2020 Request for Proposals

for

Combined-Cycle Gas Turbine Capacity and Energy Resources

for

Entergy Texas, Inc.

Entergy Services, LLC
April 28, 2020

The statements contained in this RFP are made subject to the Reservation of Rights set forth in Appendix E of this RFP and the terms and acknowledgements set forth in the Proposal Submission Agreement.

TABLE OF CONTENTS

APPENDICES

Appendices	Title
Appendix A	Glossary
Appendices B-1, B-2, B-3, B-4, and B-5	Commercial Term Sheets for PPAs, Tolls, Acquisitions, and BOT Acquisitions and a Summary BOT Scope Book
Appendices C-1 and C-2	Preliminary Due Diligence for Developmental Resources and Existing Resources
Appendix D	Minimum Requirements for Developmental Resources
Appendix E	Reservation of Rights
Appendix F	Credit/Collateral Requirements
Appendix G	Process for Protection of Proposal Information
Appendix I	Supplier Diversity

2020 REQUEST FOR PROPOSALS FOR COMBINED-CYCLE GAS TURBINE CAPACITY AND ENERGY RESOURCES FOR ENTERGY TEXAS, INC.

1. GENERAL INFORMATION

1.1. Introduction

Entergy Services, LLC ("**ESL**"), acting as agent for Entergy Texas, Inc. ("**ETI**"), hereby issues this 2020 Request for Proposals for Combined-Cycle Gas Turbine Capacity and Energy Resources for Entergy Texas, Inc. (including all appendices, this "**RFP**").

Through this RFP, ETI seeks to acquire, on and subject to the terms set forth herein, from 1,000 to 1,200 MW (Summer Conditions, at full load, including duct-firing if included as part of the Facility) of Capacity, capacity-related benefits, energy, Other Electric Products, and Environmental Attributes (if any) from a single generation resource located in the "Eastern Region" of ETI's service area for service commencing no earlier than May 31, 2025, and no later than May 31, 2026 . ESL intends to market-test a self-build alternative as part of the RFP ("**Self-Build Option**").

A summary of the scope of the RFP, including the products solicited by this RFP (the "**Products**"), is set forth in Section 1.10 below.

1.2. ETI; Eastern Region

ETI provides retail electric service to more than 461,000 customers in 27 counties in the state of Texas. ETI supports continued growth in Texas through investment in generation and other facilities that provide customers with clean, affordable, and reliable electricity. Through this RFP, ETI is seeking to procure cost-effective combined-cycle gas turbine ("**CCGT**") resources that can provide capacity, energy, supply diversity, environmental, and other benefits to ETI customers. This RFP is being conducted, and any Definitive Agreement arising out of this RFP would be, for the benefit of ETI's customers.

This RFP seeks resources located in the "Eastern Region" of ETI's service area. For purposes of this RFP, the "**Eastern Region**" is the portion of Texas encompassing an area from the Texas-Louisiana state border on the east, the Gulf of Mexico on the south, the ETI planning region known as the "Western Region" on the west, and the Southwest Power Pool ("**SPP**") on the north. A map showing and detailing the Eastern Region is provided in the Minimum Requirements Document referenced above and is also available on the 2020 ETI CCGT RFP Website.*

The red line on the map indicates the approximate geographic border of the ETI Eastern Region of Texas. The border is a function of the following ETI transmission tie-lines:		
Doucette – Deer 138 kV	Dayton Bulk – New Long John 138 kV	Hartburg-Rhodes 500kV
Cypress – Honey Island 138 kV	Dayton Bulk – Eastgate 138 kV	Bon Wier-Cooper 138kV
Cypress – Rye 138 kV	Orange-Toomey 138kV	Leach-Fairmount 138kV
Batiste Creek – Jacinto 230 kV	Orange-Hollywood 138kV	Toledo Bend-Vanply 138kV
China – Heights 230 kV	Sabine-Mud Lake 230kV	Toledo Bend-Leesville 138kV
	Hartburg- Layfield 500kV	

* The Eastern Region shown in the map (and also shown in the same map in Appendix D) is based on 138 kV and higher transmission facilities and excludes certain areas that contain lower voltage facilities that are not relevant for this RFP.

If a bidder is unclear whether a resource is located within the Eastern Region, Bidder may submit a question seeking the answer to the Bid Event Coordinator, specifying the exact location of the resource. The Bid Event Coordinator will respond with a determination whether the resource is located within the Eastern Region or coordinate clarifying questions before making such a determination.

1.3. RFP Documents

This RFP consists of the Main Body and thirteen appendices. Among other things, the Main Body (i) offers general information pertaining to this RFP; (ii) describes the resource and transaction structures/Products that ETI seeks from Bidders and high-level considerations for Bidders; (iii) includes a milestone schedule for this RFP; (iv) addresses the Self-Build Option being market-tested in this RFP; (v) sets forth terms governing the registration, preparation, and submission of proposals and RFP-related Bidder communications with ESL and the Independent Monitor ("**IM**"); and (vi) provides a high-level overview of the proposal evaluation and selection process.

Appendix A to this RFP is a glossary of certain capitalized terms used in this RFP. A capitalized term used but not defined in the Main Body will have the meaning ascribed to such term in Appendix A, except to the extent the context otherwise requires.

Appendices B-1, B-2, B-3, and B-4 are four term sheets for this RFP (each, a "**Term Sheet**"), one for power purchase agreements ("**PPAs**"), one for tolling agreements ("**Tolls**"), one for acquisitions of existing resources, and one for acquisitions of Developmental Resources. The Term Sheets are discussed in more detail in Section 2.2.1 below. Appendix B-5 is a summary of the BOT Scope Book that would apply to acquisitions of Developmental Resources. The BOT Scope Book addresses, among other things, the scope of the Seller's engineering, procurement, and construction ("**EPC**") work on the proposed project, the project execution plan, EPC standards and processes to be followed, and other technical information about the project.

Appendix C-1 contains questions and requests for material and other information that Bidders will be required to provide or answer in connection with any proposal submitted in this RFP that is based on a Developmental Resource. Appendix C-2 contains questions and requests for material and other information that Bidders will be required to provide or answer in connection with any proposal submitted in this RFP that is based on an existing resource.

Appendix D describes the Minimum Requirements for Developmental Resources that Bidders must satisfy for Bidder to submit a conforming proposal for a Developmental Resource in this RFP. Appendix D is not an exhaustive list of this RFP's requirements for conforming proposals for Developmental Resources; other terms of the RFP documents specify additional proposal requirements.

Appendix E contains an express reservation of ESL's rights in connection with this RFP; warranty, liability, and contract acceptance disclaimers; terms addressing the disclosure of RFP-related information by ESL, ETI, and Bidders in this RFP; Bidder's responsibility for RFP-related costs, and regulatory approvals; and Bidder's deemed acceptance of the rights and terms contained in Appendix E and ESL's reliance upon such acceptance.

Appendix F generally describes the credit support requirements for any transaction arising out of this RFP and other credit-related features that will be material to any Bidder proposal.

Appendix G provides information on the protocols ESL has established to ensure that (i) the RFP process will be impartial and objective, (ii) Bidders' commercially-sensitive information will be protected, (iii) all proposals will be treated in a consistent fashion, and (iv) no proposal from any particular Bidder, including the Self-Build Option, will receive undue preference.

Appendix I includes information regarding local and diversity suppliers of goods and services to projects proposed in this RFP.

Bidders are responsible for familiarizing themselves with and being fully aware of the terms of this RFP, including the terms of each Appendix applicable to its proposal(s) and any clarifications,

elaborations, or adjustments to RFP terms communicated to Bidders. Bidders are advised that from time to time ESL may clarify, elaborate upon, or adjust the terms of this RFP in response to developments that may affect or require attention in this RFP, ESL perceptions or concerns that terms in this RFP may be incomplete, inaccurate, or ambiguous or may fail to adequately address risks, rights, obligations, or other matters, or for other reasons.

1.4. 2020 ETI CCGT RFP Website and PowerAdvocate

The official website for this RFP is https://spofossil.entergy.com/ENTRFP/SEND/2020ETICCGTRFP/ ("**2020 ETI CCGT RFP Website**"). This RFP and related material and information are posted on the 2020 ETI CCGT RFP Website and available for review. The 2020 ETI CCGT RFP Website will be updated from time to time with additional material and information concerning this RFP. Interested Persons are responsible for monitoring the 2020 ETI CCGT RFP Website to ensure the timely receipt of information about this RFP.

"PowerAdvocate" will be utilized for Bidder communications after bidder registration for this RFP. Bidder will be invited to join and use the PowerAdvocate site to submit proposals and documents and communicate with ESL upon the completion of Bidder registration.

1.5. Bid Event Coordinator

ESL has designated a "**Bid Event Coordinator**" for this RFP. The Bid Event Coordinator's responsibilities include (i) acting as a liaison between the participants in this RFP and ESL on all RFP-related matters, (ii) ensuring that Bidder RFP-related questions ESL received during the pendency of this RFP are addressed in an appropriate manner, (iii) receiving, recording, and maintaining Bidder RFP proposals, (iv) working with the IM throughout the RFP, and (v) managing other administrative matters relating to this RFP. The Bid Event Coordinator is also a member of the "**RFP Administration Team**." The full set of the Bid Event Coordinator's duties, and the role of the RFP Administration Team, are set forth in Appendix G.

The Bid Event Coordinator for this RFP is Mr. John Raybourn, who can be contacted prior to Bidder's completion of the Bidder Registration Process via email at etirfp@entergy.com and afterwards through PowerAdvocate. PowerAdvocate information will be provided to Bidders at the time or shortly after Bidder completes the Bidder Registration Process.

1.6. Independent Monitor

ESL has retained Mr. Wayne Oliver of Merrimack Energy Group, Inc. to act as the Independent Monitor ("**IM**") for this RFP. The role of the IM is defined in the IM's "Scope of Work Activities," which is posted on the 2020 ETI CCGT RFP Website. In summary, the IM's role will be to (i) monitor the design and implementation of the RFP solicitation, evaluation, selection, and contract negotiation processes to ensure their impartiality and objectivity and (ii) provide an objective, third-party perspective on ESL's efforts to ensure that all proposals are treated consistently

and without undue preference to any Bidder. Bidders wishing to communicate with Mr. Oliver may reach him by email at Waynejoliver26@gmail.com or by phone at (781) 856-0007.

1.7. Eligible Participants

ESL invites proposals from all potential suppliers capable of meeting the conditions and requirements identified in this RFP ("**Eligible Participants**"). Proposals from Qualified Facilities ("QFs") will not be provided any preference in this RFP solely by virtue of their QF status. **Entergy Competitive Affiliates are not permitted to submit proposals in this RFP.** As discussed in more detail in Sections 2.7 and 3 below, ESL will consider and market-test a Self-Build Option in the RFP. A "Bidder" may consist of more than one entity. (For additional information concerning multi-party Bidders, please see Section 7.5 below.) Otherwise Eligible Participants that do not comply in all material respects with the terms, conditions, and requirements of this RFP may be determined by ESL, after consultation with the IM, to be ineligible to continue to participate in this RFP.

1.8. Eligible Technology

The generation technology permitted for proposals responsive to this RFP ("**Eligible Technology**") is CCGT technology that is equipped with functioning automatic generation control ("**AGC**"), has operating parameters that include the ability to operate in base load and load-following roles consistent with MISO operating rules for resources expected to provide ancillary services, and, exclusively for Developmental Resources participating in the RFP, is Commercially-Proven CCGT Technology that meets the minimum technology requirements set forth in Appendix D to this RFP (the "**Eligible RFP Technology**"). For this RFP, "**Commercially-Proven CCGT Technology**" is technology that ESL determines has, as of August 31, 2020, a sufficient amount of operational, maintenance, and performance data and information demonstrating, to ESL's satisfaction, (i) the ability to provide sustained, reliable, and otherwise acceptable performance in the CCGT configuration proposed and (ii) the CCGT technology's suitability for service in the resource's intended roles as an ETI resource. If Bidder is unclear whether a CCGT generation technology that Bidder intends to or may propose in the RFP is "Commercially-Proven CCGT Technology," Bidder may submit a request to ESL and the IM seeking the desired clarification and ESL will answer the request. Please see Section 7.1 of the Main Body (or contact the Bid Event Coordinator specified in the Notice of Intent for the RFP) for information regarding the submission of questions about the RFP to ESL and the IM. Bidder may be required to supply to ESL and the IM information about the CCGT technology and potential Developmental Resource in issue to assist ESL in the development of its response.

1.9. Eligible Resources

This RFP is limited to proposals for transactions based upon existing resources or Developmental Resources that are Eligible Resources. "**Eligible Resources**" are generation resources that:

(i) are or, for Developmental Resources, will be physically located in the Eastern Region;

(ii) will utilize Eligible Technology to make available and generate the products contracted to Buyer in the Definitive Agreement;
(iii) will be a single integrated resource [generation resources located at separate facilities are considered multiple resources and may not be combined to form an Eligible RFP Resource]; and
(iv) meet the other RFP requirements applicable to generating resources participating in this RFP (*e.g.*, committed and able to deliver Capacity, capacity-related benefits, energy, Other Electric Products, and Environmental Attributes (if any) to Buyer as provided in this RFP by no earlier than May 31, 2025, and no later than May 31, 2026).

For planning purposes, ETI typically assumes a 30-year useful life for CCGT technology. Any Bidder that submits a proposal for an existing resource with less than a 10-year remaining useful life (assuming a 30-year useful life for the resource) must specify in its proposal the modifications, upgrades, improvements, and practices that have been or will or may need to be made or followed to extend the resource beyond its assumed 30-year useful life and must include in its proposal pricing the cost of such modifications.

1.10. RFP Scope Summary

The following table provides a high-level summary of key scoping items for this RFP.

Scope Item	RFP
Transaction Types	PPAs (Unit Contingent), Tolls (Unit Contingent), asset acquisition (existing resources), and BOT asset acquisitions (Developmental Resources)
Resource Location	Eastern Region (Sections 1.2, 1.9)
Substantial Completion Payment Date/Delivery Term Start Date	No earlier than May 31, 2025, and no later than May 31, 2026
Eligible Resources	Existing generation and Developmental Resources meeting the criteria for Eligible Resources (Section 1.9); Developmental Resources must meet specified minimum requirements (Section 2.7, Appendix D)
Eligible Technology	CCGT Technology meeting the criteria for Eligible Technology (Section 1.8); Developmental Resources must meet specified technical minimum requirements (Appendix D)
Capacity	From 1,000 to 1,200 MW (Summer Conditions, full load, including duct-firing if included as part of the Facility) (Sections 1.1, 2.1); ETI reserves the right to contract for more or less than 1,200 MW

Technical Requirements	BOT Proposals Only - The BOT Scope Book (Appendix B-5) provides general technical specifications for the Facility and related engineering, procurement, and construction matters
Delivery Term	A minimum of 10 consecutive years and a maximum of 20 consecutive years (PPA and Tolls) (Section 2.2)
Self-Build	Developmental CCGT; 1,000–1,200 MW (Summer Conditions, full load); Sabine site (Sections 2.7, 3)

The table omits several items that are or could be considered key scoping items, including numerous items described in Section 2 below. The scope and terms of this RFP are established by the terms set forth in the entirety of the documents, materials, and information provided to Bidders in this RFP, including other sections of this Main Body and other RFP documents. The table in this Section 1.11 is not, and should not be construed as, a substitute for the other provisions of this RFP.

2. RFP OVERVIEW

2.1. RFP Purpose

ETI projects an ongoing need for base load and core load following capacity and energy in the Eastern Region. The primary objective of this RFP is to solicit competitive proposals for resources that could help ETI satisfy those long-term needs and meet important planning objectives. The proposals sought are for a PPA, Toll, or acquisition transaction from a single Eligible Resource, with the delivery term or the closing occurring no earlier than May 31, 2025, and no later than one year later. The RFP will also market-test a Self-Build Option. Without limiting its rights in Appendix E, ETI reserves the right to contract for more or less than the targeted Capacity amounts to meet the long-term and short-term planning needs described above.

The addition of resources targeted by this RFP, intended to address, among other things existing and anticipated load and aging generation resources in the areas of Beaumont, Port Arthur, and Orange, Texas, will allow ETI to fulfill several important planning objectives, including, among others, maintaining its load-serving capability and reliability of electric service, serving its load at the lowest reasonable cost considering risk, and meeting resource adequacy and energy requirements.

The Eligible Resource and locational requirements support other important planning objectives, including, without limitation, the following:

- *Bolster Reliability in the Eastern Region*. Reliability in the Eastern Region must be maintained as existing generation units deactivate or age and/or load grows. The targeted long-term Capacity addition would promote reliability in the region by, among other things, reducing dependence on aging existing resources within the Eastern Region. It would also contribute additional reliability benefits due to the resource's proximity to Eastern Region load.

- *Increase Eastern Region Storm-Restoration Capabilities*. Having a generation resource that can contribute to the rapid restoration of service after a major disruption is highly desirable in hurricane and storm-prone areas like the Eastern Region. Service restoration times after widespread outages may be increased by greater reliance on generation outside the Eastern Region but may decrease with a generation resource located inside the Eastern Region.

- *Satisfy ETI's Long-Term Resource Adequacy and Energy Requirements*. Securing Capacity Credits and energy revenues from long-term resources located within the Eastern Region will help ETI meet its energy needs and MISO's resource adequacy requirements for future planning periods and mitigate its exposure to future Capacity Credit price, energy price, and congestion risks.

Proposals offered into this RFP will be evaluated for their ability to achieve these planning objectives and otherwise meet the needs of ETI at the lowest reasonable cost, taking into account, without limitation, reliability, risk mitigation, the terms of this RFP, and other relevant factors. For more extensive treatment of other considerations in the development and evaluation of proposals, please refer to the remainder of this Section 2 and to Section 6 below.

2.2. Transactions Solicited and Select Terms

2.2.1. PPAs and Tolls

In the RFP, PPAs and Tolls being sought are for the purchase of unit-contingent Capacity, capacity-related benefits, energy, Other Electric Products, and Environmental Attributes from an Eligible Resource and related services. ETI will accept for evaluation PPA and Toll proposals that offer less than the entire capacity of the generation resource (whether the resource is an existing resource or a Developmental Resource) and meet the requirements for participation in this RFP. Any proposal for a Toll submitted into this RFP must offer generating capacity in increments of whole integrated generating units and must have fuel supply and transportation, fuel and power metering, permitting, dispatch flexibility, and other attributes required or appropriate to support registration and operation in MISO, in accordance with applicable MISO requirements and laws, as a reliable, fully dispatchable independent generating resource.

Pricing for a PPA will be based on:

(i) a Capacity Rate, which will be either (x) fixed for the entire Delivery Term or defined annually (expected to be as proposed by Bidder) and expressed in $/kW-year or (y) based on a base Capacity Rate (expected to be as proposed by Bidder), expressed in $/kW-year, and escalated annually by either CPI or PPI (as selected by Bidder);

(ii) an energy price (expressed in $/MWh), which will be based on (x) a guaranteed heat rate (expected to be as proposed by Bidder), multiplied by, for deliveries of scheduled "day-ahead energy," the applicable *Gas Daily* daily fuel index for Houston Ship

Channel, or, for deliveries of scheduled "intra-day energy," the lower of (1) Seller's average purchase price for the gas used to generate such energy and (2) the applicable price quoted by Seller to and accepted by Buyer for the gas used to generate such energy;

(iii) a Variable O&M Rate, which will be either (x) fixed for the entire Delivery Term or defined annually (expected to be as proposed by Bidder) and expressed in $/MWh or (y) based on a base Variable O&M Rate (expected to be as proposed by Bidder), expressed in $/MWh, and escalated annually by either CPI or PPI (as proposed by Bidder);

(iv) a Start Charge (if proposed by Bidder), which will be either (x) fixed for the entire Delivery Term or defined annually (expected to be as proposed by Bidder) and expressed in $/completed Start or (y) based on a base Start Charge (expected to be as proposed by Bidder), expressed in $/completed Start, and escalated annually by either CPI or PPI (as proposed by Bidder); and

(v) a Start Fuel Charge (if proposed by Bidder), which will be based on the product of the Start fuel amount (expressed in MMBtu per completed Start) and the applicable gas price (expressed in $/MMBtu).

