



Control Number: 52487



Item Number: 517

RECEIVED

2023 JAN 12 AM 11:38

**APPLICATION OF ENTERGY TEXAS,
INC. TO AMEND ITS CERTIFICATE
OF CONVENIENCE AND NECESSITY
TO CONSTRUCT ORANGE COUNTY
ADVANCED POWER STATION**

§
§
§
§
§

PUBLIC UTILITY COMMISSION
FILING CLERK
OF TEXAS

ORDER ON REHEARING

This Order addresses the application of Entergy Texas, Inc. to amend its certificate of convenience and necessity (CCN) to construct the Orange County advanced power station (the Orange County station), a new combined-cycle combustion turbine facility with a nominal output of 1,215 megawatts (MW). The State Office of Administrative Hearings (SOAH) administrative law judges (ALJs) filed a proposal for decision recommending that the Commission grant the CCN amendment to construct the Orange County station but without the proposed 30% hydrogen co-firing capability and with a cost cap of \$1.37 billion. After considering the factors the Commission is required to consider under PURA¹ § 37.056(c), the Commission amends Entergy's CCN to include the construction, ownership, and operation of the Orange County station without hydrogen co-firing capability. However, the Commission also finds based on the facts in this proceeding that there should not be a cost cap. In addition, the Commission modifies the Order's weatherization requirement to meet an objective weatherization standard. Therefore, the Commission adopts the proposal for decision in part, including findings of fact and conclusions of law, as described in this Order.

I. Need for the Orange County Station

The Commission is required to consider a number of statutory factors in granting or denying a CCN or CCN amendment.² PURA does not rank these factors. Rather, each factor must be considered and weighed by the Commission on a nondiscriminatory basis based on the unique facts in each CCN proceeding to determine whether the proposed CCN or CCN amendment "is

¹ Public Utility Regulatory Act, Tex. Util. Code §§ 11.001–66.016.

² PURA § 37.056(a).

necessary for the service, accommodation, convenience, or safety of the public.”³ As the Austin Court of Appeals has recognized, “[n]one of the statutory factors is intended to be absolute in the sense that any one shall prevail in all possible circumstances.”⁴ Likewise, PURA § 39.452(j) requires that the Commission ensure in an Entergy CCN proceeding that the proposed generation facility meets Entergy’s reliability needs and that the provisions of PURA § 37.056(c)(4)(D) and (E) are met.

Based on the facts in this proceeding, the Commission highlights the need for additional dispatchable generation as an important factor in finding that granting Entergy a CCN amendment for the Orange County station is necessary for the service, accommodation, convenience, or safety of the public.⁵ As the findings below detail, Entergy met its burden of proof to demonstrate need for the Orange County station. Based on the evidence of the planned retirements of existing generation—such as Sabine units 1, 3, and 4—and the reliability risks of not retiring Sabine unit 4, Entergy needs the Orange County station as replacement generation. In addition, Entergy’s load-growth projections support need for additional generation. Entergy demonstrated that the Orange County station will meet that need by providing reliable, dispatchable generation. Further, the Orange County station will help maintain transmission system inertia and dynamic reactive support within the region and provide critical in-region capacity to help maintain service during major storms and facilitate more rapid system restoration following such storms.

II. Removal of a Cost Cap

The need for the Orange County station serves as an important factor in the Commission’s decision not to include a cost cap in this proceeding. The ALJs recommended a \$1.37-billion cost cap, including costs for the proposed generation facilities, transmission upgrades, contingencies, and allowance for funds used during construction. The Commission shares the ALJs’ concerns of protecting ratepayers from excessive costs. However, the Commission finds that a cost cap is not appropriate and is not needed in this proceeding. The Commission is not required to impose a cost cap, and it is not the Commission’s customary practice to impose cost caps in CCN proceedings.

³ PURA § 37.056(a)

⁴ *Pub. Util. Comm’n of Tex. v. Texland Elec. Co.*, 701 SW.2d 261, 267 (Tex. App.—Austin 1985, writ ref’d n.r.e.).

⁵ PURA § 37.056(a).

The Commission has done so only twice in its history of presiding over electric CCN proceedings, and such a decision depends on the facts of a given proceeding.

In this proceeding, the Commission is concerned that setting too low of a cost cap might prompt Entergy not to build the Orange County station, and as described above, the Orange County station is needed. The United States, including Texas, is experiencing significantly higher inflation than has been experienced in the recent past, and the cost escalation reflected in the record of this proceeding—from a total cost estimate of \$1.19 billion, to \$1.37 billion, to \$1.58 billion—proves the uncertainty of prices and risks in today’s economy. The ALJs recommended a cost cap of \$1.37 billion but also found that the capital cost of the Orange County station is expected to exceed \$1.58 billion and that it is possible that the Orange County station may cost as much as \$2.5 billion.⁶ Setting a cost cap below the expected cost to build the Orange County station is unreasonable based on the record in this proceeding.

A cost cap in this proceeding is not needed to protect ratepayers from unreasonably high costs because other effective measures are already in place to do so. Nothing in this Order undermines the requirement that Entergy prove the reasonableness and prudence of building the Orange County station and of all actual costs incurred before Entergy is allowed to include any costs associated with the Orange County station in its base rates. That prudence and reasonableness review cannot be performed in this CCN proceeding. Rather, Entergy has a continuing obligation to act as a reasonable, prudent operator of a public utility, and the Commission will review Entergy’s actions under that standard and the requirements of PURA and Commission rules in a future base-rate proceeding.

