BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE
STATE OF CALIFORNIA

| Order Instituting Rulemaking to Continue Electric Integrated Resource Planning and Related Procurement Processes | R.20-05-003 |
|---|---|

# SHELL ENERGY NORTH AMERICA (US), L.P.
# 2020 INTEGRATED RESOURCE PLAN
# (PUBLIC VERSION)

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Date: September 1, 2020

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In accordance with the schedule adopted in D.20-03-028 (March 26, 2020), Shell Energy North America (US), L.P. ("Shell Energy") submits its Integrated Resource Plan ("IRP") in the above referenced proceeding. Shell Energy is a registered Electric Service Provider ("ESP") serving commercial, industrial and agricultural customers in the service territories of all three investor-owned utilities ("IOU") in California. Consistent with D.20-03-028, Shell Energy's IRP submission presents two "conforming" portfolios: one that addresses Shell Energy's proportional share of the 46 MMT GHG target, and another that addresses Shell Energy's proportional share of a 38 MMT GHG target.

In this public version of Shell Energy's IRP, Shell Energy provides its Narrative. Shell Energy also provides an Attestation, as required under D.19-11-016 (November 7, 2019),

describing the status of its procurement to meet its proportionate share of the Commission's adopted 3,300 MW incremental system RA procurement obligation.

The public version of Shell Energy's IRP does not include the Resource Data Templates and CSP Calculators (one for each portfolio). These templates are confidential and are the subject of Shell Energy's accompanying motion for leave to file confidential materials under seal.

Respectfully submitted,

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Template updated by Commission on June 15, 2020

# Standard LSE Plan

Shell Energy North America (US), L.P.

2020 INTEGRATED RESOURCE PLAN

September 1, 2020

**Table of Contents**

# I. Executive Summary

*Shell Energy North America (US), L.P. ("Shell Energy") is a registered Electric Service Provider ("ESP") in California. Shell Energy has been actively serving large commercial and industrial customers since California restructured its wholesale and retail energy markets. Shell Energy does not serve residential customers. A majority of Shell Energy's customers execute contracts for one year in length; therefore, Shell Energy does not utilize models to develop load forecasts or supply portfolios. Instead, Shell Energy utilizes historical final meter data for load currently under contract, or customer estimates based on prior usage for new customers under contract. Shell Energy procures energy and capacity, including renewable ("RPS") energy, based on its projection over the term of existing contracts with its customers. Shell Energy assumes all load currently under contract will be maintained unless otherwise expressly notified. For purposes of this integrated resource plan ("IRP"), however, Shell Energy utilizes the Energy Division's designated 2021 load forecast as extended over the entire forecast period (through 2030).*

*As directed in D.20-03-028 (March 26, 2020), Shell Energy's IRP submission presents two "conforming" portfolios: one that addresses Shell Energy's proportional share of the 46 MMT GHG target, and another that addresses Shell Energy's proportional share of a 38 MMT GHG target. For each conforming portfolio, Shell Energy's portfolio consists of RPS energy, zero GHG emission energy, system energy, and energy storage designed to meet the State's mandates, in addition to specified source energy procurement upon individual customer request.*

*As outlined below, Shell Energy's "Action Plan" consists of Shell Energy executing transmission agreements, power purchase agreements and contracts for storage with third party developers and providers to meet the State's procurement goals, as well as Commission directives, and meet the interests and demands of Shell Energy's retail sales customers. Shell Energy seeks to meet both its retail customers' requirements and the State's procurement targets through clean energy technology and storage, while working to incrementally grow its market share in the currently capped direct access market.*

*As a part of Shell Energy's procurement strategy, Shell Energy intends to meet all Commission-adopted Resource Adequacy ("RA") requirements, including the multi-year local RA requirement in SDG&E's service territory. Shell Energy also intends to enter into contracts to ensure that it meets the long term RPS contract requirement under D.17-06-026 (June 29, 2017). Shell Energy considers the impact to disadvantaged communities ("DACs") in its energy and capacity procurement decisions. Shell Energy supports efforts to bring renewable energy development and jobs to DACs.*

*Finally, as required in D.19-11-016 (November 7, 2019), Shell Energy provides an attestation addressing its procurement of incremental system RA capacity to meet its proportionate obligation. The attestation is attached to this Narrative.*

# II. Study Design

*Shell Energy uses this section to describe how it approached the process of developing its LSE Plan.*

***Load Assignments for Each LSE***

*In D.20-03-028, the Commission directed that for each "Conforming Portfolio," an ESP must utilize the load forecast confidentially communicated to the ESP by Commission staff. As set forth in the chart below, Shell Energy uses the load forecast that was provided by Staff for all years through 2030.*

**ESP Load Forecast, Retail Sales**

| ESP | Load-adjusted 2020 GWh forecast for IRP | | | | Load-adjusted 2021 GWh forecast for IRP | | | | Load-adjusted 2022-2030 GWh forecast for IRP | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PGE TAC | SCE TAC | SDGE TAC | Total | PGE TAC | SCE TAC | SDGE TAC | Total | PGE TAC | SCE TAC | SDGE TAC | Total |
| Shell Energy North America | | | | | | | | | | | | |

*Shell Energy notes, however, that its assigned load forecast does not reflect an accurate forecast of Shell Energy's retail customer load. The Commission Staff allocated to Shell Energy (and to all other ESPs) a proportionate share of the increased direct access load that is expected in 2022 and beyond, based on the increased "cap" under SB 237. The Staff's allocation of the incremental amount of potential direct access is not necessarily representative of an individual ESP's prospective load and calls into question the load forecast for all ESPs. Any procurement directives to individual ESPs as a result of the IRP process may not be based on the load forecasts presented by Commission Staff.*

