



June 14, 2019

California Public Utilities Commission
Energy Division
Attention: Generation and Transmission Planning
505 Van Ness Avenue
San Francisco, CA 94102

Advice Letter 35-E

SUBJECT: Update to MCE 2018 Integrated Resources Plan

Marin Clean Energy (“MCE”) submits this Advice Letter (“AL”) with updated information on the nitrogen oxides (“NO_x”) and particular matter (“PM_{2.5}”) associated with its 2018 Integrated Resources Plan (“IRP”) filing.

Effective Date: July 15, 2019

Tier Designation: Tier 2

Pursuant to General Order 96-B, Energy Industry Rule 5.2, this AL is submitted with a Tier 2 designation.

Purpose

The purpose of this AL is provide the NO_x and PM value associated with MCE’s IRP, as directed in Decision (“D.”) 19-04-040, and to seek certification of MCE’s 2018 IRP.

Background

As directed in D. 19-04-040, MCE files this Tier 2 AL to provide the best available estimates of emissions of NO_x and PM_{2.5} associated with all emitting resources used to serve MCE’s load for planning years of 2018, 2022, 2026, and 2030.¹ MCE has calculated the results based on guidance from the Energy Division.

NO_x and PM Values Associated with Planning Years 2018-2030

The NO_x and PM_{2.5} values associated with MCE’s IRP, in planning years 2018, 2022, 2026, and 2030 are provided in the table below. MCE also attached its calculator as Attachment A,

¹ D. 19-04-040 at page 41.



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which shows MCE’s reliance on dispatchable gas-fired power and the associated NOx and PM2.5 emissions.

Importantly, the calculation is based on the data MCE used to complete its compliance IRP in August 2018. The calculation, however, does not necessarily reflect MCE’s current electricity portfolio. Consistent with D. 19-04-040, the table below and Attachment A provide the best available estimates of emissions associated with MCE’s submission in 2018.

MCE's Forecasted Contribution to NOx and PM2.5

Example Clean Energy - Dispatchable Gas-Fired Power	Unit	2018	2022	2026	2030
Forecasted Contribution to NOx	lbs	233,771	63,670	1,035	2,231
Forecasted Contribution to PM2.5	lbs	155,768	41,780	687	1,491

Notice

Anyone wishing to protest this advice filing may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice filing. Protests should be mailed to:

CPUC, Energy Division
 Attention: Tariff Unit
 505 Van Ness Avenue
 San Francisco, California 94102
 E-mail: EDTariffUnit@cpuc.ca.gov

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address above).

In addition, protests and all other correspondence regarding this advice letter should also be sent by letter and transmitted via facsimile or electronically to the attention of:

C.C. Song
 Regulatory and Legislative Policy Manager
 MARIN CLEAN ENERGY
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There are no restrictions on who may file a protest, but the protest shall set forth specifically the grounds upon which it is based and shall be submitted expeditiously.



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MCE is serving copies of this advice filing to the relevant parties shown on the R.16-02-007 service list. For changes to this service list, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

Correspondence

For questions, please contact C.C. Song at (415) 464-6018 or by electronic mail at csong@mceCleanEnergy.org.

/s/ C.C. Song

C.C. Song
Regulatory and Legislative Policy Manager
MARIN CLEAN ENERGY

cc: Service List R.16-02-007



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Attachment A

Source A: MCE's IRP Submission on August 1, 2018: Completed GHG Calculator for IRP v.1.4.5 for MCE's Conforming Portfolio

Source B1: Resolve_Results_Viewer 2017-10-24, Portfolio Analytics Tab, CAISO Energy Balance Table

Source D: CPUC IRP2017 Proposed RSP Post Processing 2017-09-19

(http://cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/ElectPowerProcurementGeneration/irp/CPUC_IRP2017_ProposedRSP_PostProcessing_2017-09-19.xlsx)

Source E: CPUC-Provided Heat Rates from 2017 Resolve User Interface - specifically from "CONV_CAISO_Gen_List" tab: <ftp://ftp.cpuc.ca.gov/resources/electric/irp2017/resolveuserinterface/>