Because the Commission finds that the \$1.37-billion cost cap is not appropriate and is not needed in this proceeding, the Commission deletes finding of fact 111 and modifies finding of fact 127 and conclusion of law 16. Further, while the Commission is required to consider the lowering of cost to consumers, that factor does not outweigh the probable improvement of service and the need for additional service in this proceeding. Weighing all the considerations listed in PURA § 37.065(c), granting the CCN amendment is necessary for the service, accommodation, convenience, or safety of the public.

⁶ Findings of Fact Nos. 107, 109, 110.

III. Hydrogen Co-Firing

The Commission commends Entergy for exploring the possibility of hydrogen co-firing as a dual-fuel capability. The Commission recognizes that Texas is uniquely positioned in terms of infrastructure and resources to lead the country in this innovative technology. The Commission also recognizes that the Orange County station is located favorably to take advantage of hydrogen as a fuel source. However, as the ALJs found, Entergy did not meet its burden of proof to demonstrate reliability or economic benefits to ratepayers associated with hydrogen co-firing at the Orange County station. Further, there are concerns regarding the environmental effect of emissions to produce gray hydrogen from natural gas as Entergy proposed. And the Spindletop natural gas storage facility located near the Orange County station provides substantial reliability benefits through fuel-storage capability. Hydrogen co-firing capability is simply not needed by the Orange County station at this time. Therefore, the Commission does not include the proposed hydrogen co-firing capability in this Order's CCN approval and adds finding of fact 105A to further support the proposal for decision's determination of this issue. Entergy may seek to amend its CCN in a future proceeding to add hydrogen co-firing capability to the Orange County station when there is more robust evidence on the reliability or economic benefits, or both, associated with hydrogen co-firing at the Orange County station, and the Commission adds conclusion of law 16A to reflect such.

IV. Weatherization

The Commission finds that it is appropriate to include a weatherization requirement for the Orange County station in this Order. However, the Commission is concerned that the standard proposed in the proposal for decision is subjective and therefore it is unclear to what extent the Orange County station should be weatherized. For generation located in the Electric Reliability Council of Texas (ERCOT) region, the Commission has promulgated 16 TAC § 25.55 to set objective standards for weatherizing generation facilities. Entergy is not within the ERCOT region and therefore is not subject to the requirements of 16 TAC § 25.55 as such. However, the standards in that rule are an objective standard, and the Commission finds that applying the same standard that applies to generation facilities in the ERCOT coastal weather zone is appropriate to apply to the Orange County station. Therefore, the Commission requires Entergy to weatherize the Orange County station consistent with the requirements under 16 TAC § 25.55(c)(1) and (2) that apply to

the coastal weather zone of the ERCOT region. The Commission adds findings of fact 112A, 112B, and 112C and modifies finding of fact 113 accordingly.

V. Other Changes to the Proposal for Decision

The Commission makes several other changes to the proposal for decision. The Commission adds finding of fact 4B, and modifies finding of fact 10, for completeness. The Commission deletes finding of fact 11 as unnecessary. The Commission also deletes findings of fact 12, 14, and 18 and incorporates their contents into new findings of fact 9A, 10A, 4A, and 4C. In addition, the Commission modifies finding of fact 34 to correct a factual error and modifies finding of fact 43 for accuracy and completeness. The Commission deletes finding of fact 67 as unnecessary to the Commission's decision and because it is not customary for the Commission to discuss rules that have only been proposed and not adopted.

The Commission modifies findings of fact 47 and 149 for clarity. In addition, the Commission rewrites finding of fact 114 as a proper finding of fact and rewrites conclusion of law 16 as a proper conclusion of law. Further, the Commission changes references to *the proposed CCN amendment* and *the requested CCN amendment* to *the CCN amendment approved by this Order* in findings of fact 118, 120, 122, 127, and 148 and conclusions of law 8, 9, 10, 11, and 12. The Commission also deletes findings of fact 91, 92, and 99 because they are unnecessary to the Commission's decision and could unintentionally establish precedent that future applicants might rely on.

The Commission has recently reiterated and clarified its policy regarding responding to the Texas Parks and Wildlife Department's comments and recommendations. Accordingly, the Commission deletes finding of fact 154 and adds new findings of fact 154A through 154K and standard ordering paragraphs related to the Texas Parks and Wildlife Department. The Commission also adds findings of fact 148A through 148G and conclusion of law 14A and a new ordering paragraph to reflect the determinations already made in the proposal for decision regarding the coastal management program and to include the Commission's standard language on that topic. Finally, the Commission makes non-substantive changes for such matters as capitalization, spelling, grammar, punctuation, style, correction of numbering, readability, and conformity with the Commission's order-writing format.

VI. Findings of Fact

The Commission adopts the following findings of fact.

The Applicant

1. Entergy Texas, Inc. provides fully bundled electric delivery service to approximately 486,000 customers across 27 counties in southeast Texas.
2. Entergy is authorized under CCN number 30076 to provide service to the public and to provide retail electric utility service within its certificated service area.

The Application

3. On September 16, 2021, Entergy filed an application requesting an amendment to its CCN to construct, own, and operate the Orange County advanced power station, a new combined-cycle combustion turbine facility to be located in Bridge City, Texas.
4. Entergy's application included the direct testimony of 12 witnesses.
- 4A. In Order No. 3 filed on October 18, 2021, the Commission ALJ found Entergy's application administratively complete.
- 4B. Entergy filed errata to the application, including direct testimony, on October 26, 2021, December 17, 2021, January 14, 2022, and April 5, 2022, although it withdrew part of its April 5 errata on April 6, 2022.
- 4C. On December 8, 2021, Entergy filed the direct testimony of Eliecer Viamontes, who adopted and sponsored the pre-filed direct testimony and exhibit of Sallie T. Rainer.