*Furthermore, the load forecast information is overstated because in the Resource Data Template, the Estimated System RA Requirement (Line 68) shows Shell Energy's September 2021 peak month forecast, as provided by the Commission Staff. This September 2021 peak month forecast is included in the "Dashboard" Tab of the Resource Data Template, which reflects an extrapolation of the adopted September peak month demand applied across all months over the entire 12-month period. This forecast is not reflective of Shell Energy's actual load forecast for each month over a 12-month period.*

*Although Shell Energy's RA filings show that Shell Energy holds sufficient system RA capacity to meet applicable Commission requirements, the "Dashboard" reflects a need for additional system RA procurement beyond what is actually required under applicable RA decisions. The Dashboard's use of September peak month demand improperly results in a "shortfall" in supply compared to load. This does not result in an accurate measure of Shell Energy's overall need for RA resources.*

*Finally, Shell Energy does not provide its own unique load or load modifier shapes in the Clean System Power ("CSP") calculator. For its two "Conforming Portfolios," the total annual energy volumes for both load and load modifiers reflect Shell Energy's assigned forecast. The only adjustment reflects the fact that Shell Energy serves only commercial, industrial and agricultural load; Shell Energy does not serve residential customers.*

***Required and Optional Portfolios***

*As noted above, Shell Energy has produced (and submits herewith) two "Conforming Portfolios:" one that addresses Shell Energy's proportional share of a 46 MMT GHG target, and another that addresses Shell Energy's proportional share of a 38 MMT target. Shell Energy uses its individual load assignment, as indicated above. Shell Energy also uses inputs and assumptions consistent with those used by Staff to develop the Reference System Portfolio.*

*In accordance with the instructions, Shell Energy includes the resources subject to the cost allocation mechanism (CAM) in its Conforming Portfolios. Shell Energy employs the CAM allocation from the*

*Commission Staff's 2021 year-ahead CAM list for all years through 2030. Consistent with the instructions, Shell Energy assumes its future RA obligations are reduced by its proportional share of the RA capacity value reflected in the year-ahead CAM list. Shell Energy uses the same methodology for estimating other costs and benefits associated with those resources.*

*Shell Energy notes, however, that the requirement to include CAM resources in Shell Energy's portfolio reduces Shell Energy's procurement flexibility and imposes unnecessary additional costs on Shell Energy's direct access customers. These CAM costs are likely substantially higher than the costs that would be incurred if Shell Energy performed this capacity procurement on its customers' behalf. Imposing CAM resources (and associated costs) on non-IOU LSEs and their customers makes it more difficult for non-IOU LSEs such as Shell Energy to create a unique supply portfolio and minimize costs to their customers. A portfolio that includes a substantial share of CAM resources diminishes LSE individuality and makes it extremely difficult for ESPs to compete.*

*The Commission should take reasonable steps to ensure that when new procurement is required for reliability, LSEs have the ability to procure their own resources to meet the Commission's procurement target. The Commission should allow LSEs to procure their own share of any necessary new system, flexible, and local RA capacity, as the Commission directed in D.19-11-016.*

***GHG Emissions Benchmark***

*Like other LSEs, Shell Energy was assigned a new 2030 GHG Emissions Benchmark based on the results of the Reference System Portfolio, specifically the 2030 GHG planning target adopted by the Commission for the electric sector. Shell Energy's GHG emissions benchmark under both the 46 MMT GHG emissions portfolio and the 38 MMT portfolio are reflected below:*

*46 MMT Portfolio:*

| LSEs within Utility Territory | 2030 GHG Emissions Benchmark (MMT) | 2030 DA Load (GWh) | ESP 2030 load within each IOU territory (GWh) | ESP benchmark for each IOU territory (MMT) |
|---|---|---|---|---|
| Pacific Gas and Electric Company (Direct Access) | 2.0168 | 11,400 | [redacted] | |
| Southern California Edison Company (Direct Access) | 2.0228 | 13,450 | | |
| San Diego Gas and Electric Company (Direct Access) | 0.7708 | 3,940 | | |
| TOTAL | | 28,790 | | |

*38 MMT Portfolio:*

| LSEs within Utility Territory | 2030 GHG Emissions Benchmark (MMT) | 2030 DA Load (GWh) | ESP 2030 load within each IOU territory (GWh) | ESP benchmark for each IOU territory (MMT) |
|---|---|---|---|---|
| Pacific Gas and Electric Company (Direct Access) | 1.6111 | 11,400 | [redacted] | |
| Southern California Edison Company (Direct Access) | 1.6062 | 13,450 | | |
| San Diego Gas and Electric Company (Direct Access) | 0.6178 | 3,940 | | |
| TOTAL | | 28,790 | | |

*Shell Energy calculated its GHG Emissions Benchmark based on its 2030 load share within each IOU's service territory. Shell Energy added up the separate GHG Emissions Benchmarks calculated based on its assigned share of direct access load for each IOU service territory, leading to a single benchmark. The calculation is found in the CSP calculator (ESP GHG Benchmark Tab).*

## a. Objectives

*Through its IRP analysis, Shell Energy sought to ensure that it met all statutory and Commission-imposed requirements for system planning through 2030. Shell Energy also sought to inform its own future procurement decisions for meeting its projected future retail customer requirements. As noted above, Shell Energy is committed to meeting all State-mandated requirements for RPS, RA, energy storage and GHG emission reductions, while maintaining the flexibility required to meet its customers' demands. In some instances, Shell Energy's retail customers have RPS requirements that are more aggressive than the RPS procurement obligations imposed upon LSEs by the State.*