MCE Calculations

A. MCE's forecasted dependence on dispatchable gas-fired power

Dependence on Dispatchable Gas-Fired Power	Unit	2018	2022	2026	2030
MCE system power transactions*	MWh	3,319,000	879,000		
Net charging by energy storage	MWh	423	7,144	14,642	31,810
Total Dependence on Dispatchable Gas-Fired Power	MWh	3,319,423	886,144	14,642	31,810

*In MCE's completed GHG Calculator, these figures are titled "owned or contracted non-dispatchable GHG-emitting resources." However, MCE was simply using this row to display its system power deals, which correspond to dispatchable gas-fired power

B1. CAISO Mix of Dispatchable Gas-Fired Power

Technology	Unit	2018	2022	2026	2030
CAISO_ST	GWh	3	41	30	0
CAISO_CCGT1	GWh	61,470	46,365	66,509	67,818
CAISO_CCGT2	GWh	1,344	437	577	1,554
CAISO_Peaker1	GWh	0	0	93	6
CAISO_Peaker2	GWh	65	232	47	0
CAISO_Reciprocating_Engine	GWh	30	82	77	20
Total	GWh	62,913	47,158	67,332	69,397

B2. CAISO Mix of Dispatchable Gas-Fired Power

Technology	Unit	2018	2022	2026	2030
CAISO_ST	%	0.01%	0.09%	0.04%	0.00%
CAISO_CCGT1	%	97.71%	98.32%	98.78%	97.72%
CAISO_CCGT2	%	2.14%	0.93%	0.86%	2.24%
CAISO_Peaker1	%	0.00%	0.00%	0.14%	0.01%
CAISO_Peaker2	%	0.10%	0.49%	0.07%	0.00%
CAISO_Reciprocating_Engine	%	0.05%	0.17%	0.11%	0.03%
Total	%	100%	100%	100%	100%

C. MCE's Mix of Dispatchable Gas-Fired Power

Technology	Unit	2018	2022	2026	2030
CAISO_ST	MWh	180	768	7	0
CAISO_CCGT1	MWh	3,243,314	871,252	14,463	31,086
CAISO_CCGT2	MWh	70,910	8,206	125	712
CAISO_Peaker1	MWh	0	5	20	3
CAISO_Peaker2	MWh	3,443	4,367	10	0
CAISO_Reciprocating_Engine	MWh	1,576	1,547	17	9
Total	MWh	3,319,423	886,144	14,642	31,810

D. NOx and PM2.5 Emissions Intensities

Technology	NOx (lbs/MWh)	PM2.5 (lbs/MMBtu)
CAISO_ST	0.1500	0.0075
CAISO_CCGT1	0.0700	0.0066
CAISO_CCGT2	0.0700	0.0066
CAISO_Peaker1	0.0990	0.0066
CAISO_Peaker2	0.2790	0.0066
CAISO_Reciprocating_Engine	0.5000	0.0100

E. CPUC-Provided Heat Rates

Technology	Average HR at P-Max MMBtu/MWh	Average HR at P-Min MMBtu/MWh	Overall Average MMBtu/MWh (average)
CAISO_ST	10.05	17.12	13.59
CAISO_CCGT1	6.91	7.25	7.08
CAISO_CCGT2	7.62	8.33	7.98
CAISO_Peaker1	8.58	11.49	10.03
CAISO_Peaker2	12.04	15.42	13.73
CAISO_Reciprocating_Engine	9.94	11.65	10.80

F. PM2.5 Emissions Intensities

Technology	PM2.5 (lbs/MWh)
CAISO_ST	0.1019
CAISO_CCGT1	0.0467
CAISO_CCGT2	0.0526
CAISO_Peaker1	0.0662
CAISO_Peaker2	0.0906
CAISO_Reciprocating_Engine	0.1080

G. MCE's Forecasted Contribution to NOx and PM2.5

Example Clean Energy - Dispatchable Gas-Fired Power	Unit	2018	2022	2026	2030
Forecasted Contribution to NOx	lbs	233,771	63,670	1,035	2,231
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