Pricing for a Toll will be based on:

(i) a Capacity Rate, which will be either (x) fixed for the entire Delivery Term or defined annually (expected to be as proposed by Bidder) and expressed in $/kW-year or (y) based on a base Capacity Rate (expected to be as proposed by Bidder), expressed in $/kW-year, and escalated annually by either CPI or PPI (as proposed by Bidder);

(ii) a Variable O&M Rate, which will be either (x) fixed for the entire Delivery Term or defined annually (expected to be as proposed by Bidder) and expressed in $/MWh or (y) based on a base Variable O&M Rate (expected to be as proposed by Bidder), expressed in $/MWh, and escalated annually by either CPI or PPI (as proposed by Bidder); and

(iii) a Start Charge (if proposed by Bidder), which will be either (x) fixed for the entire Delivery Term or defined annually (expected to be as proposed by Bidder) and expressed in $/completed Start or (y) based on a base Start Charge (expected to be as proposed by Bidder), expressed in $/completed Start, and escalated annually by either CPI or PPI (as proposed by Bidder).

In addition, for Toll proposals, a guaranteed heat rate curve will apply. The heat rate curve could affect Seller's compensation for providing fuel conversion services. The guaranteed heat rate curve is expected to be as provided by Bidder. The points along the guaranteed heat rate curve are

required to correspond to the actual and projected heat rates of the resource at the available dispatch levels.

A proposal's pricing for a PPA or Toll must reflect an "all-in" contract price (including any related fees and expenses) that ETI would pay to Seller for all aspects related to, and products associated with the provision, generation, and delivery to ETI of Capacity, capacity-related benefits, energy, Other Electric Products, and Environmental Attributes.

The following highlights a few basic commercial terms for any PPA or Toll arising out of this RFP:

- *Monthly and Long-Term Availability Requirements.* The Monthly Availability Requirement depends on the technology utilized by the resource. The Monthly Availability Requirement will be 98% in the Summer Months and the Winter Months and 96% in the other months. A failure to meet the Monthly Availability Requirement will result in a payment reduction to Seller. The Rolling 12 Month Availability Requirement will be 85% for CCGT resources. A failure to meet the Rolling 12 Month Availability Requirement may result in termination and a termination payment to Buyer. Please see Appendices B-1 and B-2 for additional details.

- *Delivery Term.* The Delivery Term for PPAs and Tolls will be a minimum of ten (10) consecutive years and a maximum of twenty (20) consecutive years. The Delivery Term is expected to be based upon the Delivery Term specified in the proposal giving rise to the PPA or Toll.

- *Delivery Term Commencement.* For proposals backed by a Developmental Resource, Seller may be subject to delay damages (which may include damages for Buyer's loss of Capacity Credits), "buy-down" damages and a potential re-sizing of the PPA or Toll, and/or, for extended delays, contract termination and a termination payment if the actual commercial operation date is later than the guaranteed commercial operation date (expected to be as specified by Bidder in its proposal). The guaranteed Delivery Term commencement date is expected to be based upon the guaranteed Delivery Term commencement date specified in the proposal giving rise to the PPA or Toll.

- *Conditions Precedent.* Any PPA or Toll arising out of this RFP will include numerous conditions precedent, including a condition for the benefit of Buyer that Buyer has obtained regulatory approvals and regulatory treatment on terms and conditions satisfactory to it in its sole and absolute discretion.

- *Product Deliveries.* Seller will be required to make available contract Capacity and deliver contract energy and Other Electric Products at the Physical Delivery Point.

- *Scheduling and Dispatch Flexibility.* The scheduling and dispatch flexibility and rights of Buyer under a PPA or Toll will be substantially equivalent to those that Buyer would have

if Buyer owned the physical Capacity being purchased. Bidders should structure the terms of all PPA and Toll proposals accordingly.

- *Credit.* Under the terms of this RFP, Seller will be required to post a letter of credit for the amounts as outlined in Appendix B-1 or B-2, as applicable, and Appendix F (and to certify at proposal submission its understanding and acceptance of the core credit support terms). Appendix F includes other essential information concerning the production and disclosure of financial information as part of the Bidder Registration Process and Proposal Submission Process, certain credit support elections to be made by Bidders, the evaluation of credit information and proposals by the Credit Evaluation Team, liquid credit support milestone dates and amounts, potential liquid credit support offsets, and limitations on Bidder's special considerations related to credit terms.

- *Liability Transfer.* ESL will not accept the risk that any long-term liability will or may be recognized on the books of ETI (or any of its Affiliates) in connection with any PPA or Toll entered into pursuant to this RFP, whether the long-term liability is due to lease accounting, the accounting for a variable interest entity, or any other applicable accounting standard.

- *Cost Recovery.* Seller will be required to absorb the risks of the possible disallowance, disapproval, or denial of recovery by the PUCT and/or other Governmental Authorities of ETI costs incurred in connection with a PPA or Toll arising out of this RFP ("Cost Recovery Risks"), excluding certain limited Cost Recovery Risks that will remain with ETI ("**ETI-Allocated Cost Recovery Risks**"). ETI-Allocated Cost Recovery Risks include (i) costs incurred by ETI in connection with the applicable PPA or Toll for which recovery was expressly disallowed, disapproved, or denied by the PUCT in a final order approving the PPA or Toll as in the public interest and prudent, if one is sought, provided ETI accepted the order as satisfying the PUCT regulatory approval condition to commencement of the PPA or Toll Delivery Term, and (ii) costs incurred by ETI in connection with the PPA or Toll due exclusively to the active fault of ETI. Cost Recovery Risks expected to be borne by Seller includes, without limitation, unrecovered costs to replace Capacity, energy, Environmental Attributes, and other products not provided to ETI by Seller under the PPA or Toll. ETI is willing to consider (but is under no obligation to accept) Special Considerations or proposals from Bidders that propose with specificity a different treatment or apportionment between ETI and Seller of Cost Recovery Risks and provide supporting rationale. Any proposed treatment of Cost Recovery Risks that would allocate all or substantially all Cost Recovery Risks to ETI is not contemplated.

The foregoing is not, and should not be construed, as an exhaustive listing of important commercial terms of any PPA or Toll arising out of this RFP. Please refer to Appendices B-1 and B-2 for a broader-based summary of select PPA and Toll terms.

2.2.2. BOT Acquisitions

Build-own-transfer ("BOT") Acquisition Products are being solicited in the RFP. The following highlights in summary form a few basic commercial terms and considerations for BOT resource acquisition(s) sought by this RFP:

- *BOT Structure.* With the BOT structure, Seller would agree to develop, design, build, commission, test, and sell the proposed project to Buyer for a pre-agreed purchase price. Buyer would buy the project and related assets from Seller (not its equity) at the consummation of the purchase ("**Closing**"), after each of the Closing conditions has been fulfilled or waived, including the achievement of mechanical completion of the project. Prior to the Closing, Seller, as the project owner, would own and have care, custody, and control of the project, including the project site, and would bear construction, financing, and project completion risk, as well as risk of loss for the project. Seller's obligation to commence construction would be conditioned on the satisfaction of several Buyer "FNTP" conditions, including Buyer's receipt of regulatory approvals on terms acceptable to Buyer in its sole discretion. After the Closing, Seller would be required to continue to construct, commission, and test the project and perform related work in accordance with the terms of the BOT Agreement through Final Completion. Actual care, custody, and control of the project would transfer to Buyer shortly after substantial completion, at the Substantial Completion Payment Date. If the transaction terminates and the Closing has not occurred, Seller would retain ownership and control of the project and related assets, subject to an exception discussed below in "Termination." The BOT Agreement, which reflects the BOT structure, is essentially a hybrid contract incorporating EPC principles and generation asset acquisition terms.

- *Purchase Price.* The purchase price for the project and the other project assets will be payable by Buyer to Seller at three major milestones: the Closing, the Substantial Completion Payment Date, and Final Completion. Seventy-five percent (75%) of the purchase price will be payable at the Closing. The balance of the purchase price, less a holdback securing the completion of agreed punchlist items and, if Seller so elects (see Appendix F), a holdback for post-Closing credit support, will be payable at the Substantial Completion Payment Date. Assuming Seller's performance of the remaining work, the punchlist holdback will be paid at Final Completion. There will be no progress, mobilization, or other comparable payments of the purchase price.

  The BOT purchase price offered by Bidders in this RFP must be an "all-in" purchase price. In developing the purchase price, Bidders should take into account, among other things, development, study, engineering, procurement, permitting, design, financing, construction, installation, disposal, commissioning, testing, maintenance, repair, replacement, gas, electric, water, and other utility interconnection, deliverability, transmission (including, without limitation, required upgrades), fuel handling and storage equipment, real property, reporting, access, regulatory, permitting, contracting, environmental, insurance (including, without limitation, the builder's all risk policy

required by this RFP), taxes (including, without limitation, transfer, sales, and use taxes), Closing, asset transfer, transaction, contingency, warranty (including, without limitation, the project wrap warranty), credit, and all other Seller project costs and risks and Seller's required return on investment considering the terms set forth in this RFP, including, without limitation, Appendices B-4 (BOT Term Sheet), B-5 (BOT Scope Book), and F (Credit Appendix), and the terms of Bidder's proposal. Without limiting other RFP rules and requirements, Bidders must express the purchase price in BOT proposals as a single fixed price.

- *Closing/Mechanical Completion.* The Closing will be scheduled to occur on or before May 31, 2026. The Closing will be required to occur between the time the Facility achieves Mechanical Completion and when it first synchronizes, energizes, and delivers power to the electric grid. The Closing will be conditioned on numerous Closing conditions, including the transfer to Buyer of clear title to the purchased assets (excepting only permitted encumbrances), the accuracy of Seller representations and warranties, and the provision of necessary credit support.

- *Substantial Completion.* The BOT Agreement will include a guaranteed substantial completion date (which may be adjusted by change order, as described below). Assuming FNTP occurs, the resource will be required to achieve Substantial Completion by the guaranteed substantial completion date, which, except as set out below in "Change Orders," must be, when the BOT Agreement is signed, on or before May 31, 2026. Buyer prefers that Substantial Completion occur before the start of the MISO capacity auction process for the then-upcoming MISO planning period. Seller will owe liquidated damages to Buyer (which may include damages for Buyer's loss of Capacity Credits) if the resource has not achieved Substantial Completion by the guaranteed substantial completion date and, for extended delays, may owe contract termination damages. In addition, Seller may become obligated to pay "buy-down" damages to Buyer if the plant's heat rate and/or Capacity fail to meet guaranteed levels. Certain Seller representations and warranties will be required to be true and accurate (or "brought down") on the Substantial Completion Payment Date.

- *Change Orders.* The project and/or project schedule, including the guaranteed substantial completion date, may be modified by change orders issued by Buyer in its discretion, due to force majeure preventing Seller's performance of its work, or due to defined Buyer-caused delays. The project schedule may be extended by force majeure for up to a maximum total of 180 days. Purchase price increases due to Buyer discretionary change orders may not exceed in the aggregate 7.5% of the purchase price. Any change order for force majeure will be exclusively for project schedule relief; Seller will be solely responsible for any incremental costs arising out of a force majeure affecting Seller's performance of the work. Qualifying changes in law occurring after execution of the BOT agreement and affecting Seller's work will be considered force majeure events and will not give rise to non-force majeure change order rights for Seller. No purchase price

increases due to Buyer discretionary or Buyer-caused delay change orders will be payable to Seller except as part of a purchase price payment made by Buyer.

- *Project Warranty*. Seller will be required to provide a comprehensive "wrap" warranty of the project work performed by or for Seller. Unless Bidder proposes a longer period, the wrap warranty will expire on the second anniversary of the Substantial Completion Payment Date. An exception will apply to covered defects identified or repairs made in the second year of the warranty period. For those defects or repairs, the warranty will extend for a period of one year after the defect has been repaired. Seller will be required to transfer all the underlying unexpired contractor warranties to Buyer at the Closing (but not the EPC contracts themselves). Seller will be granted the right to enforce the warranties to the extent relevant to a wrap warranty claim made by Buyer during the warranty period.

- *Credit*. Under the terms of this RFP, Seller will be required to post and maintain credit support as provided in the BOT Term Sheet and Appendix F (and to certify at proposal submission its understanding and acceptance of the core credit support terms). Appendix F includes other essential information concerning the production and disclosure of financial information as part of the Bidder Registration Process and Proposal Submission Process, certain credit support elections to be made by Bidders, the evaluation of credit information and proposals by the Credit Evaluation Team, liquid credit support milestone dates and amounts, potential liquid credit support offsets, and limitations on Bidder special considerations related to credit terms.

- *Termination*. The BOT Agreement will include termination provisions for, among other things, uncured material breach, bankruptcy, failure of FNTP, Closing, or Substantial Completion to occur before the expiration date, and certain title defects. The remedies for termination will differ depending on whether the termination is before or after the Closing and the cause of termination. For example, if Seller terminates the BOT Agreement for Buyer's material breach before the Closing, Buyer must pay to Seller the sum of (i) the direct costs Seller incurred to perform its work prior to termination and specified related termination costs, plus (ii) a designated percentage of such costs. The payment will be subject to a cap (a small amount of the purchase price) if the termination is before the FNTP date, i.e., prior to commencement of construction. In consideration for the termination payment, Buyer may elect to acquire the project. If Seller terminates for Buyer's material default after the Closing but before the Substantial Completion Payment Date, Buyer must pay to Seller (a) the balance of the purchase price and specified related termination costs, less (b) the costs Seller did not incur to complete its work and the aggregate amount (if any) that Seller owes Buyer under the BOT Agreement or any related agreement on the termination date. If Buyer terminates before the Closing due to certain Seller events of default, Seller must pay to Buyer a defined per-project-MW termination fee, plus any delay liquidated damages and other amounts owed to Buyer on the termination date. If Buyer terminates after the Closing due to certain Seller events of default, Seller must pay to Buyer (1) Buyer's "cover" costs (the costs Buyer incurred to

complete Seller's work) plus a defined percentage of such costs, plus (2) the diminution in value resulting from any reduced project capacity (e.g., 1,100 MW plant is only 900 MW) or the loss of the "wrap" warranty, guaranty, or liquidated damage provisions benefitting Buyer, net of any replacement provisions obtained by Buyer included in costs covered by clause (1), plus (3) all other amounts due from Seller to Buyer under the BOT Agreement and any related agreement on the termination date, less (4) the unpaid portion of the total purchase price. If the unpaid portion of the purchase price exceeds the sum due Buyer, Buyer will pay the excess to Seller. (For specific percentages and fees, please see the BOT Term Sheet.)

- *Purchased Assets*. The assets to be sold must include the entire Facility. Proposals for an acquisition of a resource that would be jointly owned after the closing or would reasonably require a joint ownership and operating agreement or similar agreement will not be considered.

The foregoing is not, and should not be construed, as an exhaustive listing of important commercial terms of any BOT Acquisition arising out of this RFP. Please refer to Appendices B-4 for a broader-based summary of select BOT Acquisition terms.

2.2.3. Acquisitions

Acquisition Products for Existing Resources are being solicited in this RFP. The purchase price must be expressed as a single fixed payment for the proposed acquisition of the Existing Resource. The amount of Capacity to be obtained under any asset purchase agreement arising out of this RFP must be no less than 1,000 MW (Summer Conditions, at full load, including duct-firing, if included as part of the facility) and no more than 1,200 MW (Summer Conditions, at full load, including duct-firing, if included as part of the facility).

The following highlights a few basic commercial terms that apply to any acquisition proposed in this RFP:

- *Purchased Assets*. The assets to be sold must include the entire Facility. Proposals for the acquisition of a resource that would be jointly owned after the Closing or would reasonably be expected to require a joint ownership and operation agreement or similar agreement will not be considered.

- *Credit*. Under the terms of this RFP, Seller will be required to post and maintain credit support as provided in the Acquisition Term Sheet and Appendix F (and to certify at proposal submission its understanding and acceptance of the core credit support terms). Appendix F includes other essential information concerning the production and disclosure of financial information as part of the Bidder Registration Process and Proposal Submission Process, certain credit support elections to be made by Bidders, the evaluation of credit information and proposals by the Credit Evaluation Team, liquid credit support milestone dates and

amounts, potential liquid credit support offsets, and limitations on Bidder special considerations related to credit terms.

- *Durability of Authorizations*. Seller will retain the risk that the acquisition is unable to close in the event that any FERC, HSR, or other required authorization becomes invalid or ineffective due to the lapse of time before the Closing and the risk of actions taken by the applicable governmental authority in connection with any new or supplemental filings to maintain any previously obtained approval for the transaction. Bidders are encouraged to consider this risk in the development of their acquisition proposals and to specify in their proposals measures that mitigate any identified risk. ESL's evaluations of acquisition proposals may assess the risk that a required authorization will not be obtained or will become invalid, ineffective, or subject to modification prior to the Closing of the proposed Transaction and may assess the effectiveness of proposed risk mitigation measures.

The foregoing is not, and should not be construed as, an exhaustive listing of important commercial terms for any asset purchase transaction arising out of the RFP. Please refer to Appendix B-3 for a broader-based summary of select contract terms for BOT transactions

2.2.4. Proposal Development and Special Exceptions

Bidders are responsible for developing and submitting proposals in accordance with the terms set forth and information communicated to Bidders in this RFP, including all terms and conditions included in the applicable Term Sheet. It is important that Bidders base their proposals on such terms and information and not the terms in any other RFP issued by or any contract entered into with ETI or an Affiliate of ETI. Bidders are cautioned against relying solely or principally on the summaries included in Sections 1.5, 1.10, 2.2.1, 2.2.2, and 2.2.3 above when developing proposals for this RFP, submitting proposals without a reasonably complete understanding of the terms set forth in the Term Sheet and BOT Scope Book that were made available to Bidders prior to proposal submission and apply to its proposal, or assuming that ETI will entertain or accept material changes to the model agreements, the terms of which were developed specifically for this RFP and apply to all Bidders.

ETI expects that the terms, conditions, and technical requirements of this RFP, including, without limitation, the applicable Term Sheet, the BOT Scope Book (BOT transactions only), and Appendix F, will be included or reflected in any Definitive Agreement executed for a proposal. Bidder will be charged with knowledge of the terms of this RFP, including, without limitation, the Term Sheets, the BOT Scope Book, and Appendix F, when ESL evaluates Bidder's proposal(s) and during any negotiation of the Definitive Agreement. In the event of any inconsistency between a provision in a model agreement and any other part of this RFP, including between the Main Body and the BOT Scope Book (BOT transactions only), the Term Sheets, will control.

Subject to the other terms of this RFP, including, without limitation, Section C of Appendix F and Section 2.7 below, Bidders are permitted to make special exceptions to terms included in the Term Sheets and the BOT Scope Book that they are unwilling to accept. Each Bidder is required to include with its proposal a reasonably complete list and detailed explanation of each special

exception to any terms included in the applicable Term Sheet and/or BOT Scope Book (BOT transactions only) in the Special Exceptions – BOT Scope Book Sheet on the Commercial Tab in PowerAdvocate. Special exceptions in which Bidder (a) reserves wholesale rights to make comments on terms or conditions included in a Definitive Agreement, (b) makes widespread, wholesale, or fundamental changes to material terms or conditions set forth in the applicable Term Sheet or the BOT Scope Book (BOT transactions only), (c) conditions its proposal on the acceptance of material terms or conditions not accepted by ETI in the ordinary course of business or that would materially diminish the value of the resource to ETI or the viability of the proposal, (d) takes exception to commercial terms without reasonably complete and detailed explanations or when such exceptions are not permitted by the express terms of this RFP, including Appendix F, or (e) takes actions the effect of which would be similar to those resulting from the actions described in clauses (a)-(d) are not contemplated and are grounds for a proposal's elimination from consideration in this RFP, following consultation with the IM. Bidder-provided special exceptions to the applicable Term Sheet and/or BOT Scope Book (BOT transactions only) will be reviewed in the proposal evaluation phase of this RFP. The results of ESL's review of Bidder's special exceptions may adversely (or positively) affect the proposal's ranking. For purposes of the proposal evaluation and contract negotiations, Bidder will be deemed to have accepted any provision of the applicable Term Sheet or, for BOT transactions, the BOT Scope Book that is not shown as marked or expressly noted as covered by a prior edit to the Term Sheet or the BOT Scope Book.

