DOCKETED	
Docket Number:	21-SIT-01
Project Title:	21-SIT-01, SB100 Implementation Planning for SB100 Resource Build
TN #:	250978
Document Title:	Comments of NextEra Energy Resources, LLC on Portfolio Assumptions for the Next CAISO 20-Year Transmission Outlook
Description:	Comments of NextEra Energy Resources, LLC on Portfolio Assumptions for the Next CAISO 20-Year Transmission Outlook
Filer:	Lisa A. Cottle
Organization:	Sheppard Mullin Richter & Hampton LLP
Submitter Role:	Intervenor Representative
Submission Date:	7/7/2023 4:08:39 PM
Docketed Date:	7/7/2023

IN THE MATTER OF: *SB 100 Implementation: Planning for SB 100 Resource Build*	DOCKET NO. 21-SIT-01

Comments of NextEra Energy Resources, LLC on the Resource Portfolio for the Next California Independent System Operator Corporation ("CAISO") 20-Year Transmission Outlook

July 7, 2023

NextEra Energy Resources, LLC ("NextEra Energy Resources") appreciates this opportunity to provide comments on the *Resource Portfolio Assumptions for the Next CAISO 20-Year Transmission Outlook* ("Portfolio Assumptions") presented by staff of the California Energy Commission, California Public Utilities Commission ("CPUC"), and the CAISO at the Joint Agency Staff Workshop on June 23, 2023.

Since 1989, NextEra Energy Resources has been helping fuel the state's economic growth as its largest independent clean energy developer. To date, NextEra Energy Resources subsidiaries have invested $9 billion in California, owning and operating wind, solar, energy storage, and transmission facilities in more than 20 counties across the state. NextEra Energy Resources subsidiaries will bring over 1 gigawatt ("GW") of solar and storage facilities online in California in 2023 alone. NextEra Energy Resources subsidiaries have a significant number of projects submitted in the CAISO Clusters 13, 14, and 15 interconnection process. NextEra Energy Resources subsidiaries also are making significant investments in developing new renewable generation in locations outside the state ("OOS"), including significant new OOS wind generating resources, and have submitted interconnection requests to the CAISO to deliver new OOS wind generation to California load.

The Portfolio Assumptions will be used in the next update to the CAISO's 20-Year Transmission Outlook, which explores the longer-term grid requirements and options for meeting the State's greenhouse gas reduction and renewable energy objectives reliably and cost-effectively. The update to the 20-Year Transmission Outlook will evaluate a resource portfolio expected in 2045. The Portfolio Assumptions thus provide a proposed resource portfolio for 2045 that is designed to meet the goals of Senate Bill 100 ("SB 100"), which sets a 2045 goal of powering all retail electricity sold in California with renewable and zero carbon resources.

The Portfolio Assumptions indicate that the 2045 portfolio was developed by starting with the SB 100 Core Scenario portfolio, and then: increasing gas power plant retirements to 15,000 megawatts ("MW"); doubling offshore wind to 20 GW; adding renewable generation in

line with the recent 2023-2034 transmission planning process ("TPP") base portfolio and the previous 20-year outlook starting point; and adding generic clean firm resources and long-duration storage. The portfolio resource breakdown on slide 35 of the presentation shows that OOS wind capacity started at 9,715 MW in 2045 under the SB 100 Core Scenario portfolio and was increased by 2,285 MW to a total of 12,000 MW in 2045. The OOS wind resources are depicted on slide 45 as being located in Idaho (1,000 MW), Wyoming (5,000 MW), the Southwest (790 MW), and New Mexico (5,210 MW). Slide 45 states that OOS wind mapping "builds upon the 23-24 TPP base case locations" and "[r]oughly doubl[es] MWs mapped to Wyoming and New Mexico Wind."

NextEra Energy Resources supports the increase in the amount of new OOS wind capacity that is mapped to Wyoming in the 2045 portfolio, but the 5 GW estimate appears to be based on assumptions that the TransWest Express Project ("TWE Project") will bring only 1.5 GW to the CAISO system, with the remainder coming in via a "HVDC transmission line from the wind resource area to northern California (Tesla area)." (Portfolio Assumptions at slide 22.) The TWE Project will consist of three linked segments that include: (1) a 405-mile, 3 GW, 500 kV high-voltage direct current ("HVDC") system between Wyoming and Utah; (2) a 278-mile, 1.5 GW, 500 kV high-voltage alternating current ("HVAC") transmission line between Utah and Nevada; and (3) a 49-mile, 1.68 GW, 500 kV HVAC transmission line in Nevada.[1] The 49-mile HVAC segment could interconnect with the 500 kV transmission facilities in the Eldorado Valley southwest of Boulder City, Nevada owned by Southern California Edison Company, the Western Area Power Administration, Arizona Public Service Company, the Los Angeles Department of Water and Power ("LADWP"), NV Energy and others.[2] The Portfolio Assumptions assume on slide 22 that only 1.5 GW of Wyoming wind will be delivered to the CAISO system via the TWE Project, with 1.5 GW delivered via the TWE Project to LADWP at the Intermountain Power Project ("IPP") transmission facilities in Utah. With these assumptions, the table on slide 22 applies a total cost estimate of $2.1 billion for the TWE Project, plus an additional $2.5 billion for a second HVDC transmission line to deliver Wyoming wind to the CAISO system.

