

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Develop an
Electricity Integrated Resource Planning
Framework and to Coordinate and Refine Long-
Term Procurement Planning Requirements.

Rulemaking 16-02-007
(Filed February 19, 2016)

**2018 INTEGRATED RESOURCE PLAN OF
3 PHASES RENEWABLES**

(PUBLIC)

Michael Mazur
Principal
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August 1, 2018

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OF THE STATE OF CALIFORNIA**

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Framework and to Coordinate and Refine Long-
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**2018 INTEGRATED RESOURCE PLAN OF
3 PHASES RENEWABLES**

In accordance with Ordering Paragraph 14 of Decision 18-02-018, 3 Phases Renewables hereby submits this Integrated Resource Plan,¹ including the following documents attached hereto and incorporated herein by reference:

- Alternate LSE Plan (Type 1)
- Conforming Portfolio
- CEC Form S-1: Capacity Resource Accounting Table
- CEC Form S-2: Energy Balance Accounting Table
- Power Source Disclosure Program 2017 Annual Report
- Officer Verification

Respectfully submitted,



Michael Mazur
Principal
3 Phases Renewables

August 1, 2018

¹ Spreadsheets and reports containing confidential information are not attached to this public version of this 2018 Integrated Resource Plan.

(PUBLIC)

Alternative LSE Plan

3 PHASES RENEWABLES

2018 INTEGRATED RESOURCE PLAN

August 1, 2018

Table of Contents

1. Executive Summary	1
2. Study Design	1
3. Study Results	2
3.1. Preferred and Conforming Portfolios	2
3.2. Disadvantaged Communities Impacts	2
3.3. Cost and Rate Analysis	3
3.4. Local Needs Analysis	3
4. Action Plan	3
5. Lessons Learned	3
6. Confidentiality	3

1. Executive Summary

This 2018 Integrated Resource Plan (2018 IRP) of 3 Phases Renewables (“3PR”) consists of the following forms, reports and information:

- CEC Form S-1: Capacity Resource Accounting Table.¹
- CEC Form S-2: Energy Balance Accounting Table.
- 3PR’s Power Source Disclosure Program 2017 Annual Report.
- A description of 3PR’s treatment of disadvantaged communities.
- A description of how 3PR’s planned future procurement is consistent with 3PR’s individual Greenhouse Gas Benchmark.
- 3PR’s Conformed Portfolio.
- 3PR’s Preferred Portfolio, including identification and justification for deviations in assumptions from the Reference System Portfolio.
- A description of how 3PR’s Preferred Portfolio is consistent with each relevant statutory and administrative requirement.
- An action plan for implementing 3PR’s 2018 IRP.
- A discussion of lessons learned from this IRP and suggestions for improving the IRP process.

2. Study Design

3PR used the following process to develop its 2018 IRP:

1. 3PR used its 2019 Resource Adequacy Year-Ahead Load Forecast (RA Load Forecast) as is “assigned load forecast,” which served as the basis for calculating:
 - 3PR’s annual energy requirement inputs for the GHG Calculator²;
 - 3PR’s annual capacity requirements as reported in CEC Form S-1³;

¹ Load serving entities (LSEs) use Form S-1 and Form S-2 to report electricity supply resource plan information to the California Energy Commission (CEC) as part of the CEC’s data collection for the biennial *Integrated Energy Policy Report*. However, 3PR was not required to file an electricity supply resource plan for the 2017 IEPR, given that 3PR’s peak load was less than 200 megawatts (MW) in both 2015 and 2016. 3PR prepared the S-1 and S-2 forms that are being submitted as part of this 2018 IRP solely for that purpose. Accordingly, the electricity supply resource plan information reported in forms S-1 and S-2 is limited to the current IRP Planning Period (i.e., 2018-2030) and does not include historical information. Moreover, to minimize inconsistencies with the load data used for the GHG Calculator, the load data reported in forms S-1 and S-2 is derived from the same data set that was used for 3PR’s 2019 Resource Adequacy Year-Ahead Load Forecast.

² The energy requirements in 3PR’s 2019 RA Load Forecast include distribution losses, while the GHG Calculator adds transmission and distribution losses to inputted energy requirements. Therefore, to calculate the energy requirement inputs for the GHG Calculator, 3PR deducted distribution losses from the energy requirements reported in its 2019 RA Load Forecast.