Notwithstanding anything in this RFP to the contrary, ETI acceptance or selection of a proposal containing special exceptions to the applicable Term Sheet or the BOT Scope Book or other special exceptions does not mean that ETI agrees with the exceptions or will agree to or accept the exceptions (or variants of the exceptions) in any negotiation of a Definitive Agreement. Without limiting the other terms of this RFP, including this Section 2.2.4, Appendix E, and Section C of Appendix F, ETI reserves all rights in any proposal evaluation or negotiation involving the exceptions, including, without limitation, the right not to accept or agree to any of the exceptions (or any variant thereof), the right not to pay Bidder or Seller any incremental amount or consideration if ETI does not accept or agree to any particular exception or any proposed compromise, and the right to terminate negotiations if Bidder or Seller requires Buyer to agree to any particular exception as a condition to continued discussions.

2.3. Threshold Requirements

Subject to the other terms of this RFP, ESL will consider only proposals submitted in accordance with and meeting the requirements of Section 5 below. In addition to those proposal submission requirements, proposals under this RFP are required to satisfy, and will be reviewed early in the RFP evaluation process for compliance with, the prerequisites specified in this Section 2.3 (collectively, the "**Threshold Requirements**"). Any proposal not meeting the Threshold Requirements will be considered non-conforming and may be eliminated from further consideration in this RFP by ESL, after consultation with the IM. The Threshold Requirements include Transmission Assessment Threshold Requirements, Viability Assessment Threshold Requirements, Accounting Assessment Threshold Requirements, and Credit Assessment Threshold Requirements, each as described below.

2.3.1. Transmission Assessment Threshold Requirements

The following Threshold Requirements are the "**Transmission Assessment Threshold Requirements**":

- The proposed resource must be eligible to qualify as a Long-Term Network Resource of ETI under the MISO OATT.
- The proposed resource must be capable of providing the offered amount of Capacity, energy, and Other Electric Products to Buyer at the Electric Interconnection Point.
- Bidder or Seller must have either (i) entered into and remain a party to a GIA granting to the proposed resource the Required IS Quantities or (ii) submitted, prior to the application deadline for MISO DPP-2020-Cycle 1 submissions, an application with MISO seeking to obtain the Required IS Quantities for the resource or be in a prior existing MISO Definitive Planning Phase ("DPP") Queue cycle.

2.3.2. Viability Assessment Threshold Requirements

The following Threshold Requirements are the "**Viability Assessment Threshold Requirements**":

- Bidder must be an Eligible Participant.
- The resource supporting Bidder's proposal must be an Eligible Resource, and Bidder must provide evidence satisfactory to ESL demonstrating that the proposed resource is an Eligible Resource.
- Bidder must offer from 1,000 to 1,200 MW (Summer Conditions, at full load, including duct-firing if included as part of the facility) of Capacity and related products from an Eligible Resource to the Electric Interconnection Point.
- For Developmental Resource proposals, Bidders must meet the applicable Minimum Requirements for Developmental Resources set forth in Appendix D and the requirements of Section 2.7 below. Without limiting ESL's rights under Appendix D or E, ESL, in consultation with the IM, may allow variances from the Minimum Requirements.
- For Developmental Resource proposals, the resource must be free of fatal design flaws and/or non-standard operational or permitting restrictions that would reasonably be expected to prevent it from meeting the requirements of this RFP, including, without limitation, Section 2.7 below and the applicable Minimum Requirements listed in Appendix D.

- For proposals offering a PPA or Toll Product into the RFP, the proposal must offer generating capacity in increments of whole integrated generating units and the resource must have fuel supply and transportation, fuel and power metering, permitting, dispatch flexibility, and other attributes required or appropriate to support registration and operation in MISO, in accordance with applicable MISO requirements and laws, as a reliable, fully dispatchable independent generating resource.

- For proposals offering a PPA or Toll Product into the RFP, the proposed Delivery Term must be no less than ten (10) and no more than twenty (20) consecutive years, and the Bidder-proposed guaranteed start date for the Delivery Term must be no earlier than May 31, 2025 and no later than May 31, 2026. The Bidder-proposed proposed closing date for an acquisition Product offered into the RFP must be no earlier than May 31, 2025 and no later than May 31, 2026.

2.3.3. Accounting Assessment Threshold Requirements

The following Threshold Requirements are the "**Accounting Assessment Threshold Requirements**":

- For PPA or Toll proposals, Bidder must include in the Proposal Package the accounting certification required under, and prepared, executed, and submitted in accordance with the requirements of, Section 6.1.5 below.

- For PPA and Toll proposals, the proposed transaction will not result in the recognition of a long-term liability on the books of ETI (or any of its Affiliates).

2.3.4. Credit Assessment Threshold Requirements

The following Threshold Requirements are the "**Credit Assessment Threshold Requirements**":

- Bidder must provide the most recent Published Credit Rating from S&P and Moody's of Bidder (or, if different from Bidder, Seller) and the proposed Seller Parent Guarantor, to the extent such a rating exists.

- Bidder must provide the annual audited financial statements for the past two (2) years and the current-year reviewed quarterly financial statements (and accompanying notes) of Bidder (or, if different from Bidder, Seller). The financial statements need to include the auditor's opinion and notes to the financial statements, the balance sheet, the income statement and the cash flow statement.

- Bidder must include in the Proposal Package the credit certification required under, and prepared, executed, and submitted in accordance with the requirements of, Section 6.1.5 below.

Please see Section 6.1 below for additional information on the Threshold Requirements, including the evaluation of proposals for satisfaction of the requirements.

2.4. Interconnection and Energy Deliverability

This Section 2.4 identifies and addresses certain interconnection, deliverability, and transmission issues or requirements that Bidders should consider as they prepare a proposal for this RFP. ETI requires that any Developmental Resource supporting a proposal submitted into this RFP must be within the planning region known as the "Eastern Region."

2.4.1. Required Interconnection, Deliverability, and Transmission Service

Seller will be required, under the terms of any Definitive Agreement, to have obtained and bear the full costs and risk of the arrangement, procurement, receipt and maintenance of the interconnection, deliverability, and firm transmission service necessary for the resource to make available and deliver to the Physical Delivery Point the full energy output, Capacity, and Other Electric Products of the proposed resource as required by this RFP, including, without limitation, (i) the establishment of the Electric Interconnection Point as a separate commercial pricing or settlement node for the resource, (ii) a quantity of ERIS that equals or exceeds the winter rating of the resource, and (iii) a quantity of NRIS that equals or exceeds the rating of the resource at Summer Conditions (collectively, the "**Required IS Quantities**"), and (iv) for PPAs, the financial settlement of energy and Other Electric Products at the ETI Load Node. The Closing (both forms of acquisition transactions) and Delivery Term commencement (PPA or Toll transactions) will be conditioned on the completion of all upgrades, improvements, and other actions necessary for the receipt of such service and recognition by MISO and/or other applicable Balancing Authorities that such services have been obtained and are in full force and effect.

For proposals based on an existing resource that has an executed GIA with MISO but not the Required IS Quantities, Bidder will be required to request from MISO, through a generator interconnection service application (or other means required by or acceptable to MISO) that seeks the Required IS Quantities.

The interconnection, deliverability, and transmission costs for which Seller will be responsible include, among others, the costs of upgrades and improvements assigned to Seller under the applicable interconnection, deliverability, or transmission agreement with MISO, the transmission owner, and/or Balancing Authority, except to the extent stated to be the exclusive cost responsibility of the applicable transmission provider, transmission owner, or Balancing Authority under the applicable tariffs, rules, regulations, or requirements of, or generator interconnection or other agreements with, such transmission provider, transmission owner, or Balancing Authority, and, for PPAs or Tolls, transformer, line losses, and congestion charges. As with other Bidder costs, Bidder will be responsible for reflecting these costs in Bidder's proposed pricing. Under the terms of this RFP, each Bidder is required to provide, among other things, transmission interconnection and network upgrade cost estimates for Transmission Owner's Interconnection Facilities, Stand Alone

Network Upgrades, and Network Upgrades (each as defined in the MISO tariff) and include those cost estimates in the purchase price breakdown in Appendix D Attachment A.

ETI expects to seek and qualify any resource selected from this RFP as a Long-Term Network Resource of ETI in MISO. The Definitive Agreement will require Seller, subject to ETI's direction to the contrary, to take all actions necessary or advisable to cause the resource to be qualified and/or recognized in MISO as a Long-Term Network Resource of ETI, with full network integration transmission service, and to cause ETI to be eligible for and receive all transmission rights and entitlements associated with the contract Capacity of the resource, including, without limitation, auction revenue rights and financial transmission rights.

2.4.2. Interconnection Service Requests and Applications

Under the current MISO Rules, the receipt of interconnection service from MISO, including without limitation, (ii) a quantity of ERIS that equals or exceeds the winter rating of the resource and (ii) a quantity of NRIS that equals or exceeds the summer rating of the resource, requires the submission to MISO of a generator interconnection application under the applicable generator interconnection process. To maintain the schedule contemplated by this RFP, the MISO generator application supporting a proposal offered into this RFP must be submitted to MISO by no later than MISO's application deadline for the DPP-2020-Cycle 1. At Bidder Registration, Bidder must provide a copy of the complete application for generator interconnection agreement (GIA) for the proposed resource as well as a copy of either the MISO letter acknowledging and validating the application or, if available, the actual study results related to such application, as well as the associated MISO queue number.

It is not necessary for Bidder or Seller to have received for the proposed resource the results of a MISO DPP study, or any other interconnection, deliverability, or transmission service study, or executed the MISO GIA or any other agreement necessary for receipt of the interconnection, deliverability, and transmission service required hereunder in order for Bidder to submit a proposal. Except to the extent ESL otherwise agrees in writing, pending execution of the MISO GIA for Bidders' proposed resource, the resource must remain in the MISO DPP queue to remain an available resource in this RFP. If a resource proposed by Bidder in this RFP does not remain in the queue to obtain the required service or loses the right to obtain or receive such service during the pendency of this RFP, Bidder must promptly notify the Bid Event Coordinator, and any Bidder proposal backed by such resource will be subject to elimination. Bidders should bear in mind that the generator interconnection, deliverability, and transmission process utilized by MISO operates on timelines and contains requirements that are independent of this RFP and may necessitate the expenditure of costs by Bidders for their proposed resources to remain in the queue or eligible to participate in this RFP.

For any PPA or Toll arising out of this RFP, Seller will be required to make available contract Capacity and deliver contract energy and Other Electric Products at the Physical Delivery Point.

2.4.3. Market Participant Services

For PPAs and Tolls, subject to certain limitations, throughout the term of any PPA or Toll, Buyer will have the right to determine from time to time whether Buyer (or a designee) or Seller will serve as the "market participant" for the generation resource before MISO. If Seller is the market participant, financial schedules would be submitted to MISO for deliveries of energy and Other Electric Products from the resource under the Definitive Agreement. Seller will be responsible for and bear any and all costs and risks associated with financial scheduling energy and Other Electric Products, including, without limitation, electric losses, MISO fees, charges, and other costs related thereto (*e.g.*, financial scheduling fees, administrative costs, transaction charges).

Any BOT or acquisition agreement based on a proposal in this RFP will require Seller and Buyer to commit to enter into a "MISO Agreement." Among other things, the MISO Agreement for a BOT resource will obligate Buyer or its designee to serve as the market participant for the resource, subject to the potential transfer of its market participant rights and duties to Seller if the BOT transaction terminates prior to the Closing. The costs that Buyer or its designee incurs as the market participant for the resource before the Closing generally will be for Seller's account. The MISO Agreement will include certain limitations on Buyer's or its designee's rights as the market participant and impose certain obligations on Seller during the period before the Closing that reflect Buyer's contingent rights to the resource. The MISO Agreement for the acquisition of an existing resource will address the transfer of market participant responsibilities for the resource to Buyer or its designee after the Closing and related matters.

2.5. Cost Recovery

As part of this RFP, ESL desires to evaluate the costs, benefits, risks, and other elements of PPA, Toll, and acquisition opportunities on a comparative basis against resources owned by ETI. The risk evaluation in this RFP will include an assessment of the risks of the possible disallowance, disapproval, or denial of recovery by the Public Utility Commission of Texas and/or other Governmental Authorities of Buyer costs incurred in connection with a Definitive Agreement due to reasons other than Buyer fault. Seller will be required to absorb certain cost recovery risks in any PPA or Toll arising out of a proposal submitted into this RFP by or on behalf of Seller, excluding certain limited cost recovery risks that will remain with Buyer. Bidders should submit any proposals for the allocation of cost recovery risk as part of their Special Considerations or as otherwise requested by ESL in the Proposal Submission Process.

2.6. Fuel Supply

ESL prefers resources that offer fuel supply flexibility and fuel stability. Fuel supply flexibility considerations in the evaluation of proposals will include supply liquidity, sourcing, and fungibility of supply, limitations on fuel supply or relating to the transportation of supply, and alternative fuel supply and transportation options. Fuel stability considerations in the evaluation of proposals will include price volatility, the energy pricing structure proposed (*e.g.*, fixed, not fixed), the inclusion and structure of any proposed fuel adder, and fuel reliability/deliverability risks.

A resource's fuel supply arrangements can affect its ability to provide Capacity, capacity-related benefits, energy, Other Electric Products, and Environmental Attributes. To allow ESL to make a reasonable preliminary assessment of a resource's performance capabilities, Bidders will be required to provide information responsive to several fuel-related requests included in Appendix C-1 and Appendix C-2, as applicable. Bidders should be prepared to submit a comprehensive response to all such requests as part of their Proposal Packages.

For tolling arrangements arising out of this RFP, Seller may be required to post additional security to cover costs that may arise from any natural gas transportation or supply agreement entered into by ESL or ETI to support the generation resource in the event of Seller's default. ETI expects for BOT transactions that the precedent or comparable agreement for fuel interconnection and long-term gas transportation service for the proposed resource to be signed prior to or at execution of the BOT agreement and be on terms and conditions acceptable to ETI.

2.7. Design and Operating Considerations for Developmental Resources

The following is a list of required generating resource equipment and design features for Developmental Resources:

- automatic generation control ("**AGC**");
- evaporative cooling or inlet chilling;
- control technology for air emissions from the resource must include both a NOx and CO catalyst;
- net unit heat rate of no greater than 7,000 Btu/kWh (HHV) (Summer Conditions) at full output without duct-firing (if included as part of the facility);
- heat rejection systems for the resource that are based on a mechanical draft cooling tower, a cooling pond, or an air-cooled condenser;
- main condenser and heat rejection systems sufficiently sized to permit all combustion turbines to operate at or near full load with a complete bypass of the steam turbine;
- all combustion turbine designs must incorporate air-cooled combustors;
- two (2) x 100% boiler feed pumps on each HRSG;
- two (2) x 100% or three (3) x 50% condensate pumps;
- two (2) 100% air compressors to satisfy both service and instrument air requirements;
- vacuum pumps for condenser air evacuation;

- a demineralized water system capacity sufficient to support cyclic operation; and

- redundancy of the on-site natural gas compressors such that the loss of one compressor will not limit the output or restrict the operation of the resource.

Other equipment and design requirements for Developmental Resources are set forth in Appendix D and, for BOT resources, Appendix B-5. Eligible Developmental Resource equipment and design may NOT include steam injection for power augmentation, a single shaft combined-cycle design, or high-fogging equipment (*e.g.*, overspray, wet compression, spray inter-cooling).

The operational, performance, and design-related criteria described herein are key components of a resource's ability to meet the requirements for products solicited in this RFP and will be part of the quantitative and qualitative evaluation of proposals submitted in response to this RFP. Bidders should be prepared to submit a comprehensive response to the due diligence requests for information on these subjects.

2.8. Supplier Diversity

Any project arising out of this RFP is expected to generate commercial opportunities for businesses that supply goods and services to project or facilities. ETI has an interest in understanding the effects of proposed projects on businesses located in the State of Texas and on small and small disadvantaged businesses. Appendix I includes information regarding local and diverse suppliers that Bidders are required to provide as part of their Proposal Packages and/or should consider when developing the terms of their proposals.

3. SELF-BUILD OPTION

ETI intends to submit into this RFP a Self-Build Option. The Self-Build Option will be a CCGT facility that would be built at the Sabine site, an ETI-owned property in Orange, Texas. The Self-Build Option will optimize the proposed CCGT base configuration and may include options such as HRSG duct-firing or evaporative cooling to increase performance or output of the proposed unit. The Self-Build Option will be designed to run exclusively on natural gas. The unit's capacity will comply with the RFP requirements.

The Self-Build Option will utilize existing infrastructure and resources, including existing natural gas infrastructure (for gas transportation and related services). Two natural gas pipeline interconnections will be included in the proposed facility. The transmission interconnection will be at the existing 138 kV and the 230 kV transmission switchyards located at the existing Sabine electricity generation station site. The plant design will consider retrofitting evolving technology such as carbon capture and alternative low carbon fuel source.

The Self-Build Option will be considered as an alternative to third-party proposals submitted into the RFP. If one or more third-party resources from the RFP are selected for contract negotiations, ETI may continue to take the steps necessary to preserve the Self-Build Option as a

viable option in case negotiations with any third-party do not lead to a Definitive Agreement. If selected in this RFP, the Self-Build Option is planned to be placed into commercial service by no later than May 31, 2026.

ESL will require that the Proposal Package for the Self-Build Option, including the cost estimate, be submitted to the Bid Event Coordinator and the IM prior to the receipt of proposals from all other Bidders, and no later than 5 p.m. CPT on the Friday before the Proposal Submission Period begins.

After the Proposal Submission Deadline, the IM and the Bid Event Coordinator will provide redacted data and information from the proposals received to the Evaluation Teams (see Section 6 below) at approximately the same time. All proposals, including the Self-Build Option, will be evaluated on a consistent basis, as described in certain appendices to this RFP and in this Main Body, and, subject to the other terms hereof, on the time frame set forth in Section 4.1 below. As discussed in more detail in Appendix G, the Evaluation Teams will not include any member of the Entergy commercial team or support services team working on the Self-Build Option and will operate independent of these two teams.

The IM, in consultation with ESL, intends to retain an independent consulting engineer to evaluate the reasonableness of the construction cost estimates of the Self-Build Option and, potentially, to undertake a similar evaluation for any other Developmental Resource supporting a proposal submitted in this RFP. The IM will consult with ESL to (i) determine a process for selecting and retaining the independent consulting engineer, (ii) develop the scope of work to be performed by the consulting engineer, and (iii) determine how the engineer's report will be utilized in this RFP. In addition, ESL may retain an independent consulting engineer to estimate the cost to Buyer to have an independent owner/buyer's engineer monitor the development and construction of a proposed third-party resource after selection through the completion of construction and provide related engineering services to protect Buyer's interest.

4. RFP SCHEDULE

4.1. Schedule

The RFP Schedule is critical for Bidders interested in participating in this RFP. The RFP Schedule in the table below sets out milestone events and, as of the RFP issuance date, the corresponding target dates for this RFP. As provided in Section 4.2, the milestone events and dates are subject to change. After consultation with the IM, notice of any change to the then-current RFP Schedule will be posted on the 2020 ETI CCGT RFP Website.

Activity	Scheduled Date
RFP Issued	April 28, 2020
Bidder Registration Period	June 23 – June 30, 2020
Final Date for Completion and Submission of Required Interconnection Application to MISO	June 25, 2020

Proposal Submission Fee Payment Deadline	July 10, 2020
Deadline for Bidders to submit questions to ESL	August 3, 2020
Self-Build Option Proposal Submission Deadline (5 p.m. Central Prevailing Time)	August 21, 2020
Proposal Submission Period	August 24 – August 27, 2020
Notice to Bidders of Primary and Secondary Selection Lists	January 2021
Comprehensive ETI Due Diligence and Definitive Agreement Negotiations Begin	January 2021
Bidder(s) Remaining on Secondary Selection List Released from Proposals	March 2021
Definitive Agreement Executed	October 2021
Regulatory Approval Process Complete	November 2022

4.2. RFP Schedule Modifications

Without limiting the generality of Appendix E, ESL reserves the right to withdraw, suspend, cancel, or terminate this RFP, and to modify any term of this RFP, including, without limitation, any term concerning the RFP Schedule (including any date), at any time in its sole discretion. ESL will endeavor to notify all participants who have completed Bidder Registration of any such withdrawal, suspension, cancellation, termination, or modification made prior to the Proposal Submission Deadline and to post notice of any such action on the 2020 ETI CCGT RFP Website.