*The objective of Shell Energy's IRP plan is to inform the Commission of Shell Energy's existing resources, its projection of how statewide policies will impact Shell Energy's future procurement needs, and actions that may be undertaken by Shell Energy to meet these needs. The overall objective of Shell Energy's procurement is to provide energy products to its retail customers that meet both its customers' requirements and the State's required procurement targets through clean energy technology and storage, while working to expand its market - and market share - in an open, unrestricted future direct access environment.*

*Overall, Shell Energy has found the IRP process to be a beneficial exercise because it provides a point of reference for Shell Energy's potential need for new or alternative resource procurement to meet projected GHG emission targets, RPS procurement goals, and RA requirements. As described in greater detail below, Shell Energy determined that to meet the specified GHG emission targets in 2030 (46 MMT and 38 MMT), Shell Energy must procure RPS energy in greater proportions beyond the quantities necessary to meet the statutory RPS procurement target for 2030.*

*As noted above, however, a significant deficiency in this IRP process is the Commission Staff's projection of Shell Energy's (and all other ESPs') retail sales load through 2030. Shell Energy's load forecast reflected in the two "Conforming Portfolios" represents an artificial extrapolation of the Commission staff's assigned load forecast. This unsupported assumption concerning Shell Energy's future load (through 2030) is compounded by the Commission Staff's assumption that every ESP will serve a proportionate share of the increased potential direct access load under the SB 237 "cap." The Commission should recognize the limited value of this exercise when the load forecast assigned to each ESP reflects a "guess" about how (and by whom) future direct access load will be served.*

## b. Methodology

### i. Modeling Tool(s)

*Shell Energy did not utilize its own modeling software to develop its IRP; Shell Energy relied on the Commission Staff's models and templates.*

### ii. Modeling Approach

*Not applicable.*

# III. Study Results

## a. Conforming and Alternative Portfolios

*As noted above, Shell Energy provides two "Conforming Portfolios:" 46 MMT and 38 MMT. In general, Shell Energy relies on existing and new RPS-eligible resources under contract for the term of the respective contract. This includes, but is not limited to, long-term RPS contracts. Except for some GHG-free resources under contract through 2022, and one energy storage contract, the remaining resources in each portfolio include system resources and new or existing RPS-eligible resources with which Shell Energy plans to contract (or in which Shell Energy plans to invest) in the future.*

*Each of Shell Energy's portfolios (46 MMT and 38 MMT) is designed to comply with the RPS procurement target and GHG-emission target for that portfolio. To the extent that existing and new RPS-eligible resources under contract do not meet the RPS procurement requirement in the applicable year (2022, 2026, and/or 2030), the portfolio includes additional RPS-eligible resources, focused on wind and solar resources (Southern California Desert/Southern Nevada). In addition, to the extent that Shell Energy's planned RPS procurement, in combination with its other procurement, does not meet the applicable GHG emission target, Shell Energy includes additional RPS procurement in its Conforming Portfolio, also focused on solar and wind resources.*

*Shell Energy coordinates its RPS procurement planning with its RA capacity planning. Combined with its energy storage procurement, Shell Energy's RPS and RA capacity procurement provide an integrated and flexible portfolio to meet customer needs at the lowest possible cost. Shell Energy is an active participant in the purchase of and investment in RPS resources. Shell Energy has outstanding credit; developers and ESPs are regularly canvasing the market for the purchase and sale of energy and capacity, including RPS supplies. Because Shell Energy's procurement is not subject to Commission approval or oversight, Shell Energy pursues procurement through informal solicitations, bilateral negotiations and contracting. The streamlined procurement process employed by Shell Energy results in flexible and efficient procurement to meet customer demand.*

*The resources included in Shell Energy's respective Conforming Portfolios are set forth in the "Supply Inputs" Tab of the CSP Calculator and the "Unique Contracts" Tab of the Resource Data Template. In the Table below, Shell Energy provides its long term RPS contracts, all of which have been entered into since 2018.*

| Project Name | Contract Start Date | Delivery Term | MW/Approx. Annual MWh | Developer |
|---|---|---|---|---|
| Voyager Wind | Q3 2018 | 12 years | 130 MW/ 430,472 MWh | Terra-Gen |
| Coachella Wind | 12/30/2020 | 12 years | 94 MW/ 287,668 MWh | Terra-Gen |
| Maverick 4 (Palen) Solar | 1/1/2021 | 15 years | 100 MW/ 328,979 MWh | EDF Renewables |
| Sandrini Solar | 1/1/2023 | 15 years | 200MW/ 607,770 MWh | EDF Renewables |
| Maverick 7 (Palen) Solar | 1/1/2022 | 15 years | 132 MW/ 435,781 MWh | EDF Renewables |

*The procurement described above evidences Shell Energy's commitment to and progress toward meeting its RPS procurement targets, including its 65 percent long term contract requirement. Shell Energy will continue to pursue opportunities to procure RPS-eligible energy, including RPS-eligible energy under long term contracts, to meet its RPS procurement obligations.*

## b. Preferred Conforming Portfolios

*As noted above, each of Shell Energy's portfolios (46 MMT and 38 MMT) is designed to comply with the RPS procurement target, as well as the GHG emission target for that portfolio, while meeting the objectives of its retail sales customers. Shell Energy is prepared to meet the State's RPS procurement target, even as it may increase over time. Shell Energy is also prepared to meet the State's GHG emission target, as established by this Commission (or otherwise by the ARB). Shell Energy is an active participant in the wholesale and retail energy market in the State. Shell Energy will negotiate the contracts necessary to meet its RPS procurement and GHG emission obligations. For this reason, Shell Energy does not have a "preference" as between the 46 MMT or 38 MMT GHG target.*