Notice of the Application

5. On September 16, 2021, Entergy provided notice of the application to (a) all the parties to Entergy's most recent base-rate proceeding; (b) the county judge in Orange County; and (c) the governing bodies of the cities of Bridge City, Orange, Port Neches, Nederland, Groves, and Port Arthur (the only municipalities within five miles of the Orange County station site).
6. On September 16, 2021, Entergy provided notice of the application to the Department of Defense Clearinghouse.

7. Between the dates of September 21, 2021, to September 29, 2021, Entergy published notice of the application in the following newspapers of general circulations in Entergy's retail service territory: *Anahuac Progress*, *Beaumont Enterprise*, *Brenham Banner*, *Bryan/College Station Eagle*, *Burleson County Citizen Tribune*, *Cameron Herald*, *Conroe Courier*, *East Montgomery County Observer*, *Franklin Advocate*, *Galveston County Daily News*, *Grapeland Messenger*, *Groesbeck Journal*, *Hometown Press*, *Houston Chronicle*, *Houston County Courier*, *Humble Observer*, *Huntsville Item*, *Jasper Newsboy*, *Kirbyville Banner*, *Liberty Vindicator*, *Madisonville Meteor*, *Marlin Democrat*, *Montgomery County News*, *Navasota Examiner*, *Newton County News*, *Normangee Star*, *Orange Leader*, *Penny Record/County Record*, *Polk County Enterprise*, *Port Arthur News*, *Robertson County News*, *San Jacinto News Times*, *Silsbee Bee*, *Trinity County News Standard*, *Tyler County Booster*, *Waller County Times*, and *The Woodlands Villager*.
8. In Order No. 1 issued on September 17, 2021, the Commission ALJ ordered Commission Staff to respond to Entergy's application by providing comments on the sufficiency of the application and proposing notice and to propose a procedural schedule. The Commission ALJ also adopted the standard protective order.
9. On October 6, 2021, Entergy filed affidavits attesting to proof of notice by mail and proof of publication.
- 9A. In Order No. 3 filed on October 18, 2021, the Commission ALJ found Entergy's notice of the application sufficient.

Interventions

10. In Order No. 2 filed on October 8, 2021, the Commission ALJ granted motions to intervene filed by the Office of Public Utility Counsel (OPUC); Texas Industrial Energy Consumers (TIEC); East Texas Electric Cooperative, Inc. (ETEC); and the Cities of Anahuac, Beaumont, Bridge City, Cleveland, Dayton, Groves, Houston, Huntsville, Liberty, Montgomery, Navasota, Nederland, Oak Ridge North, Orange, Pine Forest, Pinehurst, Port Arthur, Port Neches, Roman Forest, Shenandoah, Silsbee, Sour Lake, Splendora, Vidor, West Orange, and Willis (collectively, Cities).

- 10A. In Order No. 4 filed on November 9, 2021, the Commission ALJ granted the interventions of Sierra Club and International Brotherhood of Electrical Workers, Local 2286 (IBEW 2286).

Referral to SOAH

11. DELETED.
12. DELETED.
13. On October 26, 2021, Commission Staff requested a hearing and a referral to SOAH.
14. DELETED.
15. On November 9, 2021, Commission Counsel issued an order requesting lists of issues.
16. On November 15, 2021, Entergy filed its list of issues to be addressed in the proceeding.
17. On November 19, 2021, Sierra Club, Commission Staff, and TIEC filed proposed lists of issues to be addressed in the proceeding.
18. DELETED.
19. On December 13, 2021, the Commission referred this proceeding to SOAH.
20. In SOAH Order No. 1 filed on December 15, 2021, the SOAH ALJs set the prehearing conference, confirmed the applicable statutory deadline of September 19, 2022, under PURA § 37.058(d), and established filing deadlines and procedures.
21. On December 16, 2021, the Commission issued a preliminary order listing the issues to be addressed in this proceeding.
22. On January 14, 2022, Entergy filed supplemental direct testimony of four witnesses to address issues that were raised in the preliminary order.
23. In SOAH Order No. 2 filed on February 2, 2022, the SOAH ALJs set the contested case procedural schedule and scheduled the hearing on the merits.
24. On March 18, 2022, Sierra Club, Cities, OPUC, and TIEC filed direct testimony, and IBEW Local 2286 filed a statement of position.
25. On March 28, 2022, Commission Staff filed direct testimony.

26. In SOAH Order No. 6 filed on March 29, 2022, the SOAH ALJs provided instructions and deadlines relating to the prehearing conference, the hearing, and briefs.
27. On April 12, 2022, Entergy filed rebuttal testimony.
28. On April 22, 2022, ETEC filed a statement of position.
29. On April 26, 2022, Entergy filed a motion to modify the procedural schedule, which included continuing the hearing on the merits to June 29 through July 1, 2022.
30. In SOAH Order No. 8 filed on April 26, 2022, the SOAH ALJs granted Entergy's motion.
31. In SOAH Order No. 9 filed on May 4, 2022, the SOAH ALJs set the hearing on the merits and prehearing procedures.
32. On May 11, 2022, TIEC filed supplemental direct testimony.
33. On May 20, 2022, Entergy filed supplemental rebuttal testimony.
34. On June 24, 2022, TIEC filed a statement of position.
35. On June 27, 2022, Sierra Club filed a statement of position.
36. The hearing on the merits was held via videoconference on June 29 through July 1, 2022.
37. In SOAH Order No. 10 filed on July 8, 2022, the SOAH ALJs set the post-hearing briefing schedule and guidelines.
38. On July 18, 2022, Commission Staff, Entergy, OPUC, Cities, Sierra Club, and TIEC filed initial post-hearing briefs.
39. On July 29, 2022, Commission Staff, Entergy, OPUC, Cities, Sierra Club, and TIEC filed reply briefs.
40. On July 29, 2022, Entergy filed proposed findings of fact, conclusions of law, and ordering paragraphs.
41. On August 24, 2022, TIEC filed a request for supplemental briefing on the recently passed Inflation Reduction Act.
42. In SOAH Order No. 11 filed on August 25, 2022, the SOAH ALJs addressed the proposed additional briefing.