5. RFP MILESTONES AND PROCESSES - RFP ISSUANCE THROUGH PROPOSAL SUBMISSION

5.1. Bidders Conference

ESL hosted a teleconference/webcast for potential Bidders in this RFP and other stakeholders ("**Bidders Conference**") on March 17, 2020. The Bidders Conference gave participants a high-level overview of and other information concerning this RFP and related processes and was open to all interested Persons. The written materials presented during the teleconference are posted on the 2020 ETI CCGT RFP Website. Bidders are advised that those materials may not duplicate all of the information provided at the teleconference and some of the information could be outdated and no longer accurate.

Responses to questions received during the Bidders Conference are posted on the 2020 ETI CCGT RFP Website. Please refer to Section 7.1 below and Appendix G for additional information concerning questions submitted in connection with this RFP. To the extent inconsistencies exist between the RFP documents and the Bidders Conference presentation, the RFP documents will control.

5.2. Bidder Registration

To be eligible to submit a proposal, Bidder must complete the Bidder Registration Process, as described in this Section 5.2. Bidder Registration will begin at 8:00 a.m. CPT on the date specified in the applicable RFP Schedule and end at 5:00 p.m. CPT on the date specified in the applicable RFP Schedule (the "**Bidder Registration Period**," and such deadline for Bidder Registration, the "**Bidder Registration Deadline**").

To register for this RFP, all Bidders, including, for purposes of this Section 5, those sponsoring the Self-Build Option, will be required to submit a completed Bidder Registration Agreement (including the Bidder Registration Form attached thereto), available to Bidders on the 2020 ETI CCGT RFP Website, to the Bid Event Coordinator by electronic mail (as a pdf attachment) to the email address shown in Section 1.5 above by 5:00 p.m. CPT on the last day of the Bidder Registration Period. **Bidders will bear the risk of failing to submit a completed Bidder Registration Agreement by the specified deadline.** The Bidder Registration Agreement must be executed by an officer or other representative of Bidder who is authorized to sign on Bidder's behalf. Only Bidders registered in accordance with this RFP will be permitted to submit proposals in this RFP, and only proposals registered in accordance with this RFP will be eligible for submission.

Following submission of a valid Bidder Registration Agreement, Bidder will be issued a unique Bidder ID. In addition, each registered resource and proposal will receive its own Resource ID and Proposal ID. Bidder IDs, Resource IDs, and Proposal IDs will be used by Bidders in the Proposal Submission Process and in connection with the evaluation of proposal information received by ESL. The use of Bidder IDs, Resource IDs, and Proposal IDs is part of ESL's process to ensure that appropriate protections are in place to minimize the dissemination of information that explicitly identifies Bidders to Evaluation Team members who do not need to know that information.

Bidders are required to pay a Proposal Submission Fee of $10,000 for each proposal registered in the RFP.[1] Proposals that are alternatives to each other will be considered separate proposals and must be registered as such. ESL will bill Bidder the total Proposal Submission Fees due from Bidder within three (3) Business Days following the end of the Bidder Registration Period. Bidder will be required to remit payment of the Proposal Submission Fee(s) in full in accordance with the instructions provided in the invoice. Payment will be due by the date specified in the applicable RFP Schedule. **Bidder's failure to submit the Proposal Submission Fee for a proposal by the payment due date will result in the elimination of such proposal from this RFP.** In the event it is unclear which proposal was not supported by payment of the required Proposal Submittal Fee, ESL will have the discretion to determine which proposal to eliminate or other action(s) to take.

Proposal Submission Fees will be refunded to Bidders only in the following circumstances:

[1] Because payment of the Proposal Submission Fee would amount to a payment to itself, the sponsors of the Self-Build Option are exempt from the Proposal Submission Fee payment requirement.

1. Bidder registers a proposal and pays the Proposal Submission Fee but does not complete Proposal Submission for the registered proposal;

2. Bidder registers a proposal, properly completes Proposal Submission, but subsequently withdraws the registered proposal prior to the Proposal Submission Deadline; or

3. ESL cancels or terminates this RFP prior to the selection of proposals for the Primary Selection List or the Secondary Selection List.

If Bidder, or any proposal submitted by Bidder, becomes ineligible or is eliminated from this RFP for any reason other than a reason set forth in clauses (1) through (3) above, including, without limitation, if no proposals are selected for either the Primary Selection List or the Secondary Selection List for the RFP, as applicable, after ESL has completed its evaluation of proposals, Bidder's Proposal Submission Fee(s) will not be returned.

5.3. Proposal Submission

The Proposal Submission Process requires each Bidder to submit to ESL:

- a completed Proposal Submission Template (Commercial Tab in PowerAdvocate);
- completed responses to the applicable due diligence questionnaire (Appendix C-1 or C-2) and related attachments, including, without limitation:
  - the documents requested by the questionnaire;
  - a completed self-assessment questionnaire;
  - the required demonstration that Bidder or Seller has the requisite control over the project site;
  - executed accounting and credit-based certifications described in Sections 6.1.5 and 6.1.6;
  - any and all special considerations (see Section 2.2.4 above); and
  - a project summary; and
- a Proposal Submission Agreement signed by an officer or other representative of Bidder who is authorized to sign the agreement and tender the submitted proposal(s) on Bidder's behalf (collectively, the "**Proposal Package**").

A Proposal Submission Template will be made available to Bidders for use in preparation of proposals. Any Bidder inputs contemplated by the Proposal Submission Template may be made and provided only in PowerAdvocate.

Under the current RFP Schedule, the period during which any Bidder may submit a completed Proposal Package will begin at 8:00 a.m. CPT on August 24, 2020, and end at 5:00 p.m. CPT on August 28, 2020 (such period, as may be modified from time to time, the "**Proposal Submission Period**," and the deadline for submission, as may be modified from time to time, the "**Proposal Submission Deadline**").

All proposal submissions are required to be made through PowerAdvocate to the Bid Event Coordinator. Bidders should not send, and the Bid Event Coordinator will not accept, paper copies of proposals or proposals delivered other than through PowerAdvocate. Bidder must deliver the complete Proposal Package(s) for its proposal(s) by the Proposal Submission Deadline in order for the proposal(s) to be considered for this RFP.

After the Bid Event Coordinator has electronically received Bidder's completed Proposal Package, Bidder will receive a confirmation of receipt from the Bid Event Coordinator. Bidder should contact the Bid Event Coordinator if a confirmation is not received within one (1) Business Day after Bidder's submission of the Proposal Package.

Bidder will bear the risk of any failure of Bidder to submit the completed Proposal Package by the Proposal Submission Deadline as required by this RFP. Proposals not delivered in accordance with the requirements of this RFP are untimely and may be eliminated from consideration in this RFP. Proposals that do not include all agreements, material, and information required by this RFP may be considered non-conforming and rejected on that basis.

6. RFP MILESTONES AND PROCESSES – PROPOSAL EVALUATION THROUGH CONTRACT NEGOTIATION

6.1. Overview and Assessments

Following the Proposal Submission Deadline, the RFP evaluation will begin. In Phase I of this RFP ("**Phase I**"), proposals will be assessed for compliance with the Threshold Requirements. Proposals remaining in this RFP after the Threshold Requirements compliance review will then be evaluated in Phase I to identify the most economic proposals and significant high-level risks or RFP nonconformities associated with such proposals. Based on the Phase I evaluation results, ESL may reduce the number of proposals under consideration and may develop a preliminary shortlist of proposals (the "**Shortlist**"). Phase I will end after the completion of the Phase I evaluation of proposals and the establishment of the Shortlist or the determination by ESL that the Shortlist is not necessary for this RFP. In Phase II of this RFP ("**Phase II**"), proposals placed on the Shortlist or otherwise remaining in this RFP will be evaluated in greater detail. Applying qualitative and quantitative assessments, the proposals in Phase II will be assigned a proposal ranking and a recommended disposition. A final list setting forth the proposal(s) (if any) selected for negotiation of a Definitive Agreement (the "**Primary Selection List**") and the proposal(s) (if any) selected for possible negotiation of a Definitive Agreement (the "**Secondary Selection List**") will be created.

After the selection process has been completed and any selections made, the Bid Event Coordinator will notify each Bidder, with respect to each proposal it submitted, whether the proposal is on the Primary Selection List (if any), the Secondary Selection List (if any), or has been eliminated from further consideration in this RFP. Without limiting its rights under Exhibit E, ESL expects to proceed to negotiate the terms of a Definitive Agreement with the Bidder having a proposal on the

Primary Selection List. If those negotiations terminate or are suspended, or if ESL determines negotiations with any Bidder having a proposal on the Secondary Selection List are appropriate, ESL may negotiate commercial terms with one or more Bidders on the Secondary Selection List.

The proposal evaluation process will be carried out by five (5) separate evaluation teams (each, an "**Evaluation Team**"):

- the Economic Evaluation Team ("**EET**");
- the Transmission Evaluation Team ("**TET**");
- the Viability Assessment Team ("**VAT**");
- the Accounting Evaluation Team ("**AET**"); and
- the Credit Evaluation Team ("**CET**").

The roles and responsibilities of the Evaluation Teams are described in this section. ESL may include as a member on any Evaluation Team, or contract with, any third-party agent, consultant, advisor, expert, contractor, or representative to assist in the evaluation of proposals as ESL deems necessary or appropriate.

Another team, the RFP Administration Team, will act to ensure that each Evaluation Team has the information needed to perform its analysis and act to facilitate the evaluation of proposals by all Evaluation Teams so that the evaluation process results in the proper assessment of the economics and other relevant elements of the proposals. The RFP Administration Team, with ETI's approval, may also eliminate proposals from this RFP based on the team's independent review of the proposals or recommendations or input provided by one or more of the Evaluation Teams. In addition, the Bid Event Coordinator may consult with members of the RFP Administration Team from time to time to assess whether proposal-related information may be needed by or should be made available to an Evaluation Team. The RFP Administration Team will also prepare and distribute the results of this RFP to appropriate individuals at ETI and may recommend to ETI the placement of proposals on the Primary Selection List or the Secondary Selection List or the elimination of proposals.

Each of the Evaluation Teams, the RFP Administration Team, and the Bid Event Coordinator will have the right to ask Bidder clarifying questions to obtain additional information that it believes may help with its understanding, review, or analysis of Bidder's proposal or the Self-Build Option. Clarifying questions from any of the Evaluation Teams, the RFP Administration Team, or the Bid Event Coordinator are expected to be communicated by the Bid Event Coordinator to Bidder(s) through PowerAdvocate. The Bid Event Coordinator may also request Bidder's participation in one or more meetings to obtain clarification or additional information regarding a proposal. Upon the Bid Event Coordinator's reasonable request and reasonable prior notice, Bidder will be expected to make available its duly authorized officers, representatives, and advisors to participate in meetings requested by the Bid Event Coordinator, ESL, or ETI and/or answer questions or provide information related to its proposal or participation in this RFP.

The evaluation process is designed to facilitate the fair and impartial evaluation of all proposals received in this RFP and to result in the selection of one or more proposals that meet the

RFP's requirements and ETI's needs at the lowest reasonable cost, taking into account reliability, risk, and other relevant factors. The process will be conducted in a carefully controlled manner, using procedures, methods, evaluation criteria, and assumptions that will be developed prior to the receipt of proposals. ESL will document key assumptions and model constructs and provide this documentation to the IM before the receipt of proposals; however, the Evaluation Teams will retain full discretion, subject to oversight by the IM, to use the evaluation methods and assumptions they consider appropriate to identify those proposals that best meet the needs of ETI and the requirements and objectives of this RFP.

The IM will oversee the evaluation and selection process to ensure that the process is fair, objective, and impartial to all Bidders. The IM's responsibilities will include monitoring the precautions taken to restrict access to proposal information only to appropriate members of the Evaluation Teams in order to preserve the confidentiality of information contained in the proposals.

Upon ESL's reasonable request and reasonable prior notice, Bidder will be expected to make available its duly authorized officers, representatives, and advisors for the purpose of answering questions or providing information related to its proposal or participation in this RFP. In addition, if ESL invites a Bidder to finalize a Definitive Agreement, such Bidder will be expected to use its reasonable best efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary or appropriate to finalize, execute, and deliver such Definitive Agreement as promptly as possible.

6.1.1. Threshold Requirements Assessments

After the Proposal Submission Deadline, the necessary Evaluation Teams and/or the RFP Administration Team will review the proposals offered into this RFP in order to determine compliance with the Threshold Requirements. Proposals that fail to satisfy the Threshold Requirements may be eliminated from this RFP on that basis or may be allowed to continue in the evaluation process, subject to the oversight of the IM. The retention of a proposal that fails to fulfill the Threshold Requirements after the initial Threshold Requirements evaluation does not preclude the subsequent elimination of the proposal from this RFP on account of the Threshold Requirements failure(s) or for other reasons.

6.1.2. Economic Assessments

The EET is responsible for evaluating the economics of proposals received in this RFP and developing the economic ranking of such proposals. The EET's evaluation will rely on tools and methods commonly used by ESL and ETI for long-term planning and resource evaluations, including, without limitation, spreadsheet modeling and production cost modeling using the AURORA program. It may also utilize and rely on additional tools and methods that the EET deems necessary or appropriate for the effective assessment of proposal economics, including, but not limited to, qualitative considerations. The EET, in consultation with the IM, may perform sensitivity analyses.

A preliminary process for the economic evaluation of proposals offered into the RFP follows. The actual process is expected to reflect adjustments made from time to time to the preliminary process.

Economic Evaluation Methodology

The EET will perform a customer net benefit analysis to identify the most economic proposals submitted into this RFP. The economic evaluation will estimate each proposal's net benefit or cost by subtracting the total cost of a supply portfolio that includes that proposal from the total cost of a supply portfolio that does not. The analysis considers fixed and variable costs and benefits, including, but not limited to, proposal pricing, interconnection, and transmission upgrade costs, fixed gas reservation charges (if applicable), emissions credit costs (if applicable), property tax estimates, capacity value, terminal value (if applicable), variable supply cost impacts, and any other applicable costs or benefits. Variable supply cost impacts produced by each proposal when added to ETI's resource portfolio will be estimated using the AURORA production cost model. All costs and benefits will be evaluated over the full evaluation period. The variable supply cost assessment is described in greater detail below.

Variable Supply Cost Assessment

The Production Cost Assessment sub-team of the EET uses a production cost model (AURORA) to produce a forecast of variable costs, energy revenues, and projected operations for each proposal and to assess the effect of each conforming proposal on ETI's variable supply cost over the evaluation period. AURORA results will feed into the EET economic evaluation models as inputs for the net benefit analysis.

6.1.3. Transmission Assessments

The TET is responsible for assessing the interconnection, deliverability, and transmission considerations associated with each proposal received in the RFP, identifying and estimating for this RFP the timing, scope, and costs of transmission upgrades required to interconnect and deliver the energy output of the proposed resource to the applicable Electrical Interconnection Point, reviewing proposals for compliance with the interconnection, deliverability and transmission requirements of this RFP, evaluating other interconnection, deliverability and transmission aspects of proposals, and informing the RFP Administration Team of the results of its assessment. Its cost estimating responsibilities will include, without limitation, developing and providing to the RFP Administration Team cost estimates associated with interconnection, deliverability, or transmission upgrades not identified in a Bidder's proposal but identified by the TET or appropriately identified in the proposal but, in the TET's opinion, misestimated.

The TET will utilize existing tools, and may develop and/or utilize additional tools, to perform its evaluations in this RFP. The TET's proposal evaluation will include analysis similar to ESL's standard analysis for long-term transmission system reliability planning and deliverability matters. The TET may perform sensitivity and other analyses that the team finds to be of value. The

TET will use information Bidders provide in their Proposal Packages, any supplemental information Bidders provide to the TET or the RFP Administration Team regarding the proposal, and other information available to the TET and allowed to be used in such analysis.

The specific analyses the TET expects to perform in its evaluation of proposals includes the following:

- ERIS: Evaluate the ERIS upgrades and cost estimates associated with a proposal.
- NRIS: Evaluate the NRIS upgrades and cost estimates associated with a proposal.
- Reliability: Evaluate the proposal's ability to meet the NERC TPL-001-4 standard and the applicable Entergy Transmission Planning Criteria and determine any necessary upgrades and cost estimates to satisfy these standards.
- Transient Stability: Assess each proposal's impact on satisfying the NERC TPL-001-4 standard and the applicable Entergy Transmission Planning criteria. The evaluation will include the assessment of any upgrades, improvements, and costs necessary for the proposal to meet these standards and criteria.
- Consolidated Upgrades: Determine the incremental upgrades needed to satisfy the reliability standards and transient stability criteria in conjunction with Bidder's identified upgrades for obtaining ERIS and NRIS.

In conducting its proposal evaluations, the TET will be considering, among other things, the deliverability of power from the proposed resource, the resource's effect on system reliability and the deliverability of power from other resources, and the adequacy of interconnection, deliverability, and transmission cost estimates and upgrades identified in the proposals to meet all applicable NERC, MISO, and ELL requirements, criteria, and standards and all applicable laws.

6.1.4. Viability Assessments

The VAT reviews and assesses the technical, environmental, fuel supply and transportation, and commercial merits of proposals.

The viability assessment will be carried out by subject matter experts (each, an "**SME**") who are members of the VAT. The subject matter expertise of VAT team members for this RFP includes:

- Plant & Equipment/Operation & Maintenance;
- Environmental;
- Fuel Supply & Transportation;
- Commercial;
- Real Estate; and
- Other disciplines, as appropriate.

Each VAT SME will be responsible for providing an overview and assessment of each proposal with respect to his or her area(s) of expertise.

Each Bidder will be required to provide a self-assessment for each proposal it submits into this RFP. The VAT will use Bidder's completed self-assessment form, as well as the information provided in response to the questions and requests included in Appendix C-1 and/or Appendix C-2 for the VAT's evaluation. Bidders are expected to provide complete responses to the self-assessment, Appendix C-1 and/or C-2 at the time they submit their proposals. FAILURE TO PROVIDE A COMPREHENSIVE RESPONSE TO THESE DOCUMENTS COULD NEGATIVELY AFFECT A PROPOSAL'S OVERALL VIABILITY ASSESSMENT.

Phase I

In Phase I, near the beginning of the RFP evaluation, the VAT and/or the RFP Administration Team will review proposals for satisfaction of the VAT Assessment Threshold Requirements (see Section 2.3 above). The VAT and/or the RFP Administration Team will base its assessment on its review and analysis of proposal information obtained from Bidder through Appendix C-1 and/or Appendix C-2 and the completed self-assessment form. After completing its evaluation, the VAT will provide the results to the RFP Administration Team and other Evaluation Teams.

Phase II

In Phase II, the VAT will review the proposals remaining after completion of the Threshold Requirements screening process to develop a risk assessment and overall risk/viability profile of the proposals. These risk and viability evaluations will include assessments of resource capabilities, project development risks (if applicable), fuel procurement (including transportation) and price stability, environmental compliance risks, proposed commercial terms (including Special Considerations), regulatory considerations, and other factors the VAT determines may bear on a proposal's risk and viability. The VAT may seek and incorporate into its viability assessments input from other Evaluation Teams.

The VAT's viability evaluation will be based on a qualitative assessment of various criteria in the general risk categories. This qualitative assessment will incorporate quantitative measures that result in an overall quantitative ranking for a proposal. A criteria and category rating will be developed for the proposal by scoring multiple criteria in several risk categories, using defined ranking criteria. The weighted sum of each risk category's results will be totaled to determine the VAT's overall quantitative ranking for the proposal. The VAT will seek IM concurrence of the final viability ranking and VAT recommendation for each proposal assessed. The final viability ranking will be factored into the evaluation of proposals that will lead to the selection of resources, if any, for the Primary Selection List and/or the Secondary Selection List. Without limiting Appendix E, ESL will have the right to reject a proposal, in consultation with the IM, on the ground that the proposal, in the judgment of the applicable Evaluation Team(s) or ESL, does not meet the criteria for viability established in connection with this RFP or otherwise is not viable.

6.1.5. Accounting Assessments

The AET will perform an assessment of each proposed Definitive Agreement (and any related agreement where the AET determines such assessment to be advisable) to determine the accounting treatment with respect to such proposal. The assessment will include, but is not limited to, an analysis of:

- whether the proposed Definitive Agreement (or related agreement) contains a lease, and if so, whether the lease is a finance lease or an operating lease pursuant to Financial Accounting Standards Board ("**FASB**") Accounting Standards Codification ("**ASC**") 842;

- whether the legal entity owning the subject generation asset during the contract term is a variable interest entity ("**VIE**"), and if so, the entity required to consolidate the VIE throughout the term of the proposed Definitive Agreement, in accordance with FASB ASC 810;

- whether the proposed Definitive Agreement (or related agreement) is or includes a derivative and, if so, the appropriate accounting for the derivative, in accordance with FASB ASC 815; and

- whether there are any other adverse accounting implications or effects to ETI or any of its Affiliates arising out of the proposed Definitive Agreement (or related agreement).