*As the RPS procurement obligation increases, as the GHG emission target becomes more aggressive, and as other resource procurement requirements are imposed or otherwise increase, the costs of procurement increase, as well. In its supply portfolio, Shell Energy plans to replace CAISO system resources with RPS-eligible solar and wind energy, as necessary to meet the State's procurement targets. At this time, RPS-eligible solar and wind resources appear to provide the least cost pathway to achieving the State's RPS and GHG emissions targets. To the extent that other GHG-free resources can be developed and procured at a competitive cost, Shell Energy will consider including these resources in its portfolio in future IRP plans. Shell Energy's procurement planning and selections are consistent with relevant requirements as set forth in P.U. Code Section 454.52(a)(1), and as implemented in Commission decisions.*

*Furthermore, Shell Energy coordinates its RPS procurement planning with its RA capacity planning. Combined with its energy storage procurement, Shell Energy's RPS and RA capacity procurement is intended to provide an integrated and flexible portfolio to meet customer needs at the lowest possible cost.*

## c. GHG Emissions Results

*As discussed above, Shell Energy provides two Conforming Portfolios, one addressing the 46 MMT GHG target and the other addressing the 38 MMT GHG target. Applying the CSP calculator, Shell Energy's projected procurement meets the GHG emissions target under each Conforming Portfolio.*

*As noted above, to meet the GHG target for each portfolio, Shell Energy replaced system resources with wind and solar energy procurement. Shell Energy added more wind and solar energy procurement for the 38 MMT GHG target than for the 46 MMT GHG target.*

*Shell Energy's 2030 GHG emissions target under the 46 MMT GHG target is **REDACTED** MMT. In the CSP calculator, Shell Energy's projected 2030 GHG emissions under the 46 MMT GHG target is **REDACTED** MMT.*

*Shell Energy's 2030 GHG emissions target under the 38 MMT GHG target is **REDACTED** MMT. In the CSP calculator, Shell Energy's projected 2030 GHG emissions under the 38 MMT GHG target is **REDACTED** MMT.*

## d. Local Air Pollutant Minimization and Disadvantaged Communities

### i. Local Air Pollutants

*The table below summarizes expected NOx, SO2 and PM2.5 emissions under each of Shell Energy's two Conforming Portfolios. Shell Energy does not contract directly with any fossil-fired generation to meet its energy needs, and has no plans to do so in the forecast period. All gas-fired generation in each portfolio is from CAISO system power. The projected emissions are provided through the CSP calculator.*

**46 MMT CSP**

| Emissions Total | *Unit* | 2030 |
|---|---|---|
| PM2.5 | *tonnes/yr* | |
| $SO_2$ | *tonnes/yr* | |
| NOx | *tonnes/yr* | |

**38 MMT CSP**

| Emissions Total | *Unit* | 2030 |
|---|---|---|
| PM2.5 | *tonnes/yr* | |
| $SO_2$ | *tonnes/yr* | |
| NOx | *tonnes/yr* | |

*Shell Energy plans to reduce its reliance on CAISO system power by increasing its procurement of RPS-eligible wind and solar energy from existing and planned resources under contract, and from future planned and contracted resources.*

### ii. Focus on Disadvantaged Communities

*Shell Energy does not have a service territory and does not have an obligation or a presumption to serve retail customers in a specific service territory or geographic area. Shell Energy serves commercial, industrial and agricultural customers in all three IOU service territories. Shell Energy does not serve residential customers. Shell Energy must compete with the IOUs, other ESPs, and, in some cases, CCAs, to serve direct access-eligible retail commercial, industrial and agricultural customers.*

*Shell Energy compared the zip codes associated with the identified disadvantaged communities ("DACs") to the service accounts that Shell Energy currently serves. Based on this rough proxy, approximately 39 percent of the retail customers Shell Energy serves are located in DACs. Because industrial areas tend to have higher local pollution than exclusively residential neighborhoods, and because Shell Energy serves only commercial, industrial and agricultural customers, these customers are more likely to be located in industrial sections of California.*

*It is impossible, however, to determine the relative GHG emission impact of Shell Energy's retail sales within the DAC without additional information; i.e., the total retail load in each zip code. Once that information has been provided, a determination can be made concerning what impact, if any, the energy mix has in each DAC and what actions, if any, might be necessary to reduce local air pollutants.*

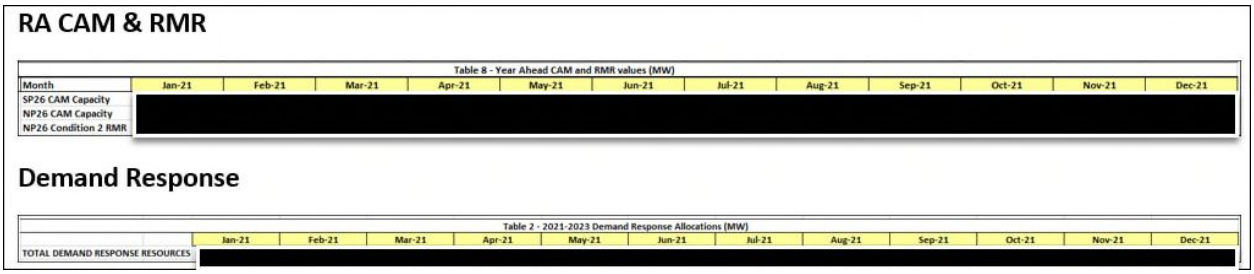
*Furthermore, Shell Energy has no specific information on how NOx, SO2 and PM2.5 emissions impact DACs. Because gas generation represents a slice of the entire CAISO system, these emissions should be spread over all gas generation in the system. As noted above, Shell Energy has no plans to contract for energy from specific gas generation in the future. Nevertheless, if Shell Energy is required to procure energy from specific gas-fired generation resources located in a DAC, Shell Energy will consider the impact upon the DAC and potential emission mitigation measures.*