³ Whereas the peak loads reported in the RA Load Forecast are *monthly* peak loads by *service territory*, the instructions for CEC Form S-1 call for LSEs to forecast their *annual non-coincident system* peak loads.

- 3PR's annual energy requirements as reported in CEC Form S-2⁴;
 - 3PR's individual GHG Emissions Benchmark.
2. 3PR used its assigned load forecast and the methodology set forth in Decision 18-02-018 to calculate its individual GHG Emissions Benchmark.⁵
 3. 3PR produced a Conforming Portfolio based on:
 - 3PR's assigned load forecast;
 - 3PR's estimated Renewables Portfolio Standard (RPS) procurement obligations for 2018, 2022, 2026 and 2030;
 - 3PR's estimated Energy Storage procurement obligations⁶;
 - Inputs and assumptions matching those used in developing the Reference System Portfolio.
 4. 3PR used the Clean Net Short Methodology and the GHG Calculator to estimate the GHG emissions produced by its Conforming Portfolio.
 5. 3PR used the resources and methodology referenced in staff's guidance to identify customers in disadvantaged communities.

3. Study Results

3.1. Preferred and Conforming Portfolios

The estimated GHG emissions associated with 3PR's Conforming Portfolio total [REDACTED] MMtCO₂/yr., which exceeds 3PR's GHG Emission Benchmark by only 0.5% and, presumably, is within the range acceptable for IRP purposes. 3PR's Conforming Portfolio is otherwise also consistent with all IRP regulatory and administrative requirements and 3PR requests that it be certified as 3PR's Preferred Portfolio.

3.2. Disadvantaged Communities Impacts

3PR estimates that 12.2% of its current customers are in disadvantaged communities (DACs).⁷ All such customers are either commercial or industrial customers. That is, 3PR does not serve any

Thus, while the forecast 2019 annual system peak load reported in Form S-1, which serves as the forecast peak load reported in Form S-1 for each year of the 2018-2030 forecast period, was calculated using the same data set that was used to develop the monthly peak loads for each service territory reported in 3PR's 2019 RA Load Forecast, the former is not the simple sum of the latter.

⁴ The annual energy requirements reported in Form S-2 mirror the energy requirement inputs for the GHG Calculator.

⁵ 3PR's individual GHG Emissions Benchmark is [REDACTED] MMtCO₂/yr.

⁶ As an electric service provider (ESP), 3PR is required to procure energy storage equal to 1% of its 2020 peak load, with the procured energy storage to be in commercial operation by no later than 2024.

⁷ Calculated as a percentage of the total number of meter accounts 3PR currently serves.

residential customers in DACs. Therefore, the IRP descriptive requirements for DACs are inapplicable to 3PR.

3PR has no DAC-specific activities or programs. However, 3PR's customers help fund utility activities and programs aimed at customers in DACs through public purpose program charges.

3PR has no planned procurement from generation resources located in DACs. Therefore, the IRP requirements related to estimating and minimization of local air pollution in DACs are inapplicable to 3PR.

3.3. Cost and Rate Analysis

Because the direct access market is both competitive and capped, 3PR endeavors to secure and retain customers by procuring energy and capacity products, including statutorily mandated products (e.g., RA capacity and RPS products), at the lowest cost possible. 3PR plans to continue this practice throughout the IRP forecast period.

3.4. Local Needs Analysis

3PR's local capacity procurement needs will likely vary over the IRP forecast period, as such needs are dependent on the make-up and location of 3PR's customers, which will vary over time. Whatever those needs may be, however, 3PR will use its best efforts to procure Local RA capacity in the locations and amounts required to meet 3PR's assigned Local RA obligations.

4. Action Plan

3PR's 2018 IRP Plan closely reflects 3PR's current procurement practices, which are to (a) procure RA and RPS products in the amounts required to satisfy 3PR's regulatory obligations and (b) procure its energy requirements primarily from CAISO markets. It does not appear that any changes to those practices will be required to meet 3PR's individual GHG Emissions Benchmark.

5. Lessons Learned

3PR's focus in this first IRP cycle has been simply to understand and satisfy the IRP requirements. Energy Division staff has been exceptionally helpful in that regard. Prior to the next IRP cycle, however, 3PR recommends that the Energy Division hold a workshop with the aim of identifying IRP data and information requirements that, given the differences between ESPs and other classes of LSEs, can safely be simplified or eliminated for ESPs without detracting from the Commission's ability to meet statutory requirements.