The AET's accounting assessment proposals offered into this RFP will include assessments based on the existing accounting standards at the time of the AET's assessment. Its assessment may also include assessments based on future accounting standards if the AET determines that such standards will or may apply to any Definitive Agreement (or related agreement) arising out of a proposal and that it is feasible and appropriate for the AET to evaluate the proposal applying such standards.

ETI will not enter into a Definitive Agreement for a PPA, Toll, or any related agreement pursuant to this RFP that will or may result in the recognition of a long-term liability on the books of ETI (or any of its Affiliates), whether the long-term liability is due to lease accounting, the accounting for a VIE, or any other applicable accounting standard. If Bidder offers a PPA or Toll in a proposal submitted in this RFP, Bidder must include in the Proposal Package a certification from Bidder that, to the best of Bidder's knowledge, the proposed PPA or Toll will not result in, under the accounting standards in effect at the time of the certification or that will be in effect at any time during the contract term of the proposed PPA or Toll, the recognition of a long-term liability by ETI or any of its Affiliates on its or any of its Affiliates' books. The certification must be prepared under the direction of and signed by the Principal Accounting Officer (under the Securities and Exchange Commission rules) or other officer of Bidder, or a parent thereof, who performs a managerial accounting function, has expertise in the recognition of long-term liabilities by purchasers in PPAs or Tolls, and has been involved in the preparation of the proposal ("**Accounting Officer**"). The

certification must be prepared and dated reasonably contemporaneous with the date of submission of the Proposal Package.

After the submission of the Proposal Package containing his or her certification, the Accounting Officer must promptly notify the Bid Event Coordinator in writing of any development, event, or circumstance that would change, or could reasonably be expected to change, the accounting treatment of the proposed PPA or Toll included in the Proposal Package or otherwise would cause, or could reasonably be expected to cause, the certification of the Accounting Officer to be inaccurate or incomplete in any material respect.

Bidder will be required to make available to ESL all information and materials, including any and all assumptions made by Bidder, any of its Affiliates, or any of its or their representatives (*e.g.*, accounting firm), necessary for or reasonably requested by the AET or ESL to verify and/or independently determine the accounting treatment associated with a PPA or Toll proposed by Bidder and otherwise conduct its evaluation of Bidder's proposal.

6.1.6. Credit/Collateral Requirements

The CET will analyze each proposal except the Self-Build Option to assess potential credit risks and attendant collateral requirements and credit costs. The CET's evaluation seeks to assure that Seller's credit quality, when considered in the context of a Bidder's proposal to ETI, complies with Entergy's corporate risk management standards and that any requirement for material credit support associated with the proposal is made known to Bidder in advance and can be appropriately considered in the preparation and evaluation of the proposal. Appendix F contains important additional information about the credit evaluation process and the credit requirements for this RFP.

Bidder's Proposal Package must contain a completed certification, in substantially the form attached to Appendix F as Annex F-1, from Bidder that (i) it has reviewed and understands to its satisfaction the terms of Appendix F and the credit provisions of the term sheets applicable to its proposal, and has considered such terms in the development of the Proposal(s), (ii) its proposal pricing reflects to its satisfaction the costs, terms, and risks of the credit support that Seller and Seller Parent Guarantor is or may be required to provide for the proposed transaction under the terms of Appendix F and the applicable Definitive Agreement, and (iii) it accepts, and has taken no special exception to any of, the core credit terms of Appendix F or the applicable Definitive Agreement. The certification must be prepared under the direction of and signed by the Treasurer or other officer of Bidder, or a parent thereof, who performs a managerial credit oversight function, has expertise in solar project financing and providing credit support to buyers of new-build generation facilities or power therefrom, and has been involved in the preparation of the proposal ("**Treasury Officer**"). The certification must be prepared and dated reasonably contemporaneous with the submission of the Proposal Package.

6.1.7. Resource Selection

Using inputs provided by the Evaluation Teams, the RFP Administration Team will prepare a final report that provides the results of the RFP, and may make recommendations for selection of proposals on the Primary Selection List (if any) and, if it determines a Secondary Selection List is appropriate, on the Secondary Selection List. The RFP Administration Team will select proposals recommended to be included on the Primary Selection List (if any) or the Secondary Selection List (if any) based on a variety of factors, including, but not limited to, relative economics, ability to meet relevant planning objectives (including resource location considerations and resource composition), deliverability, viability, accounting, and transactional considerations. The RFP Administration Team will provide the final report to members of the ETI Operating Committee and other authorized recipients of the report that the RFP Administration Team deems appropriate. Any selections will be made by the President and CEO of ETI (or designee).

6.2. Notification of Evaluation Results; Commercial Negotiations

After completion of the RFP analysis, the Bid Event Coordinator will communicate to each Bidder the status of its proposal(s) and whether additional discussions or negotiations are warranted. As noted, ESL expects to negotiate the final terms of a Definitive Agreement with Bidder on the Primary Selection List (if any) and may negotiate such terms with Bidder(s) on the Secondary Selection List (if any). Proposals not making either list will be considered rejected. A Bidder with a proposal on the Secondary Selection List will be released from its proposal three (3) months after notification of the proposal's placement on the Secondary Selection List, unless within that period Bidder has been invited to negotiate the terms of a Definitive Agreement under this RFP based on that proposal.

ESL's receipt of a proposal or the placement of a proposal on any preliminary compliance list, the Primary Selection List, or the Secondary Selection List does not constitute or indicate ESL's or ETI's agreement, commitment, representation, or promise to transact on the basis of the proposal or ESL's or ETI's acceptance of any term of the proposal. Without limiting Appendix E, each of ESL and ETI (i) has no obligation, and makes no commitment or promise of any kind, to enter into a Transaction with any Bidder, including a Bidder with a proposal on the Primary Selection List, or to be bound by any term proposed by Bidder in this RFP, and (ii) more generally, has no obligation or liability of any kind whatsoever in connection with or arising out of this RFP except as and to the extent expressly set forth in a Definitive Agreement.

7. MISCELLANEOUS RFP MATTERS

7.1. Contact with ESL; RFP Questions and Comments

7.1.1 Authorized Bidder Communications Channels

The following communication restrictions became effective on February 7, 2020, and will continue through Bidder notification of the creation of the Primary Selection List (if any) and the Secondary Selection List (if any). Except as otherwise expressly provided in this RFP, all

communications, including questions, regarding this RFP must be submitted in writing to the Bid Event Coordinator (using the contact information provided above in Section 1.5). The IM will obtain and review all written communications between ESL and Bidders. The IM may comment on responses proposed by ESL prior to issuance, and ESL's responses may reflect input from the IM.

Any contact or communication concerning this RFP (i) between Bidders, or representatives of Bidders, on the one hand, and personnel or employees of ESL other than the Bid Event Coordinator, on the other hand, or (ii) between different Bidders, or representatives of different Bidders, made without the specific, prior written consent of the Bid Event Coordinator after consultation with the IM, is, in each case, not allowed and grounds for disqualification of the non-compliant Bidder(s). Bidders are, of course, permitted to communicate internally within their organizations and to their representatives with regard to this RFP as necessary. Bidders may also communicate with the IM at any time.

7.1.2 Posting Questions

Bidders and other interested Persons are invited to submit questions and comments about this RFP to the Bid Event Coordinator, copying the IM (using the contact information provided above in Sections 1.5 and 1.6). Alternatively, Bidder may submit questions to the IM (using the contact information provided in Section 1.6). All questions or comments regarding this RFP must be submitted via email at etirfp@entergy.com prior to Bidder's completion of the Bidder Registration Process and afterwards through PowerAdvocate. Interested Persons are requested to submit questions as promptly as possible to ensure the timely receipt of ESL's response. ESL requests that all questions be submitted to the Bid Event Coordinator or the IM no later than three weeks prior to the start of the Proposal Submission Period.

Subject to ESL's consideration of the confidentiality concerns described in Section 7.1.3 below, ESL intends to post all questions submitted by Bidders, as well as ESL's responses to those questions, to the 2020 ETI CCGT RFP Website. All questions will be posted anonymously, to shield the identity of Bidders who posed the questions. ESL's objective in posting questions and answers publicly is to afford Bidders equal access to information potentially relevant to their proposals.

ESL expects to provide answers to questions received during the Proposal Submission Period only to the extent the questions are specific to an actual proposal submission issue (and such answers may or may not be posted on the 2020 ETI CCGT RFP Website).

7.1.3 Questions Involving Confidential Information

Bidders should frame their questions, if possible, so that the answers do not require the disclosure of information that is confidential to ESL, or ETI, or any of their respective affiliates. If ESL receives a question that calls for, in its opinion, an answer that would contain such confidential information and the provision of such confidential information is necessary and appropriate for ESL's response, then ESL will notify the IM and will respond to the question in writing, via PowerAdvocate.

Similarly, Bidder's questions should be structured to avoid, if possible, the disclosure of Bidder's confidential information. If Bidder believes that certain Bidder information contained in a question it intends to submit is confidential, it is strongly urged to attempt to exclude such information, whether by redaction or other means, and then to submit the question. If Bidder believes it is necessary or advisable to submit the question without redacting or otherwise shielding its confidential information, Bidder should, without divulging its confidential information, notify the Bid Event Coordinator in writing of the purpose of the question and the nature of the confidential information so that ESL can determine whether Bidder's question requires the disclosure, either by Bidder or by ESL, of Bidder's confidential information, or whether such disclosure is unnecessary or can be avoided. If ESL determines that the disclosure of confidential Bidder information is necessary and appropriate, ESL will notify the IM. Questions containing confidential Bidder information that are submitted timely will be answered by ESL by electronic mail or via PowerAdvocate sent to Bidder.

7.2. Contact with MISO

Under the MISO Tariff, MISO currently provides functional supervision of the Entergy Transmission System and acts as transmission provider with respect to the granting of transmission service, including interconnection service, on the Entergy Transmission System or on other transmission systems under MISO's functional supervision. Inquiries about these aspects of the Entergy Transmission System or other transmission systems in MISO under MISO's functional supervision should be directed to MISO at its South Region Transmission Planning Office, (504) 846-7100. Bidders are directed to the MISO website, www.misoenergy.org, for information about MISO.

7.3. Confidentiality Procedures for Bidder Registration and Proposal Submission Information

ESL has procedures that its employees, agents, and consultants participating in the evaluation of proposals will be required to follow in order to protect the confidentiality of Bidder information provided in response to this RFP. The procedures are described in detail in Appendix G of this RFP – Process for Protection of Proposal Information.

7.4. Affiliate Rules and Codes of Conduct

All employees of ESL, any Entergy Operating Company, or any Entergy Competitive Affiliate must adhere to the Affiliate Rules and Codes of Conduct as applicable. A link providing access to complete copies of the Affiliate Rules and Codes of Conduct is available at the 2020 ETI CCGT RFP Website.

7.5. Multi-Person Bids

If Bidder is comprised of more than one Person, the individual members may enter into contribution, indemnity, allocation, sharing, or other similar arrangements or agreements amongst

themselves to allocate their respective rights and obligations; however, no such agreement or arrangement may adversely affect any right reserved to ESL or ETI in connection with this RFP or otherwise disadvantage ESL relative to its position with other Bidders without ESL's prior written agreement, either on its own behalf or as agent of ETI. Bidder must fully disclose to the Bid Event Coordinator all such contribution, indemnity, allocation, sharing or similar arrangements or agreements. Disclosure may be accomplished by means of a written letter to the Bid Event Coordinator by the proposal submission deadline. Bidder may be required to respond to subsequent diligence inquiries concerning the arrangements or agreements.

Appendix B-5

B-O-T Scope Book

For

2020 Request for Proposals for Combined-Cycle Gas Turbine Capacity and Energy Resources for Entergy Texas, Inc.

Entergy Services, LLC

April 28, 2020

Entergy Texas CCGT Plant
Phase 1 Scope Book

TABLE OF CONTENTS

ATTACHMENTS

* Entergy's requirements for this Attachment are included in this scope book

**Attachment to be inserted by Bidder as part of Proposal.

1 PROJECT SCOPE BOOK

This Appendix B-5 and its attachments form the Scope Book. This Scope Book describes certain requirements with respect to the Work. Notwithstanding anything to the contrary in the Scope Book, all Work to be performed by or for the Seller pursuant to the Scope Book shall be performed in accordance with the performance standard (as described in Section 11 of Appendix B-4 (B-O-T Term Sheet) to this RFP).

The Purchase Price set forth in the Agreement will be established based upon the total Project requirements for Work supplied by the Seller and is intended to include all Work requirements for the Project. This Scope Book is not intended to be a comprehensive list of every component or Work element required to complete the overall Project. The supplies or particular work elements that are not detailed in the Scope Book and any revisions to details that are not contained within the Scope Book, but that are agreed upon by the Parties with documented authority during the design review process, will not serve as a basis for adjustment to the Purchase Price.

1.1 PROJECT DESCRIPTION

The Project will be located on a site in the "Eastern Region" of ETI's service area.

The Project will consist of a Commercially-Proven CCGT between 1000 and 1200 MW at Summer Conditions. Operating parameters will include a maximum heat rate of 7,000 Btu/kWh at full output without supplemental duct-firing (if included as part of the facility). The Project will be fully Permitted, and the CTGs, STG and HRSGs will have the agreed upon equipment warranties.

The project will utilize natural gas as the only fuel. Pipeline-quality natural gas will be supplied via a lateral interconnection(s) with sufficient operating pressure to serve the project site. The Project shall be capable of running at full design capability utilizing the interconnection pipeline(s).

A more detailed description of the Project is contained in Attachment A-4 ("Design Basis").

1.2 PROJECT OBJECTIVES

The Seller shall work to complete the Project in accordance with the following "Project Objectives":

a. The Project will be designed taking into consideration the following objectives:
    1) Ensure safe operations, maintainability and construction.
    2) Achieve a thirty (30)-year life.
    3) Facilitate maintenance work and provide access to all equipment according to the Project Standard (including OSHA).
    4) Minimize operator surveillance.
    5) Provide reliable power to the grid meeting the latest NERC reliable power standards to minimize false trips.

b. Achieve compliance with all Permit requirements (including local, states and federal permits must be secured) and guarantees required by the Agreement, including this Appendix B-5.
c. Achieve specified requirements for Project output capacity, heat rate, reliability, emission limits, and noise limits.
d. Minimize adverse local community impacts.
e. Minimize changes throughout engineering, design, procurement, and construction.

1.3 PROJECT EXECUTION PLAN

The Project Execution Plan ("PEP") shall be prepared by the Seller, and will include the following:

a. Health, Safety, and Environmental Plan;
b. Quality Assurance/Quality Control Plan;
c. Project Site Security Plan;
d. Project Organization Plan;
e. Engineering Plan;
f. Contracting Plan;
g. Procurement Plan;
h. Construction Plan;
i. Document Control Plan;
j. Project Risk Register;
k. Schedule Management Plan;
l. Preliminary Baseline Level I and Level II Project Schedules and WBS; and
m. Performance Measure Baseline.

2 SCOPE BOOK

2.1 KEY PERSONNEL CHART

2.1.1 The document entitled "Key Personnel Chart," attached hereto as Attachment A-1, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.2 PROJECT EXECUTION PLAN REQUIREMENTS

2.2.1 The document entitled "Project Execution Plan Requirements," attached hereto as Attachment A-2, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.3 PROJECT PERFORMANCE TESTS

2.3.1 The document entitled "Project Performance Tests," attached hereto as

Attachment A-3, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.4 DESIGN BASIS

2.4.1 The document entitled "Design Basis," attached hereto as Attachment A-4, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.5 CIVIL/STRUCTURAL/ARCHITECTURAL DESIGN

2.5.1 The document entitled "Civil/Structural/Architectural Design," attached hereto as Attachment A-5, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.6 MECHANICAL DESIGN

2.6.1 The document entitled "Mechanical Design," attached hereto as Attachment A-6, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.7 ELECTRICAL DESIGN

2.7.1 The document entitled "Electrical Design," attached hereto as Attachment A-7, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.8 CONTROLS DESIGN

2.8.1 The document entitled "Controls Design," attached hereto as Attachment A-8, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.9 HIGH VOLTAGE INTERCONNECT FACILITY

2.9.1 The document entitled "High Voltage Interconnect Facility," attached hereto as Attachment A-9, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.10 OPERATION AND MAINTAINENCE REQUIREMENTS

2.10.1 The document entitled "Construction/Erection and Installation," attached hereto as Attachment A-10, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.11 TERMINAL POINTS

2.11.1 The document entitled "Terminal Points," attached hereto as Attachment A-

11, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.12 DIVISION OF RESPONSIBILITY

2.12.1 The document entitled "Division of Responsibility," attached hereto as Attachment A- 12, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.13 TAGGING PROCEDURE

2.13.1 The document entitled "Tagging Procedure," attached hereto as Attachment A-13, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.14 TRAINING

2.14.1 The document entitled "Training Procedure," attached hereto as Attachment A-14, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.15 DRAWING SPECIFICATION

2.15.1 The document entitled "Drawing Specification," attached hereto as Attachment A-15, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.16 APPROVED MANUFACTURERS LIST

2.16.1 The document entitled "Approved Manufacturers List," attached hereto as Attachment A-16, is adopted and fully incorporated by reference as if it were reproduced in its entirety.

2.17 MAJOR TECHNICAL SPECIFICATIONS

The following major equipment technical specifications are adopted and fully incorporated by reference as if it were reproduced in its entirety:

2.17.1 Attachment A-17 – Gas Turbine Technical Specification
2.17.2 Attachment A-18 – Turbine Driven Generator Technical Specification
2.17.3 Attachment A-19 – Steam Turbine Technical Specification
2.17.4 Attachment A-20 – HRSG Technical Specification
2.17.5 Attachment A-21 – GSU Transformer Specification
2.17.6 Attachment A-22 – Continuous Emission Monitoring System

3 ENGINEERING & DESIGN

Seller shall be responsible for all engineering and design of the Project in accordance with this

Scope Book and the remainder of the performance standard. If, during the Work, Seller discovers any conflicts between this Scope Book and the remainder of the performance standard, Seller shall promptly disclose to Buyer any such conflicts, which shall be resolved according to the Agreement. Seller shall cause all design and engineering materials, documents, drawings and calculations pertaining to the Project (collectively, the "Engineering Materials") to be prepared by qualified, licensed and authorized professional engineers, and, if required by applicable Laws, sealed by a professional licensed in Texas.

The Seller is responsible for assuring that the Scope Book for the Project, including the Seller's technical specifications referenced elsewhere in the Agreement or its attachments and any Owner's approved changes made by the Seller thereto, will provide adequate and accurate information, and the Seller is responsible for assuring that its Contractors and Subcontractors deliver their respective scopes of supply in a manner that will meet the Project Objectives set forth in Section 1.2 of this Appendix B-5 and will be consistent with the Project Warranty and Performance Guarantees.

3.1 DESIGN BASIS

Seller shall provide a design basis for the Project for Buyer's review and comment according to Sections 2.2 through 2.9. The design basis shall provide specific criteria for the Project, including minimum technical requirements and parameters, and, at a minimum, address the following:

a. Overall Project configuration;
b. Project operations basic control philosophy;
c. Project Site-specific conditions;
    i. Project Site location;
    ii. temperatures and humidity;
    iii. precipitation, wind, seismic;
    iv. lot restrictions;
    v. permit limitations;
d. Water supply (as required);
e. Estimated wastewater/stormwater streams and quality limits (as required);
f. Noise limits;
g. Subsurface conditions;
h. Project Site flooding/weather impacts;
i. Electrical/communication interconnection;
j. Building and enclosures;
k. Applicable standards;
l. Safety; and
m. Quality assurance/quality control (QA/QC).

The Seller shall also provide the discipline specific design criteria and address all items delineated in Attachments A-4 through A-9.