*Finally, Shell Energy does not have any current or planned activities or programs to address DACs. If and when the cap on direct access is lifted, and more customers become eligible to participate in the direct access program, it is possible that Shell Energy could provide retail service to a greater share of retail commercial, industrial and agricultural customers in a DAC. In any event, the increased procurement of RPS-eligible supplies is changing the resources from which Shell Energy and all LSEs procure electric energy. Over time, the increased procurement of RPS-eligible energy will reduce reliance on fossil-fueled power plants, including those that are located within DACs.*

## e. Cost and Rate Analysis

*As noted above, Shell Energy plans to meet its RPS procurement target and GHG emission target (under each of the two Conforming Portfolios) by replacing CAISO system power with the procurement of RPS-eligible solar and wind resources. The cost impact on Shell Energy's customers can be calculated roughly by determining the price differential between system power and these RPS-eligible resources, multiplied by the amount of energy replaced under each Conforming Portfolio.*

*As the State requires higher levels of investment in clean energy technologies, the cost to consumers will necessarily increase. As an ESP, Shell Energy must be competitive with respect to the costs of products and services it offers its retail customers to maintain or grow its retail sales business. The chart below shows RA CAM, RMR and demand response ("DR") resources allocated to Shell Energy in accordance with Commission directives.*




*The only "benefit" of RA allocated to Shell Energy under CAM is that the CAM allocation reduces Shell Energy's RA procurement obligation. All ESPs receive the same allocation at the same cost. As noted above, a significant disadvantage of the CAM allocation is that an ESP is foreclosed from purchasing alternative RA resources that may be cleaner and less costly than an IOU's CAM resources. Any RA products that are allocated to ESPs under the CAM are likely to be costly, as the lOUs have guaranteed rate recovery and have little incentive to procure products at competitive prices.*

*Shell Energy receives CAM allocations for storage, QF contracts and the other IOU-procured resources. Although Shell Energy has procured energy storage to comply with the Commission's directive in D.13-10-040 (October 17, 2013), the lOUs' procurement of energy storage, the costs of which are spread to all customers through CAM and otherwise, have eliminated the need for ESPs and CCAs to procure storage, thereby reducing the incentive to do so.*

## f. System Reliability Analysis

*In addition to meeting its RPS procurement target and GHG emission target (under either of the Conforming Portfolios), Shell Energy intends to meet its system reliability requirements through the procurement of system, flexible and local RA (as required). Shell Energy cannot describe, however, how this procurement will contribute to "RPS integration." As noted in the instructions, "[s]ystem reliability and adequate renewables integration cannot be conclusively assessed until all LSEs' portfolios are combined and CPUC staff conducts LOLE studies on that aggregation."*

*Shell Energy provides below its System Reliability Progress Tracking Table from its Resource Data Template "Dashboard." Both portfolios are built based on the same resources currently under contract. The "Dashboard" also includes the Commission Staff's CAM allocation for 2021, which extends through 2030.*

| System Reliability Progress Tracking Table (NQC MW) for month of September by contract status, 46 MMT portfolio | ELCC type | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| online | wind_low_cf | [redacted] | | | | | | | | | | |
| online | wind_high_cf | | | | | | | | | | | |
| online | biomass | | | | | | | | | | | |
| online | cogen | | | | | | | | | | | |
| online | geothermal | | | | | | | | | | | |
| online | hydro | | | | | | | | | | | |
| online | thermal | | | | | | | | | | | |
| online | battery | | | | | | | | | | | |
| online | nuclear | | | | | | | | | | | |
| online | solar | | | | | | | | | | | |
| online | psh | | | | | | | | | | | |
| online | unknown | | | | | | | | | | | |
| development | wind_low_cf | | | | | | | | | | | |
| development | wind_high_cf | | | | | | | | | | | |
| development | biomass | | | | | | | | | | | |
| development | cogen | | | | | | | | | | | |
| development | geothermal | | | | | | | | | | | |
| development | hydro | | | | | | | | | | | |
| development | thermal | | | | | | | | | | | |
| development | battery | | | | | | | | | | | |
| development | nuclear | | | | | | | | | | | |
| development | solar | | | | | | | | | | | |
| development | psh | | | | | | | | | | | |
| development | unknown | | | | | | | | | | | |
| review | wind_low_cf | | | | | | | | | | | |
| review | wind_high_cf | | | | | | | | | | | |
| review | biomass | | | | | | | | | | | |
| review | cogen | | | | | | | | | | | |
| review | geothermal | | | | | | | | | | | |
| review | hydro | | | | | | | | | | | |
| review | thermal | | | | | | | | | | | |
| review | battery | | | | | | | | | | | |
| review | nuclear | | | | | | | | | | | |
| review | solar | | | | | | | | | | | |
| review | psh | | | | | | | | | | | |
| review | unknown | | | | | | | | | | | |
| planned_existing | wind_low_cf | | | | | | | | | | | |
| planned_existing | wind_high_cf | | | | | | | | | | | |
| planned_existing | biomass | | | | | | | | | | | |
| planned_existing | cogen | | | | | | | | | | | |
| planned_existing | geothermal | | | | | | | | | | | |
| planned_existing | hydro | | | | | | | | | | | |
| planned_existing | thermal | | | | | | | | | | | |
| planned_existing | battery | | | | | | | | | | | |
| planned_existing | nuclear | | | | | | | | | | | |
| planned_existing | solar | | | | | | | | | | | |
| planned_existing | psh | | | | | | | | | | | |
| planned_existing | unknown | | | | | | | | | | | |
| planned_new | wind_low_cf | | | | | | | | | | | |
| planned_new | wind_high_cf | | | | | | | | | | | |
| planned_new | biomass | | | | | | | | | | | |
| planned_new | cogen | | | | | | | | | | | |
| planned_new | geothermal | | | | | | | | | | | |
| planned_new | hydro | | | | | | | | | | | |
| planned_new | thermal | | | | | | | | | | | |
| planned_new | battery | | | | | | | | | | | |
| planned_new | nuclear | | | | | | | | | | | |
| planned_new | solar | | | | | | | | | | | |
| planned_new | psh | | | | | | | | | | | |
| planned_new | unknown | | | | | | | | | | | |