43. Between August 26 and September 1, 2022, Entergy, TIEC, Cities, ETEC and Sierra Club filed responses to SOAH Order No. 11.
44. On September 1, 2022, the SOAH ALJs denied the request for supplemental briefing.
45. The record closed on July 29, 2022, with the filing of reply briefs.

Description of the Plant to be Included in Entergy's CCN

46. The Orange County station will provide a nominal output of 1,215 MW and a summer output of 1,158 MW of clean, dispatchable capacity in the industrial corridor of southeast Texas to help ensure Entergy is able to supply power to Texas customers in a reliable and economic manner for decades to come.
47. The Orange County station, as it was proposed, is based on modern, commercially proven combustion-turbine technology with dual-fuel capability, able to co-fire up to 30% hydrogen by volume upon commercial operation and upgradable to support 100% hydrogen operations in the future, as market conditions dictate.
48. At the time of filing the application, the estimated cost for the Orange County station was approximately \$1.19 billion, inclusive of \$1.107 billion of generation project costs and \$85.9 million in transmission-upgrade costs.
49. Due to cost escalation in the global economy, in June 2022, Entergy provided an updated cost estimate for the Orange County station of \$1.58 billion, contingent upon issuance of a limited notice to proceed by July 15, 2022.
50. The Orange County station will be located at Entergy's Sabine Power Station site in Bridge City.
51. The Orange County station will be constructed to use Entergy's Spindletop gas storage facility.
52. Entergy will construct, own, and operate the Orange County station.
53. Entergy expects that the Orange County station will achieve commercial operation in 2026.

Regulatory Approvals and Notice

54. Entergy's application is sufficient for consideration.

55. Entergy's notice in this proceeding is sufficient.
56. The authority granted by this Order will be limited to a period of seven years from the date the Order is signed, unless the Orange County station is commercially operational before that time.

Adequacy of Existing Service

57. Entergy currently provides adequate service to its customers.

Need for Additional Service

58. Entergy has a need for the additional capacity and energy.
59. By 2026, Entergy plans to deactivate from service three legacy gas-fired steam generating units, Sabine 1, 3, and 4, due to age and reliability concerns.
60. Entergy's decision to retire Sabine 4 in 2026 is based on reasoned judgment informed by the unit's age and, increasingly over time, its condition, criticality, reliability, and economics.
61. Significant age-related conditions (including gas supply valve wear, water pump replacement and failures, stop-valve replacement, hot spots on the boiler, frequent tube leaks in multiple key components, and air duct failures) have begun increasing Sabine 4's forced outage rate and degradation to its max capacity.
62. Sabine 4's outage rate over the past five years has increased 50% as compared to the previous five-year period.
63. Sabine 4's unforced capacity used by the Midcontinent Independent System Operator, Inc. (MISO) to determine capacity credit has recently decreased, and its generator verification test capacity has degraded approximately 30 MW over the past five years.
64. The average equivalent forced outage rate demand for Sabine 4 over the last five years is approximately 25% and has been as high as 35% during that time.
65. Sabine 4 was available for only approximately 30 days during the first six months of 2022, and at less than its full capacity during all of those days.

66. From an environmental compliance standpoint, Sabine 4 has been derated or taken offline several times to comply with nitrogen oxide emission limitations.
67. DELETED.
68. There is a real risk that further investment in Sabine 4 may not maintain or improve its forced outage rate.
69. There is a substantial risk that unknown conditions could lead to the failure of Sabine 4 from which the unit could not return to service, regardless of any further investment in the unit.
70. Sabine 4 should be retired and deactivated in 2026 as Entergy proposed.
71. The orderly deactivation of Sabine 1 in 2023 and Sabine 3 and 4 in 2026 is necessary to ensure reliable service to Entergy's customers.
72. Entergy's coincident peak load is expected to grow approximately 10.3% (or by 348 MW) by 2026, primarily due to large industrial load additions.
73. Any reasonably expected variation from Entergy's load forecast will not result in Entergy being substantially long on energy or capacity for any extended period of time based on the addition of the Orange County station.
74. Entergy's load has grown at a level comparable to its 2021 business plan forecast.
75. Entergy's sales and load forecasting methodology and processes are reasonable and appropriate.
76. Entergy's long-term planning reserve margin of 12.69% appropriately and reasonably reflects the amount of capacity that must be planned, during the approximately four years required to plan, develop, and construct new capacity, to ensure that firm load would be curtailed only once every ten years.
77. Based on the deactivation of Sabine 1, 3 and 4 and its project load growth, and accounting for its long-term planning reserve margin, Entergy will have a capacity shortfall of approximately 1,073 MW in 2026 that the Orange County station will help to meet.