3.2 ENGINEERING MATERIALS REVIEW

All Engineering Materials (including the design basis and documents of conceptual, basic, and detailed design) must comply with this Scope Book (including the description in Section 1.1 above and the principles in Section 1.2 above) and otherwise with the performance standard. Engineering design packages for conceptual design related to the Project, including for major procurement selection ("Phase A Deliverable"), for Permit applications or submissions ("Phase B Deliverables"), and, prior to issuance thereof, drawings for construction ("Phase C Deliverables") shall be submitted for review and approval by Buyer in accordance with the dates therefor set forth in the Project Schedule. Within fifteen (15) Business Days after receipt of any Phase A Deliverable, and within ten (10) Business Days after receipt of any Phase B Deliverable, Phase C Deliverable, or subsequent revision to a Phase A Deliverable, Buyer may submit comments to Seller with respect to such Engineering Materials. In the event that Buyer does not provide comments within such ten (10) or fifteen (15) Business Day period, as applicable, such Engineering Materials shall be deemed approved. If Buyer provides comments within such ten (10) or fifteen (15) Business Day period, as applicable, Seller shall modify such Engineering Materials in response to any Buyer comments that identify errors or omissions in design or failures to comply with the performance standard, including this Scope Book, or the other terms of the Agreement, and Seller shall consider in good faith all other comments Buyer provides within such ten (10) or fifteen (15) Business Day period, as applicable. Seller shall resubmit the applicable revised Engineering Materials to Buyer within ten (10) Business Days after receiving Phase A comments from Buyer. Seller shall maintain a log of comments received from Buyer and how they have been addressed and shall submit such log to Buyer with the revised Engineering Materials. This procedure shall be repeated until such Engineering Materials are approved by Buyer. Seller shall not implement any portion of the Work based on any Engineering Materials until the same have been approved by Buyer; provided, however, that Seller shall be entitled to address issues identified in one design phase in the next subsequent design phase if necessary, for Seller to preserve the Project Schedule. Any change proposed to the Engineering Materials after approval thereof shall be subject to further approval by Buyer according to the process in this Section 3.2.

For the avoidance of doubt, and without limiting the performance standard, the Engineering Materials shall not include equipment that does not comply with Attachment A-16.

3.3 CERTAIN APPLICABLE STANDARDS

Without limiting any other aspect of the performance standard (including other standards that may be listed elsewhere in this Scope Book or the Agreement), the Project (including its design) shall comply with the standards of the following organizations, to the extent applicable to the Work being performed:

- AASHTO – American Association of State Highway and Transportation Officials

- ABMA – American Boiler Manufacturers Association
- ACI – American Concrete Institute
- ACMA – Air Moving and Conditioning Association
- ADC – Air Diffusion Council
- AFBMA – American Bearing Manufacturers Association
- AGMA – American Gear Manufacturers Association
- AISC – American Institute of Steel Construction
- AISI – American Iron and Steel Institute
- AMCA – Air Movement and Control Association, Inc.
- ANSI – American National Standards Institute
- API – American Petroleum Institute
- ARI – Air Conditioning Refrigeration Institute
- ASCE – American Society of Civil Engineers
- ASHRAE – American Society of Heating, Refrigeration, and Air Conditioning Engineers, Inc.
- ASME – American Society of Mechanical Engineers
- ASME PTC – American Society of Mechanical Engineers Performance Test Code
- ASNT – American Society for Nondestructive Testing
- ASTM – American Society of Testing and Materials
- ASTM-A615 – Deformed Billet Bars for Concrete Reinforcement
- AWS – American Welding Society
- AWWA – American Water Works Association
- BPVC – Boiler and Pressure Vessel Code
- CFR – United States Code of Federal Regulations
- CMAA – Crane Manufacturers Association of America
- CWA – Clean Water Act
- EJMA – Expansion Joint Manufacturing Association
- EPA – United States Environmental Protection Agency
- FAA – Federal Aviation Administration
- HI – Hydraulic Institute
- HIS – Hydraulic Institute Standards
- IBC – International Building Code
- ICEA – Insulated Cable Engineers Association
- IEEE – Institute of Electrical and Electronics Engineers
- ISA – International Society of Automation
- ISO – International Organization for Standardization
- MCAA - The Measurement, Control & Automation Association
- MSS – Manufacturers Standardization Society
- NAAMM – National Association of Architectural Metal Manufacturers

- NACE – National Association for Corrosion Engineers
- NBBI – National Board of Boiler and Pressure Vessel Inspectors
- NEC – National Electrical Code
- NECA – National Electric Contractors Association
- NEMA – National Electrical Manufacturers Association
- NESC – National Electrical Safety Code
- NFPA – National Fire Protection Association
- NFPA 70 – National Electrical Code
- NPDES – National Pollution Discharge Elimination System
- OSHA – Occupational Safety and Health Administration
- PFI – Pipe Fabrication Institute
- PPI – Plastics Pipe Institute
- PTC – Power Test Code
- PUCT – Public Utilities Commission of Texas
- SAMA – Scientific Apparatus Manufacturers Association
- SEG – EPA Steam Electric Effluent Guidelines (40 CFR 423)
- SMACNA – Sheet Metal and Air Conditioning Contractors National Association
- SSPC – Steel Structures Painting Council
- TEMA - Tubular Exchanger Manufacturer's Association
- TCEQ – Texas Commission on Environmental Quality
- TPWD – Texas Parks and Wildlife Department
- TxDOT – Texas State Department of Transportation
- UL – Underwriters Laboratories, Inc
- UPC – Uniform Plumbing Code

3.4 ENGINEERING DELIVERABLES

All engineering deliverables and services shall be provided by Seller to the Buyer in accordance with the Project Execution Plan and the remainder of the performance standard. The latest version of the following deliverables with respect to the Project shall be delivered to Buyer as provided below. Updates to any such deliverable shall be delivered to Buyer as completed (with the final version of each delivered to Buyer no later than Final Completion). Prior to the final versions, Seller shall provide such deliverables in native file format, if possible, but otherwise in PDF file format. The final version of all deliverables shall be provided (no later than Final Completion) in native file format. Final drawings must adhere to the Drawing Specification as shown in Attachment A-15. The listings in this Section 3.4 are not intended to and do not include all deliverables from Seller to Buyer required by this Scope Book or the Agreement. Nothing in this Section 3.4 shall limit Seller's obligation to provide to Buyer any additional deliverable that may be required by this Scope Book or the Agreement. Items denoted "X" must be completed/accepted by the Buyer to achieve the stated Contractual Milestones.

	Document Description	Mechanical Completion	Substantial Completion	Final Completion
a.	One line diagram	X	X	X
b.	Three line diagram	X	X	X
c.	P&IDs	X	X	X
d.	General arrangement drawings	X	X	X
e.	Terminal point list	X	X	X
f.	Underground features drawing	X	X	X
g.	Project plot plan	X	X	X
h.	Heat balances (OEM)	X	X	X
i.	OEM performance test reports (FAT, shop & field)	X	X	X
j.	Geotechnical investigation report	X	X	X
k.	Software licenses		X	X
l.	PE Stamped Foundation and Structural Steel Drawings	X	X	X
m.	Agreed-upon Punchlist -Mech Completion	X		
n.	Agreed-upon Punchlist - Substantial Completion		X	
o.	Instrument calibration list		X	X
p.	Protective relay settings list		X	X
q.	Equipment list	X	X	X
r.	Valve list	X	X	X
s.	Piping line list	X	X	X
t.	Red line drawings		X	X
u.	Plant Control Philosophy	X	X	X
v.	System Descriptions	X	X	X
w.	Equipment operation & maintenance manuals		X	X
x.	I/O list	X	X	X
y.	DCS factory acceptance test results		X	X
z.	Natural gas flow meter certification and calibration certificates		X	X
aa.	All Commissioning test results (including computer or software generated results and any necessary changes made to meet compliance requirements), bills of		X	X

	material, and drawings required to demonstrate compliance with applicable NERC standards.			
bb.	Project Performance Test results		X	X
cc.	Project performance correction curves		X	X
dd.	Reliability Test results		X	X
ee.	Demonstration test results		X	X
ff.	Operators and maintenance personnel training records			X
gg.	Final Project Site-specific operating procedures		X	X
hh.	Final Project Site-specific system descriptions			X
ii.	Calculations		X	X
1	Electrical load flow studies.		X	X
2	Electrical grounding calculations.		X	X
3	Protective relaying settings and coordination study.		X	X
4	Electrical short circuit analysis.		X	X
5	Arc flash study.		X	X
j.j	Environmental test reports			X
kk.	NERC test reports and calibration records			X
ll.	As-built technical documents (red lines incorporated)			X
mm.	Final equipment operations and maintenance manuals			X
nn.	3D model (Navisworks)			X
oo.	Final documentation in native format			X
pp.	Construction Rigging/Lifting Plans			X
qq.	Turnover Books/Manuals - shall include all construction, testing and commissioning records and forms, system and/or work package punch list, as-built drawings, preventative maintenance and non-conformance records, and vendor	X	X	X

	service reports and bulletins for each system and/or work package.			

3.5 SYSTEM DESCRIPTIONS

System descriptions of as-build systems, including the following, shall be provided by Seller to Buyer based on draft examples supplied by Buyer to Seller at Mechanical Completion, with the final version of such system descriptions provided to Buyer by Final Completion:

a. 138kV and/or 230 kV switchyard (depending on interconnection location)
b. 125 Volt DC distribution
c. MV distribution
d. LV distribution
e. Essential AC power distribution
f. Diesel Generator
g. DCS
h. Fuel gas system.
i. Steam Systems
j. Feedwater System
k. Condensate System
l. Cold Reheat System
m. Hot Reheat System
n. Circulating Water System
o. Fuel Gas System
p. Demineralized Water System
q. Heat Rejection System
r. Cooling Tower and Cooling Water System
s. Closed Cooling Water System
t. Aqueous Ammonia Unloading, Storage and Transfer System
u. Fire protection system
v. Fire detectionsystem
w. Service water system
x. Raw water intake system
y. Sanitary sewer system
z. Water treatment system
aa. Instrument and service air systems
bb. Storm Water Drainage
cc. Process Water Drainage
dd. Makeup water treatment
ee. Process water treatment system/OWS
ff. Chemical feed system
gg. Steam Sampling System
hh. Plant control philosophy
ii. Potable water system
jj. Compressed gas systems

Each system description shall include the following minimum elements:

a. The functions performed by the system and how the system contributes to implementation of the design criteria.
b. A description of the system and its major equipment and components, and each of their respective performance characteristics.
c. A detailed description of system operating limitations, setpoints, and precautions for each mode of operation (including startup, shutdown, and normal operations).
d. A description of system safety features and safety precautions for operation or maintenance required to prevent personnel injury.
e. A description of system boundaries.

The system descriptions shall be task-oriented procedures in Buyer's format. They shall be initially issued by Seller prior to Closing and reviewed with Buyer prior to initial issue. Following the Closing, the system descriptions shall be revised as necessary during the course of the Work to reflect the as-built status of Project systems and equipment and to take into account any comments from Buyer. The system descriptions shall be finalized by Final Completion and shall not be considered finalized until they reflect the final as-built status of Project systems and equipment and are approved by Buyer.

3.6 OPERATING PROCEDURES

Project-specific operating procedures shall be provided by Seller based on examples provided by Buyer of procedures currently in use at existing facilities. The operating procedures shall include the following with the X denoting the party responsible for development of the particular procedure:

Operating Procedure	SELLER	OWNER
Startup Procedure (Hot/Warm/Cold for 1x1, 2x1)	X	
Shutdown Procedure (Hot/Warm/Cold for 1x1, 2x1)	X	
Emergency Shutdown Procedure (Hot/Warm/Cold for 1x1, 2x1)	X	
HRSG Wet/Dry Layup Procedure	X	
Air Compressor Operation (including swapping air compressor)	X	
Water Processing/Treatment Equipment	X	
Closed Cooling Water	X	

Gas Turbine Fire Protection	X	
480V Electrical Switching	X	
480V Racking (remote and manual)	X	
Generator Breaker Operation	X	
Switchyard Breakers Operation	X	
Diesel Generator Operation/ Periodic Testing	X	
Gas Turbine & Steam Turbine Generator H2 Purge/Fill	X	
Gas Turbine Offline Water Wash		X
Gas Turbine Online Water Wash		X
Gas Turbine Valve Calibration		X
Gas Turbine IGV (inlet guide vane) Calibration		X
Fire Protection Operation/Weekly Testing		X
Gas Turbine Hazardous Gas Detection Calibration		X
Loss of Power Procedure (Black Plant)	X	
HRSG Operation (Steam/Feedwater/ Condensate)	X	
Steam Turbine Operation	X	
CEMS Daily Calibration	X	
CEMS Linearity	X	
Compressed Gas Systems	X	
Fuel Gas Purge	X	
H_2 Unloading		X
CO_2 Unloading		X
Ammonia Unloading	X	
Intake Screen Operation	X	

MV Switchgear Switching and Racking	X	
Loss of Power Operations (Islanding Operation)	X	
UPS/Essential Bus Operations	X	
Exciter Local/Manual Operation	X	
Oil/Water Separator	X	
Fuel Gas Supply	X	
Construction Rigging/Lifting Plans	X	
Surveillance		X

The operating procedures shall be task-oriented procedures in Buyer's format. They shall be initially issued by Seller prior to the Closing and reviewed with Buyer prior to initial issue. Following the Closing, the operating procedures shall be revised as necessary during the course of the Work to reflect the as-built status of Project systems and equipment and to take into account any comments from Buyer. The operating procedures shall by finalized by Final Completion and shall not be considered finalized until they reflect the final as-built status of Project systems and equipment and are approved by Buyer.

3.7 FIRE PROTECTION SYSTEM

Without limiting the performance standard, the Project (including facilities, systems, and equipment) shall have a fire protection system that meets all applicable Laws and Attachment A-23 Fire Protection

3.8 STORM WATER DRAINAGE SYSTEM

Without limiting the performance standard, the Project shall have a storm water drainage system that meets all applicable Laws (including local, state, and federal requirements) and permits. The storm water drainage system shall be a combination of piped storm water, catch basins, buried pipes, culverts, swales, and sheet flow.

4 ADDITIONAL REQUIREMENTS

This Section 4 describes certain general requirements for the Project. Such requirements are the sole responsibility of Seller to manage.

4.1 GENERAL

Seller shall furnish a safe, quality built, timely, complete, functional Project while safeguarding the environment and adhering to the performance standard, including all Laws and applicable Permits, Good Industry Practices, the standards in Section 3.3 above, and the other requirements of this

Scope Book and the Agreement. Seller shall utilize safe work practices throughout the Project's execution and have in place and maintain effective safety and quality control programs. Seller shall strictly follow all installation and instruction manuals of the OEMs in the performance of the Work.

4.2 PROCUREMENT PLAN

The Seller shall provide procurement of goods and services needed for the Project in accordance with the Project Procurement Plan described in Attachment A-2 ("Project Execution Plan Requirements"), Section 7 ("Procurement Plan") which addresses the purchase of equipment, material, goods and services.

4.3 SCOPE OF APPLICABILITY OF PROCUREMENT PLAN

The policies, responsibilities, standard procedures, and instructions included in the Procurement Plan shall apply to all procurement activities conducted by the Seller to fulfill its obligations as detailed in the Agreement.

4.4 CONSTRUCTION

The Seller shall (whether directly or otherwise through for example its EPC Contractor) arrange for and manage the construction of the Project in accordance with the Project Execution Plan and the Agreement.

The Seller will comply with the EPC Contractor's project health & safety plan, until Substantial Completion has been achieved and the facility is turned over to Buyer.

The Seller will liaise with representatives of the Buyer throughout the duration of the Project to demonstrate compliance with the PEP.

4.5 MOBILIZATION PLAN

The Seller is responsible for the mobilization of field forces and all necessary construction facilities at the Project Site, including temporary office trailers as necessary or advisable for completion of the Work. Seller shall provide a temporary area lighting system sufficient for construction activities at the Project Site and to provide safe access to the Work areas during early morning and late evening hours of operation.

The Seller is also responsible for the preparation and maintenance of unloading and laydown areas, Project Site craft parking areas, storage facilities, temporary buildings and other necessary facilities, as may be required.

The Seller shall adequately prepare the laydown/office/parking areas to minimize any adverse effects from weather or other hazards to facilities or stored materials. Where required by the equipment manufacturer(s), air-conditioned storage including provisions for heaters, and covered indoor climate-controlled storage shall be provided by the Seller. Any action taken by

Seller for Project Site preparation shall not increase the risk that the Project Site could cause flooding to the adjacent properties.

4.6 SITE CONDITIONS

Seller shall take appropriate surface water, erosion, and dust control measures for the Project Site and the other areas where Seller is performing Work, including Project access roads utilized to perform Work, laydown areas, and craft parking areas, in accordance with the erosion and sedimentation Permit issued by the local conservation district or other relevant Governmental Authority and the performance standard.

Hazardous Substances shall be stored in accordance with applicable federal and state EPA requirements and other Laws and applicable Permits, and Project Site spill control measures shall be implemented in accordance with the performance standard.

The Seller shall be responsible for all site development activities, including obtaining site survey, site preparation, necessary permits, and site security. Seller is responsible for all required construction power, potable water, and sanitary water supply and disposal.

4.7 RIGGING/EQUIPMENT PLANS

The Seller is responsible for lifting, rigging, unloading and transporting of all equipment associated with the Project.

The Seller shall prepare a comprehensive lifting and rigging plan for all major equipment/components lifts during construction. A rigging and lifting plan shall be developed an approved for all high-risk engineered lifts or critical lifts (including but not limited to lifting activity that requires the use of custom designed “below the hook” lifting devices, blind lifts, multiple cranes, lifts requiring greater than 75% of the lifting capacity, or establishment of safeguards to control movement in the vicinity of energized facilities) . Rigging and lifting plans for each high-risk engineered/critical lift shall be provided to the Buyer for approval at least four weeks in advance of when the lift is scheduled to take place. All rigging and lifting plans shall be prepared and sealed by a Professional Engineer.

The Seller shall evaluate any special equipment requirements, including major crane needs prior to mobilization.

4.8 GENEAL CLEANING

Through Substantial Completion, Seller shall maintain the Project Site in a clean and orderly state. Seller shall remove all excess materials and ensure that all Work and maintenance areas, and all Work area access paths, remain unobstructed and in good, safe condition. After Substantial Completion, Seller shall be responsible for ensuring that any area where it is performing Work is kept clean and orderly and returned to at least substantially the same condition as existed prior to its performance of such Work (excluding any condition whose repair was a part of the Work).

4.9 DEMOBILIZATION

Upon completion of all required Work, Seller shall completely demobilize trailers, equipment, and other construction facilities or items, remove all temporary service connections, protect all equipment, systems, connections, and property for future use, and, unless otherwise instructed by Buyer, remove any Hazardous Substances and all non-hazardous construction debris, chemical wastes, etc. in strict accordance with Laws and applicable Permits and otherwise with the performance standard. Any lay down, construction parking, and/or work areas constructed on a temporary basis shall be retained for future use.

4.10 SECURITY

Seller shall develop and implement the Project Site Security Plan as required by the Agreement. Without liming the foregoing, the Project Site Security Plan shall include:

a) Installing security gates at all Project entrances with signs indicating an emergency contact telephone number;
b) Plan and install permanent and temporary site security fencing and, as required, the Seller shall provide remaining perimeter fence around the construction laydown/parking areas and the construction offices area for the duration of construction and Commissioning.
c) Implementing a reasonably designed Project entrance gate procedure to provide controlled and monitored access;
d) Staffing Project gate entrance as required by gate guards who maintain a date-and-time sign-in log for all deliveries and visitors;
e) Providing security personnel with a telephone at the guard shacks and with mobile communication capability; and
f) Providing security with emergency contact information and with communication capability with local emergency and law enforcement agencies for assistance in the event of a construction emergency.

4.11 SITE WORK, EXCAVATION, FILL, and GRADING

Seller shall be responsible for the proper handling, storage (spoils pile(s)), and disposal, as applicable, of excavated soil materials in compliance with the procedures outlined in the Agreement for the handling and disposal of waste and/or contaminated Hazardous Substances.

All excavations shall be protected from the elements. Once foundations are stripped, Seller shall use all reasonable means to backfill the excavations adjacent to foundations. Any washouts or other deviations shall be immediately Remedied.