*As described in the instructions in the Resource Data Template, an LSE "shall enter its confidential 2021 resource adequacy peak demand allocation for September in MW. The Resource Data Template will automatically calculate the LSE's share of peak in MW for all years by prorating the forecasted CAISO managed coincident peak demand (net of non-CPUC jurisdictional demand) using the ratio of the LSE's 2021 resource adequacy peak demand allocation to the 2021 CAISO managed coincident peak demand (net of non-CPUC jurisdictional demand)."*

*The problem with this approach, as described above, is that for Shell Energy, its September 2021 RA peak demand allocation, applied over each month of the year, is not reflective of (and is far greater than) Shell*

*Energy's forecast peak demand in every month. The result is that the necessary additional system RA procurement that is shown over the forecast period (through 2030) is significantly overstated.*

*The instructions provide that an "LSE shall also provide an explanation of any capacity shortages relative to its share of CAISO managed coincident peak demand." The capacity shortages are due to two primary factors: First, as noted above, the methodology used to determine Shell Energy's "capacity shortage" is inaccurate because it applies the single highest peak month forecast over the 12-month period to every month in the 12-month period.*

*Second, also as discussed above, Shell Energy typically contracts with a retail customer for a term that is not greater than one year. With the possible exception of contracts to meet the three-year forward local RA procurement obligation that remains for the SDG&E service territory, Shell Energy generally procures capacity under contracts that extend for a period no longer than one year. Shell Energy remains committed, however, to meet all RA procurement obligations imposed by the Commission.*

## g. Hydro Generation Risk Management

*The instructions direct each LSE to "[p]rovide a narrative analysis and discussion of the risk that in-state drought poses to the LSE's Preferred Conforming Portfolios, including the controls and strategies the LSE has in place to manage such risk." The instructions direct LSEs to use "quantitative analysis" to "identify whether and how the LSE's Preferred Conforming Portfolios differ[s] from the Reference System Portfolio in terms of the amount of hydro generation proposed, and the level of risk thus incurred."*

*The "risk" of an in-State drought on hydro generation is a matter that is addressed in Shell Energy's procurement contracts. In general, these contracts provide that the Seller is required to deliver only as much as can be produced. The amount that can be produced is dependent on weather conditions and other conditions related to hydro generation generally. This is no different, fundamentally, from addressing, in contracts, the intermittency of wind and solar resources. As an ESP, Shell Energy must manage around the variability of all intermittent resources.*

*As noted above, Shell Energy's two Conforming Portfolios do not include hydro generation, except for a small quantity under contract through 2022. Otherwise, Shell Energy's supply portfolio (affirmatively procured by Shell Energy - not CAM allocated resources) is limited to CAISO system supplies, energy storage, and RPS-eligible resources, predominantly wind and solar resources.*

## h. Long-Duration Storage Development

*The instructions direct an LSE to "discuss the activities the LSE is pursuing or intends to pursue to support the development of pumped storage, or other long-duration storage with similar attributes to meet medium- and long-term needs."*

*If there is an economic benefit to its customers to procure long-duration storage, Shell Energy will pursue opportunities to procure long-duration storage. In addition, if the Commission establishes an obligation for all LSEs to procure long-duration storage, Shell Energy will meet its procurement obligation. At this time, there does not appear to be an economic benefit to procure long-duration storage, and there is no*

*long-duration energy storage procurement obligation. Other than a single energy storage contract entered into to comply with D.13-10-040, therefore, Shell Energy has not pursued the purchase of or investment in pumped storage, or other long-duration storage.*

*Shell Energy's energy storage procurement contract is an example of the risk of regulatory change in connection with energy and capacity procurement. In compliance with D.13-10-040, Shell Energy procured 1MW of energy storage as part of its procurement obligation. Since Shell Energy's purchase, the IOUs have procured excess energy storage, some of the cost of which is allocated on a nonbypassable basis to all customers, including departing load customers. This allocation of IOU energy storage costs to departing load customers resulted in a determination by the Commission to limit (and now eliminate) non-IOUs' energy storage procurement obligations. It is these types of regulatory changes that result in ESPs making unnecessary investments.*

*If the Commission decides to impose a new energy storage procurement obligation as a result of this IRP process, it is imperative that the Commission be technology agnostic and let economics decide. The Commission should not adopt rules that favor one type of storage technology or any particular energy storage provider.*

*Long-duration storage may be one of several means to help support renewable integration; however, it is clear that other options and technologies also must be considered in the IRP process to meet the State's target for GHG emission reductions from the electricity sector. The Commission has proceedings underway to advance microgrid development and increase the use of renewable natural gas. Additionally, hydrogen, as a fuel for peaking facilities and as a fuel to blend in the natural gas supply, is a viable renewable integration option. (In addition to supporting hydrogen production by electrolysis, hydrogen can be produced from natural gas through pyrolysis, the emissions of which can be offset through CCS technology or through the cap and trade program.) The Commission must allow flexibility to allow LSEs to include these other options in the planning process for a cleaner energy future.*

### i. Out-of-State Wind Development

*Shell Energy is not pursuing activities or procurement to support the development of out-of-state wind resources in the forecast period extending to 2030. This is another example of how the Commission's changing regulatory requirements can undermine resource development that otherwise could serve California's system reliability needs. The Commission's recent RA import decision (D.20-06-028 (June 25, 2020)) will make it more difficult for out-of-State wind developers to enter into contracts for the sale of RA capacity to California LSEs. The Commission's new requirements for "resource-specific" as well as "non-resource specific" RA imports likely will discourage LSEs from entering into contracts that are necessary to finance out-of-State wind resource projects.*