78. Changes to Entergy's supply plan in its 2022 business plan reflecting new solar additions in 2025 and beyond do not displace the need for the Orange County station to address the capacity shortage in 2026.
79. Entergy has a projected energy deficit of 9.2 terawatt-hours by 2026, representing approximately 40% of the energy needed to serve Entergy customers.
80. Entergy's 2019 portfolio analysis addressed its 2026 capacity and energy needs and evaluated the performance of five reasonable resource portfolio alternatives across four potential future scenarios encompassing a range of market outcomes, considering Entergy's overall capacity, energy, and reliability needs, among other factors.
81. Portfolio 2, consisting of a 2x1 combined-cycle gas combustion turbine located at the Sabine site, had the lowest total supply costs and most closely aligned generation and demand over the study period, reducing customers' exposure to energy-market price risk.
82. Portfolio 2 was more economic than every other portfolio analyzed across every future evaluated by a range of \$56 million to \$320 million net present value.
83. Portfolio 2 was comparable to portfolios 1, 3, and 4 from a risk standpoint.
84. Portfolio 5, which consisted of a 1x1 combined-cycle combustion turbine and extending the service life of Sabine 4 to 2034, was riskier than all other portfolios from a reliability standpoint.
85. Extending Sabine 4 to 2034 would not allow full transfer of the transmission rights at the Sabine site and would require Entergy to seek incremental transmission service from MISO and pay significant costs associated with transmission upgrades in 2034.
86. Entergy cannot reasonably ensure reliable service with an assumed 2034 deactivation date for Sabine 4, given the age and condition of the unit, even with significant and continued capital investments.
87. Portfolio 5's extension of Sabine 4 to 2034 carries unreasonable reliability and economic risk for Entergy's customers.
88. Portfolio 2 is the best option for addressing the long-term capacity, energy, and reliability needs of Entergy's customers.

89. Entergy initiated the 2020 request for proposals (RFP) to solicit competitive proposals for between 1,000 MW and 1,200 MW of capacity supplied from combined-cycle-combustion-turbine technology located in the eastern region of Entergy's service area.
90. The RFP resulted in the selection of the Orange County station, which has significant projected economic and reliability benefits to Entergy's customers.
91. DELETED.
92. DELETED.
93. Building additional transmission to import power into Entergy's service territory is not a practical or cost-effective option to address Entergy's capacity and energy needs.
94. To materially impact the import capability into the load pocket in which Entergy's service territory sits, an investment of over \$1 billion would be required.
95. A \$1 billion transmission investment will not address the need for sufficient long-term generation to meet Entergy's capacity and energy needs or provide the reactive power support critical to serving the significant industrial load in Entergy's eastern region.
96. It was reasonable for the RFP to solicit resources in Entergy's eastern region.
97. The RFP included a provision that gave Entergy the unilateral right to terminate a purchase power agreement (PPA) if the PPA became a liability on Entergy's books, such as if it were deemed a lease.
98. The RFP included a provision that shifted the risk of regulatory disallowances to a successful PPA bidder.
99. DELETED.

Hydrogen Co-Firing Capability

100. Entergy's 2019 portfolio analysis did not include a hydrogen-enabled combined cycle gas turbine like the Orange County station.
101. In February 2022, Entergy estimated the cost of the hydrogen component proposed for the Orange County station at \$91 million.

- 102. Entergy did not conduct any economic or cost-benefit analysis of the Orange County station's hydrogen component.
- 103. Entergy did not produce any forecasts for the price of hydrogen on a dollar per thousand cubic feet or million British thermal unit basis.
- 104. Entergy did not analyze the dual-fuel benefit of hydrogen relative to gas storage at Spindletop or to liquid-fuel back-up at the Orange County station.
- 105. Entergy did not meet its burden to prove the improvement of service or lowering of cost to consumers in the area is probable if the certificate is granted, when including any potential economic or reliability benefits associated with the hydrogen component of the Orange County station.
- 105A. Hydrogen co-firing capability is not needed by the Orange County station at this time.

Proposed Conditions

- 106. Entergy estimated that the Orange County station would cost \$1.19 billion when it filed its application.
- 107. The Orange County station's total capital cost is subject to escalation both before and after Entergy issues a limited notice to proceed.
- 108. The Orange County station's last capital cost estimate of \$1.58 billion was completed in June of 2022.
- 109. The capital cost of the Orange County station is expected to exceed \$1.58 billion.
- 110. Without a cost cap, it is possible that Entergy may expend as much as \$2.5 billion on the Orange County station.
- 111. DELETED.
- 112. Entergy's proposed hydrogen capability component and any related costs for the Orange County station are not appropriate in this proceeding.
- 112A. Entergy agreed to weatherize the Orange County station to withstand conditions at least as severe as Winter Storm Uri.

- 112B. The requirements of 16 TAC § 25.55(c)(1) and (2) as applicable to generation facilities in ERCOT's coastal weather zone provide a more objective measure for weatherization than the standard agreed to by Entergy.
- 112C. It is appropriate for the Commission to require Entergy to weatherize the Orange County station consistent with the requirements of 16 TAC § 25.55(c)(1) and (2) as applicable to generation facilities in ERCOT's coastal weather zone.
113. Weatherization of the Orange County station consistent with the requirements of 16 TAC § 25.55(c)(1) and (2) as applicable to generation facilities in ERCOT's coastal weather zone is consistent with reliability needs.
114. Given that the projected fuel savings is based on a reduction in heat rate, the heat rate guarantee in the engineering, procurement, and construction agreement is appropriate.