4.12 COMMUNITY RELATIONS

Seller shall make best efforts to manage for all community relations for and with respect to the Project through Substantial Completion. Seller shall use best efforts to undertake such works and

other activities as necessary or advisable to engender and maintain, and shall use best efforts perform the Work and its other obligations under the Agreement in a manner that is intended to engender and maintain, a positive perception of the Project within, and a harmonious relationship with, the surrounding community, such that Buyer could reasonably be expected to inherit that perception and relationship at the Closing and thereafter preserves the same through Substantial Completion and, to the extent based on Seller's or the Seller Service Providers' acts or omissions, thereafter.

4.13 FACILITIES FOR BUYER

Seller shall, starting at the start of physical construction on the Project Site and continuing until Substantial Completion, provide 2 x 6 trailers for the exclusive use of Buyer, sufficient to accommodate a minimum of thirty (30) Buyer Representatives. Seller shall be responsible for obtaining and providing all hookup and utilities (including electric power) for the trailer. Such trailer shall be located adjacent to Seller's trailers.

4.14 LESSONS LEARNED

Buyer shall supply a lessons learned knowledge database to the Seller.

The Seller shall evaluate and incorporate lessons learned into the planning, work processes and work activities of this project.

5 ACRONYMS

- AAAC – All aluminum alloy conductors
- AAC – All aluminum conductors
- AC – Alternating Current
- ACSR – Aluminum conductor, steel reinforced
- AGC – Automatic Generation Control
- Air Emissions Standards – Legal requirements governing air pollutants released into the atmosphere that set quantitative limits on the permissible amount of specific air pollutants that may be released from specific sources over specific timeframes. The Air Emissions Standards for the Project will be set forth in the federal/state air Permit(s) issued for the Project.
- Air Emissions Tests – The testing required to demonstrate that the Project's emissions are within the Air Emissions Standards as specified in the Project Permits and completed in accordance with the federal/state air Permit(s) specific conditions and in accordance with the specified methodology.
- Air Emissions Testing Procedures – The Air Emissions Test procedures to be developed by the Seller as set forth in Attachment A-3 ("Project Performance Tests").
- AML – Approved Manufacturers List in Attachment A-16

- Applicable Standards – As described in Section 3.3 above ("Certain Applicable Standards").
- AWG – American wire gauge
- Baseline Schedule – The Level III CPM Project Schedule to be prepared by the Seller.
- BEP – Boiler external piping
- BIL – Basic lightning impulse insulation level
- BNS – Batch Neutralization System
- BOP – Balance of Plant
- BTU – British Thermal Unit
- C_2H_2 – Acetylene
- C_2H_4 – Ethylene
- C_2H_6 – Ethane
- CAD – Computer-aided design
- CCVT – Coupling capacitor voltage transformer
- CCW – Closed cooling water
- CEMS – Continuous Emissions Monitoring System
- CH_4 – Methane
- CHDPE – Corrugated-high density polyethylene
- CO – Carbon monoxide
- CO_2 – Carbon dioxide
- Commissioning – All activities that occur on Project systems after the completion of construction, such as equipment checkout, testing, flushes, preliminary and initial operation, and Project functional testing prior to the Closing Date.
- CPE – Chlorinated polyethylene
- CPI or Critical Path Items – All activities with zero (0) or negative float in relation to the scheduled date for Substantial Completion.
- CPM – Critical Path Method
- CSA – Civil, Structural, Architectural
- CS – Carbon Steel
- CT(s) – Combustion turbine(s)
- CTG(s) – Combustion turbine generator(s)
- DAHS – Data acquisition and handling system
- DCS – Distributed Control System
- Demonstration Tests – As defined in the Technical Specifications A-17 through A-22

- DGA – Dissolved gas-in-oil analysis
- DL – Dead Loads
- DLN – Dry low NOx
- DPDT – Double pole, double throw
- DSP – Director-Strategic Procurement
- E&C – Engineering and construction
- Earned Value ("EV") and Earned Value Management ("EVM") – As defined in Attachment A-2 ("Project Execution Plan Requirements"),
- EMI – Electromagnetic Interference
- EMT - Electrical Metallic Tubing
- Entergy Standards – Entergy's design and/or operation requirements to be issued to the successful Seller
- EPC – Engineering, procurement and construction.
- EPC Contract –The Sellers Contract or Contracts with one or more Contractors for the performance of primary engineering, procurement and construction Work.
- EPC Contractor – The Contractor with responsibility for the primary engineering, procurement and construction Work.
- EPR – Ethylene propylene rubber
- ESALs – Equivalent single axle loads
- ETFE – Ethylene Tetrafluoroethylene
- ETMS – Electronic temperature monitoring system
- FACP – Fire alarm control panel
- FAT – Factory Acceptance Test
- FCN – Field Change Notice
- FM – Factory Mutual
- FNTP – Final notice to proceed
- FREP – Fire Risk Evaluation Plan
- FVNR – Full Voltage Non-Reversing
- Gas Turbine Generator and Accessories – As referenced in Attachment A-17 ("Gas Turbine Technical Specification").
- GCB – Generator Circuit Breaker
- GFCI – Ground fault current interrupter
- gpm – Gallons per minute
- GPR – Ground potential rise
- GSU – Generator step-up

- GT – Gas Turbine
- Guarantee Test Conditions – The conditions to which the as-tested Net Electrical Output and Net Heat Rate values will be determined during the Net Electrical Output and Net Heat Rate Test and shall be corrected as described in Attachment A-3 (“Project Performance Tests”).
- H2 – Hydrogen gas
- HCS – Hydrogen cooling system
- HDPE – High-density Polyethylene
- HHV – Higher Heating Value
- HMI – Human Machine Interface
- HP – High pressure or horse power, as applicable
- HRSG - Heat recovery steam generator
- HV - High voltage
- HVAC – Heating, ventilating, and air conditioning
- I&C – Instrumentation and controls
- I/O – Input/output
- IFA – Issued for Approval
- IFB – Issued for Bid
- IFC – Issued for Construction
- IFD– Issued for Design
- IFF – Issue for Fabrication
- IFI – Issued for Information
- IFP – Issued for Purchase
- IFRC – Issued for Review and Comment
- IGV – Inlet Guide Vane
- IMS – Integrated Master Schedule
- IP – Internet protocol or intermediate pressure, as applicable
- IPB – Isolated Phase Bus
- IT – Informational technology
- kcmil – One Thousand Circular Mil
- KIPs – 1000 pounds
- ksi – Kips per square inch
- kV – Kilovolt
- KVM – Keyboard video mouse

- kWh – Kilowatt Hour
- LCI – Load commutated inverter
- Level – Degree of detail of a particular Project Schedule, for example, a Level III Project Schedule
- LFACP – Local fire alarm control panels
- LHV - Lower Heating Value
- LOTO – Lock Out / Tag Out
- LP – Low Pressure
- LPDES – Louisiana Pollution Discharge Elimination System
- LV – Low voltage
- LVW – Low volume waste
- Maximum Limit – As defined in Attachment A-3 (“Project Performance Tests”) (“Reliability Test and Reliability Guarantee”).
- MCC – Motor Control Center
- MCCB – Molded-case circuit breakers
- Measurement Period – The period for the Reliability Test. Reference Attachment A-3 (“Project Performance Tests”).
- MECL - Minimum emission compliant load
- Metering – As described in Attachment A-9 (“High Voltage Interconnect Facility”).
- MFACP – Main fire alarm control panel
- MGD – Million Gallon per Day
- Minimum Limit – As defined in Attachment A-3 (“Project Performance Tests”) (“Reliability Test and Reliability Guarantee”).
- MOV - Motor Operated Valve
- MSDS – Material Safety Data Sheets
- MTBF – Mean time between failure
- MTTR – Mean time to repair
- MV – Medium voltage
- NBEP – Boiler external piping
- NDT/NDE – Nondestructive testing / nondestructive examination
- NECF – Net Electrical Capacity Factor
- Net Electrical Output – The net Project electrical output (kW) as measured in accordance with Attachment A-3 (“Project Performance Tests”). Refer to Attachment A-3 (“Project Performance Tests”), (“Performance Test Methods”) and (“Performance Guarantees”).

- Net Electrical Output and Net Heat Rate Test – The test during which the Net Electrical Output and Net Heat Rate values will be determined as described in Attachment A-3 (“Project Performance Tests”).
- Net Heat Rate – The net Project heat rate HHV(BTU/kWH) as measured in accordance with Attachment A-3 (“Project Performance Tests”). Refer to Attachment A-3 (“Project Performance Tests”), (“Performance Test Methods”) and (“Performance Guarantees”).
- NO – Nitric oxide
- NO_2 – Nitrogen dioxide
- NOx – Nitrogen Oxides
- NPS – Nominal pipe size
- O_2 – Oxygen
- O&G – Oil and grease
- O&M – Operation and maintenance
- OBS – Organizational Breakdown Structure
- OCR - Optical character recognition
- ODAF – Oil Directed Air Forced
- OEM – Original Equipment Manufacturer
- OFAF – Oil Forced Air Forced
- OFWF – Oil Forced Water Forced
- OL – Over load
- ONAF – Oil Natural Air Forced
- ONAN – Oil Natural Air Natural
- Operating Procedures – Project Site-specific operating procedures described in Section 3.6 above
- OPGW – Optical ground wire
- OWS – Oil/water separator
- P&ID – Piping and Instrumentation Diagram
- PA – Preventive autotransformer
- PCBs – Polychlorinated biphenyls
- PCV – Pressure control valve
- PDC – Power Distribution Center
- PDF – portable document format
- PEECC – Packaged electrical and electronic control compartment
- Performance Guarantee(s) – The Guaranteed Net Electrical Output and Guaranteed Net Heat Rate

- Performance Test Methods – As described in Attachment A-3 (“Project Performance Tests”) (“Performance Test Methods”).
- Performance Testing Contractor – As defined in Attachment A-3 (“Project Performance Tests”) (“Performance Test Methods”).
- PFA – Perfluoroalkoxy
- Plant – Project
- PLC – Programmable Logic Controller
- PM10 – Particulate matter 10 microns diameter and less
- PM2.5 – Particulate matter 2.5 microns diameter and less
- PMB – Performance Measurement Baseline. Reference Attachment A-2 (“Project Execution Plan Requirements”) (“Performance Measurement Baseline”).
- PMI – Positive identification of material
- POI – Point of interconnection
- PPE – Personal Protective Equipment
- ppm – Parts per million
- ppmvd – Parts per million, volumetric dry
- Procurement Plan – As defined in Section 4.2 above.
- Project Demonstration Tests – The tests described in Attachment A-3 (“Project Performance Testing”).
- Project Execution Plan (“PEP”) – The document developed by The Seller in accordance with the requirements of Attachment A-2 (“Project Execution Plan Requirements”). The purpose of PEP is to establish and define the mutually agreed processes, procedures and plans to be utilized during the execution of the Project. The PEP will be the guideline to be followed through the design, procurement, construction, and Commissioning of the Project but will not modify or change any requirements in the Agreement. The PEP will be based on The Seller’s standards that will remain consistent with the warranty and other requirements of the Agreement and Project-specific requirements.
- PRV – Pressure relief valve
- Project Performance Test(s)(ing) – Test(s) used to verify the Project’s capability to meet guarantees for electrical output and heat rate while remaining in compliance with guarantees for emissions and including the tests set forth in Attachment A-3 (“Project Performance Tests”).
- PSD – Prevention of Significant Deterioration
- PSF – Pounds per square feet
- psia – Pounds per square inch absolute
- psig – Pounds per square inch gauge

- PSS - Power system stabilizer
- PVC – Polyvinyl Chloride
- QA/QC – Quality Assurance/Quality Control
- QMS – Quality Management System
- RCP – Reinforced concrete piping
- Reliability Factor ("RF") – The reliability factor calculated in accordance with Attachment A-3 ("Project Performance Testing") ("Reliability Test and Reliability Guarantee") and used to determine the success of the Reliability Test.
- RFI – Request for information
- RFP – Request for proposal
- RGS – Rigid galvanized steel conduit
- RTD – Resistance temperature detector
- RTU - Remote Terminal Unit
- SCF – Standard cubic feet
- SCFM – Standard cubic feet per minute
- SCR – Selective catalytic reduction
- SCS – Supply chain services
- Seller – Solely with respect to Attachment A-18 ("GSU Transformer Specification"), as defined in Attachment A-18 ("GSU Transformer Specification") and ("General Scope of Work").
- SFC – Static Frequency Converter
- SFRA – Special flight rules area
- SL - Seismic Loads
- SNL - Snow Loads
- SO2 – Sulfur dioxide
- SOE – Sequence of events
- SPCC – Spill Prevention, Control, and Countermeasure
- SPL(s) – Sound pressure level(s), as defined in Attachment A-3 ("Project Performance Tests") ("Performance Guarantees").
- SRV – Safety relief valve
- SS – Stainless steel
- Start of Commissioning – date of first turnover by The Seller's construction group to The Seller's commissioning group for Commissioning.
- STG - Steam turbine generator
- SP – Surface Preparation

- SWC – Surge Withstand Capability
- SWPPP – Storm water pollution prevention plan
- System Descriptions – Project Site specific system descriptions as set forth in Section 4.2 below.
- Tagging Procedure – As referenced in Attachment A-4 (“Design Basis”), regarding (“Document, Equipment and Instrument Tagging”) and further described in Attachment A-13 (“Equipment Labeling and Signage Procedure”).
- TCS – Turbine Control System
- TEFC – Totally enclosed, fan cooled
- Test Procedure – As described in Attachment A-3 (“Project Performance Tests”), Section 1 (“Performance Test Methods”).
- TEWAC – Totally enclosed water air cooled
- TL - Thermal Loads
- TOC – Total Organic Carbon
- Type I and Type II – Levels of wastewater
- UAT – Unit Auxiliary Transformer
- UL – Underwriters Laboratories, Inc
- UPS – Uninterruptible power supply
- V - Basic wind speed
- VAR – Value At Risk
- VFD – Variable Frequency Drives
- VOC – Volatile organic compounds
- VT – Voltage transformer
- w.c. – Water column
- Water Effluent Discharge Limits - enforceable parameters that dictate the amount of pollution a facility may discharge on a designated outfall basis as set forth in the National/Louisiana Pollutant Discharge Elimination System (NPDES/LPDES) Permit.
- WL - Wind Loads
- XLPE - Cross-linked polyethylene

Key Personnel Chart

Attachment A-1

Attachment to be inserted by Bidder as part of Proposal

Project Execution Plan Requirements

Attachment A-2

Objective / Introduction

The purpose of this document is to provide an overview of the selected execution method to develop, engineer, and construct the combined cycle facility to generate power in compliance with all federal, state, and local requirements. Following execution of the Agreement, the Seller shall execute the Project in accordance with the requirements of this Attachment A-2.

No modifications to the PEP are permitted without first providing the Owner a reasonable opportunity to review and comment on any proposed modifications, and the Seller shall give due consideration to any Owner's comments received and shall not base its subsequent decision to modify or not modify the PEP solely on cost or convenience to the Seller. The Owner will be reasonable and timely in any modification requests.

This Attachment A-2 is intended to complement and not conflict with any of the various other parts of the Agreement or its Exhibits, Schedules or Attachments; however, to the extent any conflict cannot be reasonably reconciled between the provisions of this Attachment A-2 and those of the Agreement or its Exhibits, Schedules or Attachments besides this Attachment A-2, those provisions and not the conflicting provision(s) of this Attachment A-2 shall control and prevail.

The provisions of this "Objective / Introduction" section shall be construed as having equal force as the provisions in the rest of this document and are not mere recitals.

At a minimum, the following shall be addressed:

1.0	Health, Safety, and Environmental Plan
2.0	Quality Assurance/Quality Control Plan 2.1 Quality Policy 2.2 Quality Program 2.2.1 Process Control 2.2.2 Document and Design Control 2.2.3 Inspection and Testing 2.2.4 Benchmarking 2.2.5 Auditing 2.2.6 Managing Non-conformance 2.2.7 Training
3.0	Project Site Security Plan
4.0	Project Organization Plan 4.1 Overall Project Organization 4.2 Home Office Organization 4.3 Site Organization

5.0	Engineering Plan 5.1 General 5.2 Permits, Laws and Regulations 5.3 Professional Engineers/Architects Seal Requirements 5.4 Definition of Deliverables 5.5 Numbering Systems for Design Documents and Drawings 5.6 Plant Equipment Numbering 5.7 Drawing Title Blocks 5.8 CAE/CAD Approach 5.9 Constructability Approach 5.10 Value Engineering/Cost Reduction Program 5.11 Process Safety Management/Hazard Review 5.12 Unique Design/Execution Considerations 5.13 Requirements for Record Drawings/ Specifications Requirements 5.14 Definition of Spare Parts Requirements 5.15 Drawing Approval Requirements 5.16 Excluded Items
6.0	Contracting Plan
7.0	Procurement Plan 7.1 Procurement Basis 7.2 Procurement Systems 7.3 List of Items Supplied by Client/Others 7.4 Client Purchase Documents and Terms and Conditions 7.5 Receiving/Warehouse Requirements 7.6 Sales Tax Requirements 7.7 Insurance Requirements 7.8 Tax Exempt Status 7.9 Applicable General Conditions 7.10 Invoicing Services and Payment of Invoicing Responsibility 7.11 Expediting Services, Including Supplier Document Review Requirements 7.12 Inspection Services 7.13 Approved Project Supplier List

8.0	Construction Plan 8.1 Site Organization 8.2 Mobilization Plan 8.3 Temporary Facilities Requirements 8.4 Evaluations of Special Requirements 8.5 Evaluations of Special Equipment Requirements 8.6 Operations Restriction During Construction 8.7 Pre-Outage Construction Work Permit Requirements 8.8 Summary Analysis of Tie-ins to Existing Facilities 8.9 Support to be Provided by Others 8.10 Definition of Project Completion and Measurement Criteria 8.11 Rigging/Equipment Plans 8.12 Security 8.13 Environmental, Safety and Health 8.14 On Site Material Receiving/Storage
9.0	Document Control Plan
10.0	Project Risk Register
11.0	Schedule Management Plan
12.0	Preliminary Baseline Level I and Level II Project Schedules and WBS
13.0	Performance Measurement Baseline

Project Performance Tests

Attachment A-3

Attachment to be inserted by Bidder as part of Proposal

Design Basis

Attachment A-4

Design Objectives

It is expected that the plant, as designed and constructed, will:

- Meet the expected project requirements of the Owner.
- Meet all of the performance objectives.
- Have minimum life cycle cost.
- Meet or exceed project safety, schedule and budget goals.
- Be able to be commissioned quickly and easily.
- Meet all of the environmental and noise limits.
- Facilitate easy operation and maintenance by the plant operating staff.
- Provide a reliable interconnection to the high voltage grid.
- Be constructed with minimum adverse impact on the local community.
- Employ ergonomic considerations in the design.
- Provide for a thirty (30) year life.

Operability and Maintainability

Where practical, the design configuration of mechanical components should be selected based on simplifying operability and minimizing maintenance requirements, without significantly sacrificing performance or reliability.

The plant will be designed for base load and cycling operation on a combined cycle basis using control room operators. The plant will be designed to be started with use of up to 3 operators.

The plant is planned as an outdoor facility. With the exception of the steam turbine, buildings/enclosures should be provided for various power plant mechanical and electrical equipment only as required for weather protection or noise abatement. Any buildings and enclosures shall be environmentally controlled as suitable for project use.

The steam turbine shall be equipped with an extended outdoor enclosure to facilitate personnel access during maintenance activities. The enclosure shall be designed to remain in place (except for removable roof panels for mobile crane access) during turbine overhaul activities and sized to allow unrestricted personnel access to the equipment. Laydown and storage space for turbine maintenance and overhaul activities shall be provided adjacent to, but outside, the enclosure.

Provisions to facilitate operation shall be provided for routinely accessed/operated valves (including vent and drain valves), switches, instrumentation, and control points through one of the following methods:

- Permanent walkway or access platform with OSHA compliant stairways (preferred for high traffic and high maintenance areas), ladders, landings, grating, toeplates, handrails and swing gates.

- Remote operated (air/motor/solenoid operator).
- Chain or reach rod operator.
- Temporary ladder, only if the item needs to be operated less than three times per year, and the ladder needed is shorter than 8 feet. Temporary ladders will not be used where access is required for emergency operation.

The above requirements will not apply to hydrotest valves or to root valves or branch isolation valves, unless such valves, such as vent and drain valves, are routinely operated during plant startups, shutdowns, or normal operations.