6. Confidentiality

3PR is requesting confidentiality for portions of its 2018 IRP.

CONFORMING PORTFOLIO



3 Phases Renewables

Yellow fills indicate confidentiality is being requested pursuant to Appendix A.
 2018 MW numbers are illustrative.

Where cell specifies more than one datum separate data with a semicolon.

Bold font cells sum automatically. Data input by User are in dark green font.

line	Capacity Resource Accounting Table (MW)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	PEAK LOAD CALCULATIONS	(↓ Prior Forecasts ↓)		(Forecast Supply ⇒)													
1	Forecast Total Peak-Hour 1-in-2 Demand																
2a	ESP Demand Existing Customer Contracts																
2b	ESP Demand New and Renewed Contracts																
2c	ESP Demand in PG&E service area																
2d	ESP Demand in SCE service area																
2e	ESP Demand in SDG&E service area																
3	Additional Achievable Energy Efficiency (-)																
4	Demand Response / Interruptible Programs (-)																
5	Adjusted Demand: End-Use Customers	0	0	0													
6	Coincidence Adjustment (-)																
7	Coincident Peak-Hour Demand	0	0	0													
8	Required Planning Reserve Margin	0	0	0													
9	Credit for Imports That Carry Reserves (-)																
10	Firm Sales Obligations																
11	Firm LSE Procurement Requirement	0	0	0													

line	CAPACITY SUPPLY RESOURCES	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
12a	Total Fossil Fuel Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12b	[state fuel; then list each resource, e.g. Fossil Unit 1]																
12c	[state fuel; then list each resource, e.g. Natural Gas; Fossil Unit 2]																
12d	[state fuel; then list each resource, e.g. Natural Gas; Fossil Unit N; list planned resources last]																
13a	Total Nuclear Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13b	[Nuclear Unit 1]																
13c	[Nuclear Unit 2]																
14a	Total Hydroelectric Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14b	Total Hydro Supply from Plants larger than 30 MW																
14c	Total Hydro Supply from Plants 30 MW or less																

line	Capacity Resource Accounting Table (MW)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
15a	Total Utility-Controlled Renewable Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15b	[state fuel; then list each resource, e.g. Renewable Plant 1]																
15c	[state fuel; then list each resource, e.g. Geothermal Renewable Project 2]																
15d	[state fuel; then list each resource, Wind Renewable Project N; list planned resources last]																
17a	Total Qualifying Facility (QF) Contract Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17b	Biofuels																
17c	Geothermal																
17d	Small Hydro																
17e	Solar																
17f	Wind																
17g	Natural Gas																
17h	Other																
18a	Total Renewable Contract Supply	0	0	0	94	0	0	0	0	0	0	0	0	0	0	0	0
18b	Renewable DG Supply																
18c	Biogas WC TPES1																
18d	Wind; TEH TPES																
18e	Solar PVS TPES				0												
18f	Biogas MRWMD TPES																
18g	Solar; CAL TPES																
18h	Biomass 33B113Q02																
18i	Biomass: TPES WAD																
19a	Total Other Bilateral Contract Supply	0	0	0			0	0	0	0	0	0	0	0	0	0	0
19b	Non-Renewable DG Supply																
19c	33B113Q01																
19d	TPEC CES2018A-Flex																
19e	TPES VSTATES																
19f	3247673				0												
19g	3247672				0												
19h	3353208				0												
19i	Planned Resources list each on lines inserted below this line.																
20	Short-Term and Spot Market Purchases (and Sales)																

line	CAPACITY BALANCE SUMMARY	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
21	Total: Existing and Planned Supply	0	0	0													
22	Firm LSE Procurement Requirement	0	0	0													
23	Net Surplus (or Need)	0	0	0													
24	Generic Renewable Supply																
25	Generic Non-Renewable Resources																
26	Specified Planning Reserve Margin																

line	Historic LSE Peak Load:	MW Year 2015	MW Year 2016
27	Annual Peak Load / Actual Metered Deliveries		
28	Date of Peak Load for Annual Peak Deliveries	/15	/16
29	Hour Ending (HE) for Annual Peak Deliveries		
30	Interruptible Load called on during that hour (+)		
31	Self-Generation and DG Adjustments		
32	Adjustments for Major Outages		
33	Adjusted Annual Peak Load	0.0	0.0

Lines	Notes
x	
x	



3 Phases Renewables

Yellow fills indicate confidentiality is being requested pursuant to Appendix A.
 2018 GWh numbers are illustrative.