The Portfolio Assumptions should be adjusted to reflect the optionality in the TWE Project that allows it to bring 3 GW directly to the CAISO system in the near term. The segment of the TWE Project that begins in Wyoming will accommodate 3 GW and upgrades can be made during the construction process to bring that 3 GW to the CAISO system by 2030. Assuming 3 GW of Wyoming wind for delivery to the CAISO via the TWE Project by 2030 is critical for the planning process for several reasons.

- First, it is important to plan for delivery of 3 GW to the CAISO via the TWE Project to help ensure that the TWE Project will be built to accommodate such deliveries, and to ensure that wind generation in Wyoming will be contracted to deliver to load-serving entities in the CAISO system. As stated above, the Planning Assumptions suggest that the TWE Project will be configured to deliver 1.5 GW (half of the 3 GW capacity on the

[1] Federal Energy Regulatory Commission (FERC) *Order Granting Application for Authorization to Charge Negotiated Rates, Subject to Condition, and Granting Waivers* (February 26, 2021) 174 FERC ¶ 61,160 at 2.

[2] *Id.*

HVDC segment from Wyoming) to the IPP delivery point for LADWP. NextEra Energy Resources is not aware of any arrangements for procurement of Wyoming wind generation for delivery to LADWP, which would be a necessary condition for wind resources to commit to utilize the TWE Project for delivery to LADWP. Thus, it is not clear that Wyoming wind generation will be delivered to LADWP. Instead, other load serving entities in Southern California with rights to the IPP facilities could purchase Wyoming wind generation and enable its delivery to the CAISO system, or the TWE Project could be upgraded to increase deliveries to CAISO via the assumed CAISO delivery point. Either option would increase the amount of Wyoming wind generation that reaches the CAISO. To ensure that California receives the full 3 GW of Wyoming wind capacity that the TWE Project is capable of delivering, the Joint Agencies should plan for the full 3 GW to be delivered to the CAISO system. Planning for it would help facilitate configuration and construction of the TWE Project to supply 3 GW of Wyoming wind to the CAISO system. The converse is also true—if the long-term transmission outlook does not plan for delivery of the full 3 GW via the TWE Project, then valuable Wyoming generation could be sold to off-takers in other states. It therefore would be reasonable and prudent for the Joint Agencies to plan for delivery of 3 GW of Wyoming wind via the TWE Project by 2030, in order to help encourage and account for these resources' delivery into California.

- Second, the TWE Project is in an advanced stage of development, which means that with the right planning assumptions the TWE Project can be counted on to deliver 3 GW of new wind generation to the CAISO system in the near term with relatively low risk of failure. The CAISO has approved the application of the owner of the TWE Project to become a CAISO participating transmission owner and to join the CAISO balancing authority area. The TWE Project will be constructed over the next few years and service is expected to commence in 2027 or 2028. Assumptions regarding 3 GW of Wyoming wind being delivered via the TWE Project thus would not be speculative, but instead would be based on a fully permitted project that is approved to become part of the CAISO system. As noted above, upgrades can be made during the construction process to bring the full 3 GW of Wyoming wind capacity to the CAISO system.

- Third, the assumptions regarding delivery of Wyoming wind generation via other potential transmission projects are speculative given that such other projects appear to be very early stage and not in active development. The Portfolio Assumptions illogically assume that the TWE Project (an advanced stage project that is scheduled to be operating by 2028) will deliver only 1.5 GW of Wyoming wind (representing half of its total capacity), to the CAISO system, and then assume that an additional 3.5 GW of Wyoming wind will be delivered via new transmission projects that are not yet in active development. It would be far more certain and realistic to assume that 3 GW of Wyoming wind will be delivered via the fully developed TWE Project. Further, even for the remaining assumed 2 GW of Wyoming wind capacity, it likely would be less speculative to assume that a second line could be built in the corridor of the TWE Project. Adding a line to an existing transmission corridor likely would be more feasible and expeditious than attempting to permit and construct a second line in a different location.

- Finally, basing Wyoming wind capacity additions on the full capacity of the TWE Project also would be less costly (and provide greater cost certainty) than relying on cost assumptions for an early stage separate HVDC project. The costs of the TWE Project will be more knowable and certain given its advanced development when compared with a new early stage HVDC project.

For these reasons, the Portfolio Assumptions should be adjusted to assume that 3 GW of new Wyoming wind generation can be delivered to the CAISO system by 2030 via the TWE Project. Including this 3 GW of Wyoming wind in the transmission planning process would help ensure that the significant amount of new wind generation that is well advanced in the environmental permitting process and already in the CAISO interconnection queue will be built and delivered to load serving entities on the CAISO system. This would help achieve California's resource goals because Wyoming wind facilities have a high-capacity value and potentially could be built and delivered on a faster track than resources in California due to protracted in-state CAISO interconnection delays and increasingly limited land use availability in California. The high commercial viability of Wyoming wind resources, and the significant number of interconnection requests for Wyoming-based facilities, indicate that the TWE Project could bring 3 GW of new Wyoming wind capacity to the CAISO system if that amount is planned for and assumed in the modeling analyses.

NextEra Energy Resources appreciates the opportunity to provide these comments and looks forward to continuing to participate in the SB 100 and CAISO 20-Year Outlook process.