Effect of Granting the Certificate Amendment on Entergy and Any Electric Utility Serving the Proximate Area

115. Operationally, the Orange County station will have a positive impact on Entergy and its customers in that it will address Entergy's need for additional energy, capacity, and reliability.
116. The Orange County station will benefit utilities operating in MISO South, including ETEC.
117. The Orange County station is expected to reduce locational marginal prices, congestion costs, and reliability-must-run designations and satisfy Entergy's reserve requirements.

Other Factors

Community Values

118. The CCN amendment approved by this Order will not result in any adverse effects to community values.
119. The land in the immediate vicinity of the Orange County station is already being used for industrial purposes due to the operation of the Sabine power station on the site for over 50 years.

Recreational and Park Areas

120. The CCN amendment approved by this Order will not result in any adverse effects to recreational and park areas.
121. No parks or recreational areas are located in the immediate vicinity of the Orange County station site.

Historical and Aesthetic Values

122. Because the Orange County station will be located at an existing plant site, the CCN amendment approved by this Order would have no adverse effects on historical values and minimal adverse effect on aesthetic values.

Environmental Integrity

123. The Orange County station is expected to have a minimal effect on the environmental integrity of the area.
124. No federally protected species or critical habitats occur on the proposed facility's site.
125. The Orange County station will employ state-of-the-art emission-reduction controls, including selective catalytic reduction technology and dry low-nitrogen oxides burners to reduce nitrogen oxide emissions, and an oxidation catalyst for the control of carbon monoxide and volatile organic compounds emissions.

Probable Lowering of Cost

126. To model the projected savings to customers, Entergy performed several economic analyses comparing the Orange County station to three combustion turbine generators.
127. The CCN amendment approved by this Order will result in the probable lowering of cost to consumers in the area.
128. Across a range of reasonable assumptions, the Orange County station is expected to provide positive net economic benefits to Entergy customers.
129. The Orange County station is an economic resource option that will have the probable effect of lowering the cost of service to Entergy customers.

Carbon Policy Assumption

130. Entergy's reference- and high-gas cases evaluated the expected customer benefits of the Orange County station both with and without a future enforced carbon emission burden (i.e., a carbon tax).
131. Although it is possible a carbon tax will be imposed in the future, such a tax has not been imposed in the past, and the evidence does not show imposition of such a tax is probable in the future.
132. Including a carbon-tax assumption in the modeling causes the proposed facility to appear more economic than it otherwise would.
133. Natural gas price projections have increased recently.
134. Entergy's reference gas case is reasonable despite the carbon tax assumption.

Variable O&M Assumption

135. Entergy's Aurora model output assumed that the Orange County station and future combined-cycle gas turbines had variable operations and maintenance (O&M) costs that were unreasonably high relative to Entergy's projection of the Orange County station's O&M costs.
136. Entergy estimates variable cost savings to be the difference of the O&M costs from the Aurora model and Entergy's own projection.
137. Entergy's O&M cost assumptions add significant variable supply cost savings to the Orange County station's net benefit.
138. Entergy assumes that the O&M for a generic 2x1 combined-cycle gas turbine would be unreasonably high relative to those same costs for the Orange County station 2x1 combined-cycle gas turbine.
139. If Entergy had made reasonable O&M and capital cost assumptions for the Orange County station relative to a generic 2x1 combined-cycle gas turbine, the resulting energy savings would be lower than shown in Entergy's analysis.
140. Entergy's variable O&M assumptions are unreasonable.

141. This unreasonable variable O&M assumption was not shown to eliminate all net benefits of the Orange County station.

Probable Improvement of Service

142. The Orange County station is designed to enhance the reliable delivery of electric service during severe weather conditions.
143. The placement of the Orange County station within Entergy's service area in close proximity to the industrial load center in Southeast Texas will enhance reliability by reducing dependence on existing transmission infrastructure, reducing transmission losses, and providing reactive power needed to serve the types of load in the area.
144. The Orange County station will help maintain transmission system inertia and dynamic reactive support within the region and provide critical in-region capacity to help maintain service during major storms and facilitate more rapid system restoration following such storms.
145. Sabine 1, 3, and 4 have been regularly committed by MISO to address voltage and local reliability issues.
146. With the deactivation of Sabine 1, 3 and 4, the addition of the Orange County station to replace them is necessary to avoid negative impacts on service reliability in Entergy's eastern region.
147. The ability of the Orange County station to access natural gas stored at Entergy's Spindletop facility provides an additional reliability benefit in times of constrained natural gas supply.
148. Entergy and its customers will benefit from the CCN amendment approved by this Order because the Orange County station will enhance reliability by (1) replacing aging, less reliable legacy generation, (2) providing the most efficient generation in MISO South, and (3) having the ability to operate in severe weather conditions, including extreme cold and extreme heat.

Coastal Management Program

- 148A. Under 16 Texas Administrative Code (TAC) § 25.102(a), the Commission may grant a certificate for the construction of generation facilities within the coastal management program boundary only when it finds that the proposed facilities comply with the goals and applicable policies of the Coastal Management Program or that the proposed facilities will not have any direct and significant effect on any of the applicable coastal natural resource areas as defined under Texas Natural Resources Code § 33.203 and 31 TAC § 501.3(b).
- 148B. The Orange County station will be located wholly within the coastal management program boundary as defined in 31 TAC § 503.1(a) and seaward of the costal facility designation line as defined in 31 TAC § 19.2(a)(22).
- 148C. The Orange County station will not have any direct and significant effect on any of the applicable coastal natural resource areas.
- 148D. The location of the Orange County station has previously been disturbed for industrial use for over 50 years.
- 148E. The Orange County station will not use once-through cooling. It will use closed-cycle cooling that will reduce water use and have the least adverse effects on estuarine organisms.
- 148F. Entergy will implement best management practices—such as matting, hydraulic dredging, and silt fencing—when dredging to mitigate adverse effects in areas potentially used for aquatic fish species’ spawning.
- 148G. Entergy will perform dredging activities in accordance with the United States Army Corps of Engineers section 404 and section 10 permit requirements and conditions.