Where cell specifies more than one datum separate data with a semicolon.

Bold font cells sum automatically. Data input by User are in dark green font.

line	Energy Balance Table (GWh)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	ENERGY DEMAND CALCULATIONS	(↓ Actual Supply ↓)		(Forecast Supply ⇒)													
1	Forecast Total Energy Demand / Consumption																
2a	ESP Demand Existing Customer Contracts																
2b	ESP Demand New and Renewed Contracts																
2c	ESP Demand in PG&E service area																
2d	ESP Demand in SCE service area																
2e	ESP Demand in SDG&E service area																
3	Additional Achievable Energy Efficiency (-)																
4	Demand Response/ Interruptible Programs (-)																
5	Adjusted Demand: End-Use Customers	0	0	0													
6	Coincidence Adjustment [does not apply to S-2 form]																
7	Coincident Peak-Hour Demand [does not apply to S-2]																
8	Required Planning Reserve [does not apply to S-2]																
9	Credit for Imports That Carry Reserves [does not apply]																
10	Firm Sales Obligations																
11	Firm LSE Procurement Requirement	0	0	0													

line	Energy Balance Table (GWh)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	ENERGY SUPPLY RESOURCES																
12a	Total Fossil Fuel Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12b	[state fuel then list each resource e.g. Fossil Unit 1]																
12c	[state fuel then list each resource e.g. Natural Gas Fossil																
12d	[state fuel; then list each resource, e.g. Natural Gas; Fossil Unit N; list planned resources last]																
13a	Total Nuclear Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13b	[Nuclear Unit 1]																
13c	[Nuclear Unit 2]																
14a	Total Hydroelectric Supply	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
14b	Total Hydro Supply from Plants larger than 30 MW																
14c	Total Hydro Supply from Plants 30 MW or less																

line	Energy Balance Table (GWh)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	ENERGY SUPPLY RESOURCES																
15a	Total Utility-Controlled Renewable Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15b	[state fuel then list each resource e.g. Renewable Plant 1]																
15c	[state fuel; then list each resource, e.g. Geothermal Renewable Project 2]																
15d	[state fuel; then list each resource, Wind Renewable Project N; list planned resources last]																
17a	Total Qualifying Facility (QF) Contract Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17b	Biofuels																
17c	Geothermal																
17d	Small Hydro																
17e	Solar																
17f	Wind																
17g	Natural Gas																
17h	Other																
18a	Total Renewable Contract Supply	0	0	0				0	0	0	0	0	0	0	0	0	0
18b	Renewable DG Supply																
18c	Bio gas; WC TPES1																
18d	Wind; TEH TPES																
18e	Solar PVS TPES																
18f	Bio gas;MRWMD TPES																
18g	Solar CAL TPES																
18h	Biomass 33B113Q02				0												
18i	Biomass; TPES WAD				0												
19a	Total Other Bilateral Contract Supply	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
19b	Non-Renewable DG Supply																
19c	33B113Q01				0	0											
19d	TPEC_CES2018A-Flex				0	0											
19e	TPES_VSTATES				0	0											
19f	3247673																
19g	3247672																
19h	3353208																
19i	Planned Resources list each on lines inserted below this line.																
20	Short Term and Spot Market Purchases (and Sales)																

line	Energy Balance Table (GWh)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	ENERGY BALANCE SUMMARY																
21	Total: Existing and Planned Resources	0	0	0													
22	Firm LSE Procurement Requirement	0	0	0													
23	Net Surplus (or Need)																
24	Generic Renewable Supply																
25	Generic Non-Renewable Supply																

line	Notes
x	
x	



**ANNUAL REPORT TO THE CALIFORNIA ENERGY COMMISSION:
Power Source Disclosure Program
Schedule 1 and 2, applicable to: Load Serving Entities
For the Year Ending December 31, 2017**

Load serving entities are required to use the posted template and are not allowed to make edits to this format.
Please fill out the company name and contact information.