### j. Transmission Development

*Shell Energy has no resource location information for any new generation project (including any RPS generation project) that is not already under contract and permitted. As noted above, Shell Energy will*

*work with developers and wholesale sellers to procure (or invest in) the RPS-eligible energy needed to meet its procurement obligations. No specific resource locations have been identified, beyond the general "Southern California Desert/Southern Nevada" resource area. Shell Energy is not aware of any resources, "whilst not yet contracted, have specific locations intended."*

*Shell Energy notes, however, with respect to transmission development, that microgrid development and other behind-the-meter solutions present the potential to ease the need for new transmission development (and new IOU distribution investment) to connect GHG-free resources to California customers and communities.*

# IV. Action Plan

*Shell Energy's "Action Plan" consists of Shell Energy executing transmission agreements, power purchase agreements and contracts for storage with third party developers and providers to meet the State's procurement goals, as reflected in the two Conforming Portfolios. In addition to the long-term RPS contracts that Shell Energy has already executed, Shell Energy plans to enter into additional long-term RPS contracts to satisfy the 65 percent long-term contract requirement beginning in the 2021-2024 RPS compliance period. As described above, Shell Energy is an active participant in the wholesale market. Shell Energy is fully prepared to meet applicable State procurement targets.*

*As directed in D.19-11-016, Shell Energy has procured incremental system RA to meet its allocated share of the 3,300 MW requirement imposed in that Decision. Shell Energy's incremental procurement to date, which is reflected in the Dashboard Tab of the Resource Data Template (Line 74) and addressed in the accompanying Attestation, is compliant with Ordering Paragraph 12 of D.19-11-016, which directs LSEs to provide a "detailed list of projects, capacities, and dates by which the LSE expects the projects to be providing service to the LSE, as well as a demonstration that the projects are incremental, to meet the 2021, 2022, and 2023 requirements of this decision." In the confidential version of this IRP, Shell Energy provides contracts to evidence its progress and compliance with D.19-11-016.*

*As noted above, Shell Energy has found the IRP process to be beneficial because it highlights the potential need for new or alternative resource procurement to meet projected GHG emission targets and RPS procurement goals. For Shell Energy, the IRP process has shown that to meet the specified GHG emission targets in 2030 (46 MMT and 38 MMT), Shell Energy must procure RPS energy in greater proportions beyond the quantities necessary to meet its RPS procurement target for 2030.*

## k. Proposed Activities

*Shell Energy is prepared to meet the State's RPS procurement target, even as it increases over time. Shell Energy is also prepared to meet the State's GHG emission target, as established by this Commission or the ARB. Shell Energy is an active participant in the wholesale and retail energy market in the State. Shell Energy will negotiate the contracts necessary to meet its RPS procurement and GHG emission obligations.*

*Shell Energy does not plan any more specific activities to implement its Conforming Portfolios, except as the Commission imposes any additional procurement-related requirements. Shell Energy does not have a separate procurement plan or strategy for planned or new resources beyond the resources types provided in the Supply Inputs Tab of the CSP calculator.*

*Regarding DACs, as explained above, Shell Energy does not have any planned activities to conduct outreach and seek input from any DACs that could be impacted by procurement resulting from the implementation of Shell Energy's IRP. If and when the cap on direct access is lifted, and more customers become eligible to participate in the direct access program, Shell Energy will have a greater ability to provide retail service to a greater share of retail commercial, industrial and agricultural customers located in a DAC. With a greater market share in a DAC, Shell Energy may be able to develop plans and activities, including feasible procurement opportunities, to reduce reliance on fossil-fueled power plants, particularly those located within DACs.*

## l. Procurement Activities

*Shell Energy is an active participant in the wholesale and retail energy market in California. Shell Energy is constantly seeking opportunities to procure and/or invest in GHG-free resources to contribute to its procurement obligations. Shell Energy will negotiate the contracts necessary to meet its RPS procurement and GHG emission obligations, as well as its RA obligations.*

## m. Potential Barriers

*Regulatory inefficiency and administrative burden are the primary barriers to Shell Energy's fulfillment of the State's GHG emission reduction targets. Multiple state agencies have developed burdensome and duplicative reporting and compliance requirements that make it more costly and difficult to provide retail sales service.*

*Shell Energy is prepared to meet its statutory procurement targets and compliance obligations. The cumbersome reporting process adds needlessly, however, to the effort that is required to satisfy an LSE's compliance requirements. The lOUs recover the costs of compliance from their ratepayers. Non-IOU LSEs do not have the luxury of a guaranteed cost pass-through. Non-lOUs must invest in administrative reporting resources without the assurance that these costs can be recovered from customers.*

*Lack of agency coordination respecting LSE reporting requirements adds to the administrative burden imposed on all LSEs, but especially those LSEs that do not have Commission-assured cost recovery.*

## n. Commission Direction or Actions

*Shell Energy does not seek direction from the Commission, with one exception. The Commission should establish, at the earliest possible time, the specific GHG emission target that LSEs must meet by 2030. This determination will drive LSEs' RPS procurement (and other GHG emission-free procurement) above and beyond the procurement that is required to meet the RPS procurement targets.*

### o. Diablo Canyon Power Plant Replacement

*It is Shell Energy's understanding that Diablo Canyon provides RA system capacity that is paid for by PG&E's bundled retail sales customers. Direct access customers do not benefit from this system RA capacity, and do not pay for the capacity. In a general way, however, any new system RA capacity procured or developed by Shell Energy will contribute to the replacement of Diablo Canyon. In addition, Shell Energy's procurement of incremental RPS-eligible resources will contribute to replacing the GHG emission free energy that is produced by Diablo Canyon.*

