	\$ 3,805	\$ 4,313	\$ 10,363	\$ 100	\$ 2,160	\$ 16,951	\$ 20,668	\$ 16,513	\$ 218,959	\$ 3,409	\$ 4,540	\$ 441,632
9/7/2022	16-21	\$ 150,521	\$ 5,608	\$ 15,218	\$ 1,827	\$ 7,614	\$ 7,120	\$ 74	\$ (462)	\$ 20,469	\$ 32,006	\$ 9,828	\$ 239,767	\$ 2,543	\$ 17,675	\$ 509,808
9/8/2022	15-21	\$ 113,478	\$ 21,744	\$ 13,847	\$ 3,755	\$ 1,867	\$ 9,463	\$ 100	\$ 1,739	\$ 23,197	\$ 26,205	\$ 14,802	\$ 248,712	\$ 2,867	\$ 6,762	\$ 488,537
9/9/2022	16-20	\$ 62,030	\$ 10,104	\$ 6,923	\$ 1,982	\$ 1,951	\$ 4,807	\$ 47	\$ 830	\$ 12,648	\$ 13,378	\$ 6,646	\$ 120,488	\$ 1,167	\$ 4,775	\$ 247,776
Total		\$ 705,895	\$ 71,796	\$ 77,133	\$ 16,220	\$ 24,380	\$ 44,864	\$ 502	\$ 8,179	\$ 122,908	\$ 148,360	\$ 76,132	\$ 1,328,490	\$ 15,621	\$ 49,217	\$ 2,689,698

Table 4 is the difference between Table 2 & 3, with cost increases as positive numbers and decreases as negative numbers.

Date	Hours	AEWSD	BCID	CWD	GCID	JID	LTRID	PPCID	RD108	SCVWD	SCWA	WSID	WWD	TWID	Z7	PWRPA
8/31/2022	17-20	\$ 1,610	\$ (831)	\$ 87	\$ (422)	\$ (695)	\$ 150	\$ 1	\$ 830	\$ 1,516	\$ 298	\$ (109)	\$ 347	\$ (459)	\$ (2,322)	\$ -
9/3/2022	18-20	\$ (5,577)	\$ (690)	\$ (835)	\$ (383)	\$ 37	\$ 1,288	\$ (2)	\$ (660)	\$ 982	\$ (1,029)	\$ 868	\$ 3,110	\$ (778)	\$ 3,669	\$ -
9/4/2022	17-20	\$ 1,874	\$ (189)	\$ 2	\$ (11)	\$ (164)	\$ (191)	\$ 0	\$ 109	\$ (153)	\$ (592)	\$ (83)	\$ (376)	\$ 90	\$ (316)	\$ -
9/5/2022	17-22	\$ 1,250	\$ 487	\$ (759)	\$ (387)	\$ (148)	\$ (1,002)	\$ 1	\$ (519)	\$ 2,384	\$ 1,846	\$ 53	\$ (4,718)	\$ (618)	\$ 2,132	\$ -
9/6/2022	16-21	\$ (983)	\$ (276)	\$ 240	\$ 222	\$ 83	\$ 199	\$ 4	\$ 269	\$ (839)	\$ (841)	\$ 735	\$ 1,682	\$ 185	\$ (681)	\$ -
9/7/2022	16-21	\$ 25,547	\$ (13,911)	\$ 2,275	\$ (2,110)	\$ 5,649	\$ (2,543)	\$ (31)	\$ (2,490)	\$ (6,072)	\$ 4,501	\$ (8,051)	\$ (13,558)	\$ (1,029)	\$ 11,822	\$ -
9/8/2022	15-21	\$ 2,359	\$ (1,120)	\$ 390	\$ (46)	\$ 297	\$ 99	\$ (1)	\$ 23	\$ 1,146	\$ (138)	\$ (716)	\$ (2,821)	\$ 35	\$ 495	\$ -
9/9/2022	16-20	\$ 3,682	\$ (1,669)	\$ 50	\$ (255)	\$ (59)	\$ 197	\$ (2)	\$ (231)	\$ (227)	\$ 725	\$ (357)	\$ (2,850)	\$ 16	\$ 978	\$ -
Total		\$ 29,761	\$ (18,200)	\$ 1,449	\$ (3,392)	\$ 5,000	\$ (1,804)	\$ (29)	\$ (2,671)	\$ (1,264)	\$ 4,770	\$ (7,660)	\$ (19,183)	\$ (2,557)	\$ 15,778	\$ -

The general concept of the program is that the grid is calling on curtailment due to supply shortages. When the grid is in stress, prices should be higher in the RT versus the DA. Some hours yielded increased costs to DSGS participants, most notably on September 7 and 8. In this instance, the DA Schedule for full/non-curtailed load was priced higher than the RT Imbalance, causing a deficit between DA and RT costs.

The graph below shows the LMPs during the specific DSGS program hours on the given days. In instance where the gray line (RT) is lower than the orange (DA), we expect to see an increase to load costs page on these adjusted calculations.



Power & Water Resources Pooling Authority
Resolution 23-04-02

AGGREGATION SERVICES AGREEMENT – EXHIBIT E VERSION 10

WHEREAS, Aggregation Services Agreement (“ASA”) Exhibit E describes the rate methodology and cost allocation principles associated with PWRPA’s provision of electric services to the Project Participants, and describes a process by which each Project Participant’s actual cost of service is annually reconciled with revenue collected from such Project Participant through pro forma rates (including any inter-period rate adjustment); and

WHEREAS, a comprehensive amendment to the ASA Exhibit E was approved by Resolution 20-10-19, which among other things, included “a consistent cost and benefit allocation methodology across all power resources, both physical and financial” whereby each “Participant shall pay all costs and receive all benefits for each Specific Project according to the Project participation shares in each Project;” and

WHEREAS, in the summer of 2022, PWRPA participated in the Demand Side Grid Support Program implemented by the California Energy Commission whereby certain of PWRPA’s customers provided demand response services to the State of California; and

WHEREAS, PWRPA received compensation from the State participating and also incurred operational costs for scheduling and administrative tasks.

NOW, THEREFORE, BE IT RESOLVED that the PWRPA Board of Directors hereby:

1. Approves the amendment to ASA Exhibit E, Section VI Cost Allocation Algorithms, Subsection I Load Costs, as shown here in italics:
 1. Cost Allocation: Participant hourly Energy.
 2. Costs include all day-ahead and real-time energy, congestion, and loss charges.
 3. *Demand Response programs will use a combination of Participant hourly energy and Participant load forecast for Cost Allocation.*
2. Authorizes this Resolution to have an Effective Date of January 1, 2023, thereby, being applicable to the demand response cost allocations in the 2022 Annual Reconciliation.
3. Directs the General Counsel to prepare a conformed blackline full copy of Exhibit E signified as Version 10 and attach it to the official version of this Resolution.

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Power & Water Resources Pooling Authority
Resolution 23-04-02

PASSED AND ADOPTED by the PWRPA this 5th day of April 2023, by the following vote on roll call:

AYES	Arvin-Edison WSD, Banta Carbona ID, Byron Bethany ID, Cawelo WD, Glenn-Colusa ID, James ID, Lower Tule River ID, Princeton/Provident ID, RD 108, Santa Clara Valley WD, Sonoma County WA, The West Side ID, West Stanislaus ID, Westlands WD, Zone 7 WA (100.0% voting shares)
NOES	None
ABSENT	None

David Weisenberger
Chairman

Attest by: Bruce McLaughlin
Secretary

Power & Water Resources Pooling Authority

Regular Agenda • Item 8.C

1. Onsite generation structural model options.