GENERAL INSTRUCTIONS

COMPANY NAME	
	3 Phases Renewables
PRODUCT NAME (If Multiple Products Offered)	
CONTACT INFORMATION	
Name	Mike Mazur
Title	Principal
Mailing Address	1228 E. Grand Avenue
City, State, Zip	El Segundo, CA 90245
Phone	310-798-5275
E-mail	mmazur@3phasesrenewables.com
Website for PCL Posting	https://3phasesrenewables.com/direct-access/

Please fill out the schedules that apply to your company's filing requirements. Provide the annual report and attestation together in PDF format and the annual report in an excel file by email to PSDprogram@energy.ca.gov. Remember to fill in the company name above, submit separate reports and attestations for each additional product if multiple electric service products are offered. Report procurements in MWh (not kWh).

NOTE: Information submitted in this report is not automatically held confidential. If your company wishes the information submitted to be considered confidential an authorized representative must submit an application for confidential designation (CEC-13), which can be found on the California Energy Commissions's website at http://www.energy.ca.gov/commission/chief_counsel/documents/CEC13.pdf

If you have questions, contact PSD staff at PSDprogram@energy.ca.gov or (916) 653-6222.



ANNUAL REPORT TO THE CALIFORNIA ENERGY COMMISSION: Power Source Disclosure Program

For the Year Ending December 31, 2017 SCHEDULE 1: POWER PROCUREMENTS AND RETAIL SALES Applicable to: Load Serving Entities

INSTRUCTIONS: Enter information about power procurements supporting all electricity products for which your company is filing the Annual Report. If you need additional rows, add them from the INSERT menu. Please list all purchases (Specified and Unspecified purchases) as line items under the Facility Name heading. If a procurement was for unbundled RECs include the term "REC Only" in parentheses after the facility name in the Facility Name column, and categorize the power as the fuel type of the generating facility from which the unbundled REC was derived. If procured power was from a transaction that expressly transferred energy only and not the RECs associated with that energy, identify the power as "Unspecified Power" in the Fuel Type column.

ALL PROCUREMENTS (Specified and Unspecified)												
Facility Name	Unit No.	Fuel Type	Location (State or Province)	RPS ID	WREGIS GUID	EIA ID	FERC QF ID	Gross MWh Procured	MWh Resold or Self-Consumed	Net MWh Procured		
85-A - AES Tehachapi Wind, LLC		Wind	CA	60385	W503							
85-B - AES Tehachapi Wind, LLC 85-B		Wind	CA	60386	W504							
Bayley Creek Hydro		Hydroelectric Water	CA	60195	W568							
CA Flats Solar 130		Solar	CA	62873	W5594							
Cape Scott Wind - Cape Scott Wind		Wind	BC	60600	W3959							
Dokle Wind - Dokle Wind		Wind	BC	61360	W1992							
Juniper Canyon - Juniper Canyon		Wind	WA	61202	W1690							
Leaning Juniper II - Leaning Juniper II		Wind	OR	61200	W1689							
Mekite Wind - Mekite Wind		Wind	BC	63263	W5189							
Monterey Regional Waste Management District - MRWMD UTC06	1	Biogas	CA	60107	W540	12869						
Monterey Regional Waste Management District - MRWMD U4J09	4	Biogas	CA	60107	W541	12869						
Monterey Regional Waste Management District - MRWMD U2J02	2	Biogas	CA	60107	W770	12869						
Monterey Regional Waste Management District - MRWMD U3J98	3	Biogas	CA	60107	W771	12869						
Panoche Valley Solar - Panoche Valley Solar		Solar	CA	60653	W5851							
Roosevelt Biogas 1 - LFG Engines 7-9 - LFG Phase II		Biogas	WA	60974	W2398	58771						
Shiloh I Wind Project - Shiloh I Wind Project LLC		Wind	CA	60488	W231							
Patua Geothermal Project - Patua Geothermal Project 1A		Geothermal	NV	61382	W3922	58245						
MM West Covina - MM West Covina, LLC		Biogas	CA	60478	W440							
MM West Covina - MM West Covina 2		Biogas	CA	60478	W442							
Cedar Creek - Cedar Creek		Wind	CO	60822	W892	56371						
Cedar Creek II - Cedar Creek II		Wind	CO	61584	W1900	57210						
Elkhorn Valley Wind Farm - Elkhorn Valley Wind Farm		Wind	OR	61034	W186							
Logan Wind Energy - Logan		Wind	CO	60817	W893							
Peetz Table Wind Energy - Peetz Table		Wind	CO	60316	W894							
Patua Geothermal Project - Patua Geothermal Project 1A (REC Only)		Geothermal	NV	61382	W3922	58245						
Patua Geothermal Project - Patua Geothermal Project 1A (REC Only)		Solar	NV	61382	W3922							
Patua Solar Project - Patua Solar Project (REC Only)		Solar	NV	61382	W5652							
Patua Solar Project - Patua Solar Project (REC Only)		Geothermal	NV	61382	W5652							
Rolling Hills - Rolling Hills (REC Only)		Wind	WY	60806	W928							
Glenrock I - Glenrock I (REC Only)		Wind	WY	60805	W864							
Glenrock III - Glenrock III (REC Only)		Wind	WY	60804	W865							
High Plains - High Plains (REC Only)		Wind	WY	60899	W1394							
Top of the World - Top of the World (REC Only)		Wind	WY	61199	W1749							
Clearwater Paper Corporation - #4 turbine generator (REC Only)		Hydroelectric Water	ID	60533	W129							
Cedar Creek II - Cedar Creek II (REC Only)		Wind	CO	61384	W1900	57210						
Granite Mountain Solar West, LLC (REC Only)		Solar	ID	63671	W4943							
Granite Mountain Solar East, LLC (REC Only)		Solar	ID	63670	W4942							
Shell												
CANSO												