Necessity for Service Accommodation, Convenience, or Safety of the Public

149. The amendment to Entergy’s CCN to construct, own, and operate the Orange County station, as approved by this Order and excluding the hydrogen component, is necessary for the service, accommodation, convenience, or safety of the public.

Effect of CCN Amendment on the Renewable Resources Goal Established by PURA § 39.904(a)

150. Texas has met the goal of establishing 10,000 MW of installed renewable capacity for the state by January 1, 2025, as set out in PURA § 39.904(a).

151. The Orange County station would not affect Texas's ability to reach its renewable-energy goal.

Texas Parks and Wildlife Department

152. On September 16, 2021, Entergy provided the environmental assessment in this project to the Texas Parks and Wildlife Department.

153. On November 9, 2021, the Texas Parks and Wildlife Department filed comments and recommendations in this proceeding. The Texas Parks and Wildlife Department did not seek to intervene.

154. DELETED.

154A. The Texas Parks and Wildlife Department's letter addressed issues relating to effects on ecology and the environment but did not consider the other factors the Commission and utilities must consider in CCN applications.

154B. Before beginning construction, it is appropriate for Entergy to undertake appropriate measures to identify whether a potential habitat for endangered or threatened species exists and to respond as required.

154C. Entergy will comply with all applicable environmental laws and regulations, including those governing threatened and endangered species.

154D. Entergy will comply with all applicable regulatory requirements in constructing the Orange County station, including any applicable requirements under section 404 of the Clean Water Act.

154E. If construction affects federally listed species or their habitat or affects water under the jurisdiction of the United States Army Corps of Engineers or the Texas Commission on Environmental Quality, Entergy will cooperate with the United States Fish and Wildlife Service, United States Army Corps of Engineers, and the Texas Commission on Environmental Quality as appropriate to coordinate permitting and perform any required mitigation.

154F. Environmental Resources Management Southwest, Inc. relied on habitat descriptions from various sources, including the Texas Natural Diversity Database, other sources provided

by the Texas Parks and Wildlife Department, and observations from field reconnaissance to determine whether habitats for some species are present in the area surrounding the Orange County station.

- 154G. Entergy will cooperate with the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department to the extent that field surveys identify threatened or endangered species' habitats.
- 154H. The standard mitigation requirements included in the ordering paragraphs of this Order, coupled with Entergy's current practices, are reasonable measures to undertake when constructing the Orange County station and sufficiently address the Texas Parks and Wildlife Department's comments and recommendations.
- 154I. This Order addresses only those recommendations by the Texas Parks and Wildlife Department for which there is record evidence.
- 154J. The Commission does not address the Texas Parks and Wildlife Department's recommendations for which there is not record evidence to provide sufficient justification, adequate rationale, or an analysis of any benefits or costs associated with the recommendation.
- 154K. The recommendations and comments made by the Texas Parks and Wildlife Department do not necessitate any modifications to the Orange County station.

VII. Conclusions of Law

The Commission adopts the following conclusions of law.

- 1. The Commission has jurisdiction over this matter in accordance with PURA §§ 14.001, 37.051(a), 37.053, 37.056, 37.058(b), and 39.452(j).
- 2. SOAH has jurisdiction over this proceeding, including the preparation of a proposal for decision with findings of fact and conclusions of law, under PURA section 14.053 and Texas Government Code § 2003.049.
- 3. Because the Orange County station does not yet exist and would not be built until regulatory approvals have been obtained, the 366-day case-processing timeline set forth in PURA § 37.058(d) applies to this proceeding.

4. This case was processed in accordance with the requirements of PURA, the Administrative Procedure Act,⁷⁷ and Commission rules.
5. Entergy provided notice of the application in accordance with PURA § 37.054 and 16 TAC § 22.52(a).
6. Entergy is a public utility as that term is defined in PURA § 11.004(1) and an electric utility as that term is defined in PURA § 31.002(6).
7. Entergy currently provides adequate service, but it has a need for additional service under PURA §§ 37.056(c)(1) through (2), in that it needs additional capacity, energy, and reliability, which the Orange County station would help provide.
8. The CCN amendment approved by this Order will not adversely affect any electric utility serving the proximate area under PURA § 37.056(c)(3).
9. The CCN amendment approved by this Order will not adversely affect community values, recreational and park areas, or historical values under PURA § 37.056(c)(4)(A)-(C).
10. The CCN amendment approved by this Order will have a minimal adverse effect on aesthetic values and environmental integrity under PURA § 37.056(c)(4)(C)-(D).
11. The CCN amendment approved by this Order will result in the probable improvement of service and the probable lowering of cost to consumers in the area under PURA § 37.056(c)(4)(E).
12. The CCN amendment approved by this Order will not affect Texas's ability to reach the renewable energy goal established by PURA § 39.904(a) and considered under § 37.056(c)(4)(F) because that goal has already been met.
13. Entergy's application, as modified by this Order, meets the applicable requirements of PURA §§ 37.056, 37.058, and 39.452(j) regarding generation CCN amendments.
14. The Orange County station is necessary for the service, accommodation, convenience, or safety of the public within the meaning of PURA § 37.056(a).