*At this time, as explained above, Shell Energy does not plan to procure specific resources to replace Diablo Canyon. Any new GHG-free system RA resources, however, are "suitable substitutes" for Diablo Canyon, because they are able to maintain system reliability without increasing GHG emissions.*

## V. Lessons Learned

*The agencies with responsibility for implementing the State's energy and climate policies should coordinate to allow each LSE to complete and submit one common template on an annual basis that provides all the information necessary to meet the requirements of the IRP, RPS compliance report, RPS procurement plan, multiple RA reports, and power source disclosure reports. For example, much of the information provided in the IRP plan templates is duplicative of information provided in the RPS procurement plan. There is no justification for the Commission to require LSEs to provide this same information, formatted differently, in two different proceedings. The added burden on LSEs is substantial and cannot be over-emphasized.*

*Furthermore, in light of the obvious differences between the lOUs and non-IOU LSEs, the template for each LSE group should be tailored to the regulatory model associated with that LSE group.*

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# Senior Executive Attestation

Compliance Filing for LSEs Electing to **Self-Provide** the
Integrated Resource Planning Procurement Required by D. 19-11-016

September 1, 2020

CA Public Utilities Commission (CPUC)
505 Van Ness Avenue, 4th Floor
San Francisco, CA 94102-3298

*Re: September 1, 2020, Individual Integrated Resource Plan Senior Executive Attestation Pursuant to Decision (D). 19-11-016 adopted in R. 16-02-007*

Pursuant to Ordering Paragraph (O.P.) 12 of Decision (D.) 19-11-016, adopted in R.16-02-007 on November 5, 2019, Shell Energy North America (US), L.P. ("Shell Energy") submits this attestation.

## Background

D.19-11-016 requires that all Load Serving Entities (LSEs) file their individual integrated resource (IRP) plans by May 1, 2020 [*revised to September 1, 2020]*[1]. The decision also requires that all LSEs directed in the Decision shall present in their IRP plans an attestation from a senior executive in the company that the necessary capacity required in this Decision shall be provided if the LSE is electing to self-provide the capacity required.[2] This Decision states that the attestation shall be accompanied by a detailed list of projects, capacities, and dates by which the LSE expects the projects to be providing service to the LSE, as well as a demonstration that the projects are incremental, to meet the 2021, 2022, and 2023 requirements of the decision.

## Resource Data Template

The Resource Data Template to be used for the September 1, 2020, IRP filing has been developed to identify the required information in O.P. 12 of D.19-11-016; consequently, this attestation refers to the template contents to obviate the need for a separate compliance document. The "Certification of Information" section at the bottom of this attestation refers to the specific data fields in the Resource Data Template referenced in Table 1 below, which map to the requirements in O.P. 12 of D.19-11-016.

Table 1
Resource Data Template Reliability Procurement Fields Related to O.P. 12, D.19-11-016

| O.P. 12 Requirement | Corresponding Field in Resource Data Template |
|---|---|
| Detailed List of Projects | "Monthly_GWH_MW" tab; Columns B, C, & K |
| Capacities | "Monthly_GWH_MW" tab; Columns F, G, & H |
| Dates by which LSE expects projects to be providing service to LSE | "Unique Contracts" tab; Columns G, H, & I |
| Demonstration projects are incremental | "Unique Contracts" tab; Columns M & N |

[1] Decision (D.)20-03-028 modified the filing date from May 1, 2020 to September 1, 2020 at page 67.
[2] The LSEs directed in the Decision are named in OP 3 and by CPUC staff as discussed in OP 4.

## Attestation Requirements

To satisfy the requirements in O.P. 12 of D. 19-11-016, a senior executive shall sign the "Certification of Information" section below and submit this attestation as part of their compliance filing in the IRP Proceeding by September 1, 2020. No additional documentation is required at this time.

## Certification of Information

Consistent with Rules 1 and 2.4 of the CPUC's Rules of Practice and Procedure, the individual IRP compliance filing has been verified by a senior executive who shall expressly certify, under penalty of perjury, the following:

(1) The necessary incremental Resource Adequacy capacity required of Shell Energy in Decision (D.) 19-11-016 shall be provided in compliance with the terms established in D.19-11-016 and January 3, 2020, ruling finalizing baseline resources.

(2) I have reviewed the Resource Data Template data fields referenced in Table 1 above (and any information provided to meet Milestone 1 of the backstop mechanism proposed in the June 5, 2020, Backstop Procurement and Cost Allocation Mechanisms Ruling) submitted in my company's individual IRP compliance filing in the IRP Proceeding.

(3) Based on my knowledge, information or belief, the compliance filing information referenced in (2) above is an accurate reflection of the LSE's plans to self-provide its obligation of the incremental Resource Adequacy capacity and the terms identified in D.19-11-016, and does not contain any untrue statement of a material fact or data or omit to state a material fact or data necessary to make the statements true.

(4) Based on my knowledge, information, or belief, the compliance filing information referenced in (2) above contains all of the information required to be provided by CPUC orders, rules, and regulations.

## Senior Executive Signature:

Marcie Milner
Name

Vice President, Regulatory Affairs
Title

Signature

09/01/2020
Date

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**VERIFICATION**

I am an officer of Shell Energy North America (US), L.P. and am authorized to make this verification on its behalf. The statements in the foregoing document are true of my own knowledge, except as to matters which are therein stated on information or 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 September 1, 2020 at San Diego, California.

Marcie Milner
Vice President, Regulatory Affairs
Shell Energy North America (US), L.P.

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