Total Net Purchases

Total Retail Sales



**ANNUAL REPORT TO THE CALIFORNIA ENERGY COMMISSION:
 Power Source Disclosure Program
 For the Year Ending December 31, 2017
 SCHEDULE 2: ANNUAL POWER CONTENT LABEL CALCULATION
 Applicable to: Load Serving Entities**

INSTRUCTIONS: Total specific purchases (by fuel type) and enter these numbers in the first column. Null power purchases should be included with Unspecified Power. REC only purchases should be included as part of the fuel type they represent. Total retail sales information from Schedule 1 will autopopulate on this schedule. Any difference between total net purchases and total retail sales will be applied pro-rata to each non-renewable fuel type. Each fuel type total will then be divided by retail sales to calculate fuel mix percentages.

	Net Purchases (MWh)	Percent of Total Retail Sales (MWh)
Specific Purchases		
Renewable		90%
Biomass & Biowaste		18%
Geothermal		2%
Eligible hydroelectric		1%
Solar		16%
Wind		53%
Coal		0%
Large Hydroelectric		0%
Natural Gas		0%
Nuclear		0%
Other		0%
Total Specific Purchases		90%
Unspecified Power (MWh)		10%
Total		100%
Total Retail Sales (MWh)		

COMMENTS:



**ANNUAL REPORT TO THE CALIFORNIA ENERGY COMMISSION:
Power Source Disclosure Program
For the Year Ending December 31, 2017
ATTESTATION FORM**

Applicable to: All participants in the Power Source Disclosure Program

I, Mike Mazur, Principal, declare under penalty of perjury, that the statements contained in Schedules 1 and 2 are true and correct and that I, as an authorized agent of 3 Phases Renewables, have authority to submit this report on the company's behalf. I further declare that the megawatt-hours claimed as specific purchases as shown in these Schedules were, to the best of my knowledge, sold once and only once to retail consumers.

Name: Michael Mazur

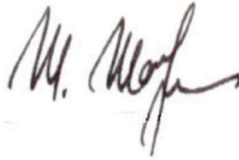
Signed _____

Date 06/01/2018 _____

VERIFICATION

I, Michael Mazur, am an officer of 3 Phases Renewables, and I am authorized to make this verification on its behalf. I have read the foregoing 2018 Integrated Resource Plan of 3 Phases Renewables, including the attachments thereto, and I affirm the contents thereof are true of my own knowledge, except as to matters which are therein stated on information and belief, and as to those matters I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 1, 2018, at El Segundo, California.

A handwritten signature in black ink, appearing to read "M. Mazur", is written above a horizontal line.

Michael Mazur
Principal
3 Phases Renewables