⁷⁷ Tex. Gov't Code §§ 2001.001–.903.

- 14A. The Orange County station complies with the Texas Coastal Management Program's requirements under 16 TAC § 25.102, goals under 31 TAC § 501.12, and applicable policies under 31 TAC § 501.16(a).
- 15. The Commission has authority to impose conditions on its CCN approval under PURA § 37.056(b)(2).
- 16. Approval of Entergy's application is subject to the conditions in findings of fact 111 through 114.
- 16A. Entergy is required to apply for a future CCN amendment if it seeks authorization to add hydrogen co-firing capability to the Orange County station.

VIII. Ordering Paragraphs

In accordance with these findings of fact and conclusions of law, the Commission issues the following orders:

- 1. The Commission adopts the proposal for decision in part, including findings of fact and conclusions of law, as discussed in this Order.
- 2. The Commission amends Entergy's CCN number 30076 to include the construction, ownership, and operation of the Orange County station, an approximately 1,125-MW combined-cycle combustion turbine generation unit to be located at the existing Sabine Power Station in Bridge City, subject to the conditions described in ordering paragraphs 3, 4, and 5.
- 3. The Commission does not approve hydrogen co-cofiring capability in this CCN proceeding.
- 4. Entergy must weatherize the Orange County station consistent with the requirements of 16 TAC § 25.55(c)(1) and (2) as applicable to generation facilities in ERCOT's coastal weather zone.
- 5. Entergy must exhaust all legal remedies to ensure consumers receive the benefits of the heat rate guaranteed under the engineering, procurement, and construction agreement if the plant does not perform as expected, and any liquidated damages relating thereto shall inure to the benefit of the customers.

6. Entergy must obtain all permits, licenses, plans, and permission required by state and federal law that are necessary to construct the Orange County station, and if Entergy fails to obtain any such permit, license, plan, or permission, it must notify the Commission immediately.
7. Entergy must identify any additional permits that are necessary, consult any required agencies (such as the United States Army Corps of Engineers and United States Fish and Wildlife Service), obtain all necessary environmental permits, and comply with the relevant conditions during construction and operation of the Orange County station.
8. If Entergy encounters any archaeological artifacts or other cultural resources during construction, work must cease immediately in the vicinity of the artifact or resource, and Entergy must report the discovery to, and act as directed by, the Texas Historical Commission.
9. Before beginning construction, Entergy must undertake reasonable measures to identify whether a potential habitat for endangered or threatened species exists and must respond as required.
10. Entergy must take reasonable measures to minimize the potential harm to migratory birds and threatened or endangered species that is presented by the Orange County station.
11. Entergy must take reasonable precautions to avoid disturbing occupied nests and must take reasonable steps to minimize the burden of the construction of the Orange County station on migratory birds during the nesting season of the migratory bird species identified in the area of construction.
12. During construction and operation of the Orange County station, Entergy must exercise extreme care to avoid affecting non-targeted vegetation or animal life when using chemical herbicides to control vegetation. Herbicide use must comply with rules and guidelines established in the Federal Insecticide, Fungicide, and Rodenticide Act and with Texas Department of Agriculture regulations.
13. Entergy must minimize the amount of flora and fauna disturbed during construction of the Orange County station, except to the extent necessary to establish appropriate right-of-way

clearance for a transmission line. In addition, Entergy must re-vegetate using native species and must consider landowner preferences and wildlife needs in doing so. Furthermore, to the maximum extent practicable, Entergy must avoid adverse environmental effects on sensitive plant and animal species and their habitats, as identified by the Texas Parks and Wildlife Department and the United States Fish and Wildlife Service.

14. Entergy must implement erosion-control measures as appropriate. Erosion-control measures may include inspection of the rights-of-way before and during construction to identify erosion areas and implement special precautions as determined reasonable to minimize the effect of vehicular traffic over the areas.
15. To the maximum extent practicable, Entergy must minimize any potential adverse effects of the construction of the Orange County station on coastal natural resource areas.
16. Entergy must apply for a future CCN amendment if it seeks authorization to add hydrogen co-firing capability to the Orange County station.
17. The Commission limits the authority granted by this Order to a period of seven years from the date the Order is signed unless the Orange County advanced power station is commercially operational before that time.
18. The Commission denies all other motions and any other requests for general or specific relief that have not been expressly granted.

Signed at Austin, Texas the 12th day of January 2023.

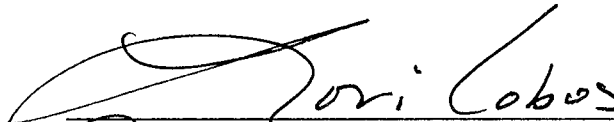
PUBLIC UTILITY COMMISSION OF TEXAS



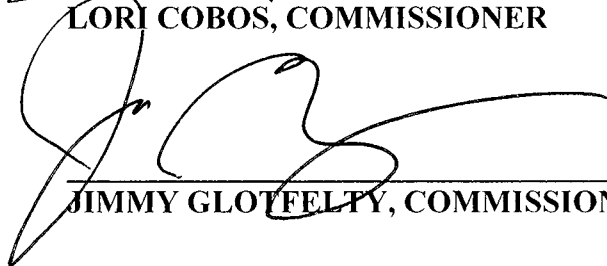
PETER M. LAKE, CHAIRMAN



WILL MCADAMS, COMMISSIONER



LORI COBOS, COMMISSIONER



JIMMY GLOTFELTY, COMMISSIONER



KATHLEEN JACKSON, COMMISSIONER