A permanent walkway will be provided on the main pipe rack such that operation personnel can access any of the HRSGs from the Turbine Building without going to grade level.

The Project shall be arranged to facilitate the performance of maintenance activities with the appropriate use of mobile cranes, forklifts, and permanent monorails and hoists (as applicable) and shall allow for maintenance and easy access to all areas of the plant, including consideration of equipment maintenance pull space clearances. Cost-effective measures to enhance ergonomic maintenance shall be incorporated in the design. In areas where maintenance is infrequent, permanent platforms need not be provided. Temporary scaffolding may be used in such areas should maintenance be required.

Rigging beams/monorails/hoists shall be provided (tested, certified and properly marked) as appropriate. At a minimum, maintenance needs of the following equipment shall be considered:

- CT and ST generator bearing and end shield removal.
- CT and ST generator rotor.
- CT and ST turbine maintenance, including rotor removal.
- BFP motor or pump removal
- Condensate pump or motor removal
- Other large pump or motor removal
- Gas compressors (if applicable)
- Air compressors
- Large valves
- Mixed bed removal
- large chemical tote removal

An administrative building shall be an independent permanent structure and shall be provided with a plant control room, 14 offices, a cubicle area that supports 6 cubicles, a kitchen, one conference room per floor (at minimum a large conference room accommodating minimum 20 people, a second smaller room if two-stories, and restroom facilities on each floor. The building shall be equipped with heating,

ventilating and air conditioned (HVAC). The plant control room and any electronic rooms will be provided with separate HVAC system.

At least 10,000 square feet of heated/ventilated warehouse/shop (Mechanical/ICE) space shall be provided, with 20ft. height for mezzanine level parts storage.

Civil / Structural / Architectural Design Criteria

Attachment A-5

ATTACHMENT A-5

1 CIVIL/STRUCTURAL/ARCHITECTURAL DESIGN CRITERIA

This Attachment A-5 ("Civil/Structural/Architectural Design Criteria") describes the civil, structural and architectural design basis for the Project's buildings (if any), structures and general civil work. All civil/structural work shall be designed in accordance with applicable standards, local, state and federal laws and applicable Permits. All required Permits and inspections shall be obtained as part of the work for this project.

1.0 Project Description

1.1 Project Layout and Access
- 1.1.1 Vertical Clearance
- 1.1.2 Pull Space / Maintenance
- 1.1.3 Fire Access
- 1.1.4 Emergency Egress

1.2 Site Preparation
1.3 Geotechnical Investigation
1.4 Topographic Surveying
1.5 Existing Underground Locates
1.6 Earthwork
1.7 Grading and Drainage
1.8 Foundations
1.9 Erosion Control
1.10 Stormwater Management
1.11 Project Site Surfacing
1.12 Fencing

2 ROADS

2.0 Road Classification
2.1 Parking
2.2 Project Area Paving

3 ENVIRONMENTAL

3.0 Spill Containment
3.1 Wetlands Protection
3.2 Landscaping

4 STRUCTURAL DESIGN REQUIREMENTS

4.0 Applicable Standards
4.1 Loads and Load Combinations

Mechanical Design Criteria

Attachment A-6

MECHANICAL DESIGN

1.1. General

1.1.1. Codes and Standards

All mechanical components shall comply with the applicable requirements of the codes and standards delineated in the Scope Book section 3.3.

1.1.2. Materials of Construction

Unless specifically noted otherwise, materials of construction shall be selected by the Seller based on good engineering practice, compatibility with the process fluids and environmental conditions to which the component is exposed, and to support the overall project life and reliability/maintainability expectations.

1.1.3. Equipment Redundancy

Unless specifically noted otherwise, systems shall be designed with N+1 equipment redundancy, such that a single component failure does not require shutdown or curtailment of the facility. Exceptions to this requirement include the following:

- CTGs, HRSGs, STG – only internal auxiliary equipment redundancy associated with these components is required. Beyond that, a single CTG, HRSG, or STG failure is expected to result in facility curtailment, but not a facility shutdown. Balance of plant system shall be designed to accommodate continued operation with a single CTG, HRSG, or STG out of service.
- Heat Rejection System main components (surface condenser, cooling tower, air-cooled condenser) - only internal auxiliary equipment redundancy associated with these components is required. Overall failure of the condenser, cooling tower, or air-cooled condenser structure is expected to result in facility shutdown. Cooling towers and air-cooled condensers should otherwise be designed with sufficient modularity to allow continued operation if individual cells become inoperable; but installed spare cells are not required. Preference will be given for cooling tower and air-cooled condenser designs that include a +10% design margin, unless buyer gives an allowance to deviate based on buyer's design review.
- Tanks and vessels are not required to be redundant unless specifically noted otherwise. However, bypass provisions shall be provided to allow continued operation if a non-redundant tank or vessel is out of service.
- Overall Piping system main headers are generally not required to be redundant. However, piping systems serving redundant equipment should be designed with sufficient isolation capability to allow continued operation on alternate branches.

1.2. Major Equipment and Systems

The facility shall be equipped with all required mechanical equipment and systems necessary to meet the overall project performance and operability criteria, including, but not necessarily limited to the following:

1.2.1. Combustion Turbine Generators (CTGs)

The CTGs shall be equipped with the following minimum systems and components:

a) Outdoor Enclosure, with associated self-contained lighting, heating, ventilation, and fire protection systems.
b) Inlet filtration system with, as applicable, evaporative cooling.
c) Natural gas fuel and combustion system, including fuel gas heating as applicable.
d) Turbine and generator cooling systems.
e) Turbine and generator lubrication and control oil systems.
f) Generator seal oil system, as applicable.
g) Self-contained package electrical and control equipment.
h) CTG starting system.
i) Compressor Blade Washing System (on- and off-line).

1.2.2. Heat Recovery Steam Generators (HRSGs)

The HRSGs shall be located outdoors and equipped with the following minimum systems and components:

a) Internally insulated and lined exhaust gas ductwork, including expansion joints and flow distribution equipment as applicable.
b) Tubular heat transfer sections
c) Steam drums and integral deaerator as applicable
d) Air emissions control equipment, as applicable
- Use of anhydrous ammonia for SCR systems will not be acceptable.
- Emissions control catalyst life shall be guaranteed to be no less than 3 years

e) Steam stop valves (motor-operated) and non-return valves
f) Drum water level instrumentation and blowdown valves, as applicable.
g) Safety valves and silencers
h) All required boiler and boiler external piping, pipe hangers and supports, miscellaneous valving, and instrumentation necessary for a fully operable HRSG
i) Access platforms, ladders and stairways, including a permanent walkway between HRSG's at the drum level.
j) Exhaust stack, equipped with access ladder, EPA test and CEMS ports, and 360° test port access platform, along with exhaust silencer and stack damper as applicable.

1.2.3. Steam Turbine Generator (STG)

The STG shall be provided with a manufacturer-provided acoustical weather enclosure to include provisions for ease of maintenance (e.g. removable panels / roofing, sliding / rollup doors) and sufficient footprint to support maintenance activities with engineered lighting and ventilation, and equipped with the following minimum systems and components:

a) Main steam stop and control valves and reheat stop and intercept valves

b) Speed/load control system
c) Steam seal system
d) Exhaust hood spray system
e) Turbine and generator lubrication and control oil systems
f) Generator cooling systems
g) Generator seal oil system, as applicable
h) Generator protective relay and metering panel
i) Insulation and lagging suitable for outdoor installation
j) Any emergency steam venting shall be directed outside of the enclosure

1.2.4. Heat Rejection System

A wet cooling tower based heat rejection system is preferred. However, if deemed advantageous due to water availability and permitting reasons, a dry heat rejection will be considered.

The heat rejection system shall include the following minimum equipment, as applicable for the proposed plant design.

a) Steam surface condenser and hotwell (wet system)
b) Mechanical draft cooling tower (wet system)
c) Circulating water pumps (wet system)
d) Auxiliary circulating water pumps (wet system)
e) Air cooled condenser (ACC) system with condensate storage tank and ACC cleaning package (dry system)
f) Air removal equipment (vacuum pumps)

1.2.5. Main steam systems – multiple pressure as applicable for the proposed plant design

1.2.6. Auxiliary steam system, including a natural-gas fired auxiliary boiler if necessary to meet the proposed plant startup times.

1.2.7. Turbine bypass system, for continued operation without the STG in service

1.2.8. Feedwater system, including HRSG feedwater pumps and pump vibration monitoring system

1.2.9. Condensate system, including condensate pumps and condensate polishing system, as necessary.

1.2.10. Fuel Gas System

The fuel gas system shall include the following minimum equipment, as applicable for the proposed plant design and incoming natural gas conditions:

a) Flow metering and pressure control station(s)

b) Fuel gas scrubbers and filter/separators
c) Fuel gas compression system, utilizing centrifugal or screw type compressors (reciprocating compressors are not acceptable).
d) Heating system (dewpoint, performance)

1.2.11. Closed cooling water system
Use of glycol/water mixtures is not acceptable.

1.2.12. Makeup water supply, storage, and transfer systems as necessary to supply all plant water requirements. Water transfer systems shall be sized to provide a minimum continuous transfer rate equal to the worst case overall plant consumption rate at full capacity.

1.2.13. Permanently installed water treatment systems as applicable for cycle makeup, cooling water makeup, service water, and potable water supply. Temporary lease/rental systems (i.e. trailer systems) are not acceptable. Water treatment systems shall be sized to provide a minimum continuous makeup rate equal to the worst case overall plant consumption rate at full capacity.

1.2.14. Site firewater loop and other fire protection systems as deemed necessary by the applicable codes and the local Authority Having Jurisdiction (AHJ).

1.2.15. Wastewater collection, treatment, storage, and transfer systems, as applicable.

1.2.16. Chemical feed and sampling systems

1.2.17. Compressed air system, including compressors, air dryers, and receiver, to provide instrument and service air

1.2.18. Compressed gas systems (N_2, CO_2, H_2, etc.)

1.2.19. Building heating, ventilation, and air-conditioning (HVAC) systems and plumbing

1.2.20. Cranes and hoists as required to facilitate maintenance

1.3. Mechanical Component General Design Criteria

1.3.1. Pumps
Pumps shall be designed and manufactured in accordance with Hydraulic Institute (HI) standards. Except for open sump pumps handling non-hazardous fluids, all pumps shall be equipped with mechanical seals. Good engineering practice shall be used in establishing pump capacity and head requirements, such that reasonable uncertainties in design parameters and variations in operating conditions can be accommodated without requiring

a complete pump re-design.

Pump lubrication methods and frequency shall be reviewed and no pumps requiring manual lubrication greater than once every 14 days. Where more frequent lubrication is required, pumps shall be equipped with automatic lubrication systems.

1.3.2. Tanks

Atmospheric pressure storage tanks shall be designed per AWWA, API, or ASME requirements, as applicable. Unless otherwise specified below, tank capacity shall be established based on a minimum of 5 days storage volume. The following criteria for developing tank storage capacity shall be used:

- Demin water storage shall be a minimum of twice the total demin water consumption requirement for a facility cold start from shutdown to 100% baseload operation.
- Raw/service water storage shall be no less than the 150% of the demin water storage capacity or the total plant raw/service water consumption for four (4) hours of operation at full plant capacity under worst case ambient conditions, whichever is greater.
- Chemical storage shall provide a minimum on-site inventory of 14 days at full plant capacity.

1.3.3. Pressure Vessels

Pressure vessels shall be designed, fabricated, and tested in accordance with ASME Boiler and Pressure Vessel Code (Vessel Code) and stamped with the appropriate code stamp.

1.3.4. Heat Exchangers

Heat exchangers shall be designed, fabricated, inspected and tested in accordance with the requirements of the Vessel Code and Heat Exchange Institute (HEI). The vessels shall be provided with the ASME code stamp and shall be registered with the NBBI as applicable.

1.5. Piping Systems

1.5.1. Piping Codes and Standards

With the exception of firewater piping and building plumbing, all piping system design and material selection shall be in accordance with ASME Section I and/or ASME B31.1, Power Piping. Firewater piping shall be in accordance with NFPA requirements. Building plumbing (potable water and drains) shall be in accordance with the applicable plumbing codes.

1.5.2. Piping Design Criteria

The design, installation, and testing of all piping and piping support systems shall follow good engineering practice and take into account the following considerations:

1) System design pressure and temperature requirements

2) Reasonable velocity and pressure drop criteria under all anticipated operating conditions.
3) Materials, corrosion allowances, coatings, insulating fittings (for dissimilar metal connections), cathodic protection systems, etc. selected and applied as necessary to be compatible with the fluid and environment, commensurate with the overall project life and reliability criteria.
4) Containment requirements for hazardous fluids
5) Thermal and physical movements and equipment nozzle load limitations. Piping stress analysis shall be performed to ensure movements and load limits are within acceptable level.
6) Accessibility/clearance for operation and maintenance
7) System drainage requirements (normal operation, as well as maintenance requirements).
8) System initial fill requirements. Adequate venting and drainage valves shall be provided to facilitate filling and drainage.
9) Insulation and freeze protection
10) Field pressure testing requirements
11) Process sampling/testing/purging requirements
12) Requirements for future or spare connections

1.5.3. Valve Selection Criteria

The selection and application of valves shall follow good engineering practice, shall account for and be consistent with the above piping system design considerations, and shall take into account the following additional considerations:

1) Manual or automatic operability requirements
2) Process control and safety requirements
3) Ease of operation (e.g. gear operators, stem extensions, operator orientation, etc.)
4) Valve lockability requirements

Electrical Design Criteria

Attachment A-7

ATTACHMENT A-7

Electrical Design Criteria

This Attachment A-7 ("Electrical Design Criteria") describes the electrical design basis for the electrical work. All electrical work shall be designed in accordance with applicable standards, local, state and federal laws and applicable Permits. All required Permits and inspections shall be obtained as part of the work for this project.

1.1 General Description

1.2 Generation System

- 1.2.1 Generator Main Leads
- 1.2.2 Generator Circuit Breaker
- 1.2.3 Main Step-Up (GSU) Transformer
  - 1.2.3.1 The auxiliary load shall be backfed through the GSU transformers for plant start-up. No offsite souce of power is required.
  - 1.2.3.2 Plant design shall accommodate 2 starts per day as recommended by Power Gen.

1.3 Auxiliary System

- 1.3.1 Medium Voltage Power System
  - 1.3.1.1 Medium voltage switchgear shall operate at 6.9kV and be metal-clad type and built according to ANSI/IEEE C37 standards. Breakers shall be vacuum interruptor type. Switchgear shall be designed to maintain the arcflash energy below 25cal/cm sq. Optical or fiber optic arc flash and/or differential protection will be considered if required to achieve 25 cal/cm sq.
  - 1.3.1.2 Remote racking devices shall be provided.
- 1.3.2 Low Voltage Power System
  - 1.3.2.1 Station Service Transformers
  - 1.3.2.2 Low Voltage Switchgear
    - Low voltage switchgear shall be arc resistant with a Type 2B minimum rating
    - Remote racking devices shall be provided.
  - 1.3.2.3 Motor Control Centers
    - Motor Control Centers shall be arc resistant with a Type 2B minimum rating
  - 1.3.2.4 Power Panels

1.4 Power Distribution Center (PDC)

- 1.4.1 All major electrical distribution equipment shall be located in a prefabricated Power Distribution Center(PDC). The PDC's shall have a dedicated climate control, battery room, rodent mitigation methods for conduit penetrations, redundant HVAC system,

fire detection. Interconnecting wiring between internal components (coiled at shipping splits) shall be provided.

1.4.2 Buildings shall include in addition to the Switchgear and MCC's, the Distributed Control System (DCS) cabinets, relay cabinets, AC/DC panels and UPS system.

1.4.3 Platform/stairways and maintenance doors for access shall be provided.

1.5 Motor Design Criteria

1.6 Protective Relay and Metering

1.7 DC and Vital AC systems

1.7.1 125V DC System

1.7.1.1 Battery backup should be sized to safely shut down the plant to include 8 hours or more of battery operation.

1.7.2 Vital AC System

1.7.2.1 Diesel generator shall be sized to support local plant loads only. Black start capabilty is not required.

1.8 Plant Communication

1.9 Lighting and Convenience Receptacles

1.10 Cables and Raceway Systems

1.10.1 Cables

1.10.2 Raceways

1.10.3 Cable Trays-

1.10.3.1 Voltage separation shall be provided

1.10.3.2 Cable trays shall be provided with covers

1.10.4 Conduit

1.10.5 Ductbanks

1.10.6 Manhole and Handholes

1.11 Grounding System

1.12 Lightning Protection System

1.13 Cathodic Protection

1.14 Freeze Protection

Controls Design Criteria

Attachment A-8

Attachment A-8

CONTROLS DESIGN CRITERIA

This Attachment A-8 ("Controls Design Criteria") describes the instrumentation and control system work. All instrumentation and control system work shall be designed in accordance with applicable standards, local, state and federal laws and applicable Permits. All required Permits and inspections shall be obtained as part of the work for this project.

1.1. General
1.2. Supervisory Control and Data Acquisition (SCADA)/Automatic Generation Control (AGC)
1.3. Distributed Control System (DCS)
1.3.1. Spares

Seller's DCS shall have a minimum of twenty percent spare I/O points (by I/O type) upon turnover of the system to Buyer

1.3.2. Redundancy

Seller's DCS shall meet the following redundancy requirements:

- As a minimum, the DCS power supplies shall have N+1 redundancy.
- Control processors, network communication cards and I/O bus communication cards shall apply 100% redundancy.

1.3.3. Graphics
1.3.4. Digital I/O
1.3.5. Analog I/O
1.3.6. Foreign Device Interface (FDI)
1.3.7. Factory Acceptance Test
1.4. Analytical Equipment
1.4.1. Continuous Emissions Monitoring System
1.5. Instrumentation Design Criteria/General Requirements
1.5.1. General
1.5.2. General Requirements for Flow Measurement
1.5.3. Flow Nozzles
1.5.4. Orifice Plates
1.5.5. Venturi Tubes and Low Loss Flow Tubes
1.5.6. Averaging Pitot Tubes
1.5.7. Flow Indicators
1.5.8. Magnetic / Vortex / Ultrasonic Flowmeters
1.5.9. Thermocouples and RTDs
1.5.10. Thermowells
1.5.11. Protecting Tubes
1.5.12. Test Wells
1.6. Local Indicators
1.6.1. Local Temperature Indicators (Thermometers)

1.6.2. Local Pressure Indicators (Pressure Gauges)
1.6.3. Local Level Indicators

1.7. Transmitters

1.7.1. General

1.7.2. Redundancy

Process transmitters shall be applied in sufficient redundancy such that no single component failure shall result in plant shutdown or load reduction. Single transmitter inputs can be used for process monitoring and non-critical controls. Dual transmitter inputs allowing Operator selection of high, low, A, B or average input value shall be provided for controls required to maintain plant output. Triple redundant transmitter inputs allowing Operator selection of high, low, A, B, C or median input value shall be provided for controls and interlocks required to prevent a plant shutdown.

A similar approach shall be applied to process switches, if applied, for control interlocks. However, Buyer's preference is for process transmitters to be applied in lieu of process switches, wherever possible.

1.7.3. Pressure and Differential Pressure Transmitters
1.7.4. Temperature Transmitters
1.7.5. Position Transmitter

1.8. Switches

1.8.1. General
1.8.2. Differential Pressure and Material Level Switches
1.8.3. Temperature Switches
1.8.4. Special Switches
1.8.5. Control Valves
1.9.1.1. General
1.9.1.2. Valve Sizing
1.9.1.3. Valve Trim
1.9.1.4. End Connections
1.9.1.5. Valve Actuators
1.9.1.6. Control Valve Accessories
1.9.1.7. Positioners
1.9.1.8. Solenoid Valves
1.9.1.9. Materials & Welding
1.8.6. Instrument Tubing and Installation
1.8.7. Instrument Air System

1.9. Instrumentation and Controls Interface

1.10. Vibration Monitoring System

1.10.1. Vibration monitoring system shall be manufactured by Alta Solutions unless otherwise approved by the Owner

1.11. Calibration

1.12. Pressure Testing

1.13. Instrumentation and Control Documentation

- 1.13.1. Instrument List
- 1.13.2. Instrument Datasheets
- 1.13.3. Instrument Installation Details
- 1.13.4. Instrument Layout Drawings
- 1.13.5. Instrument Installation Specification
- 1.13.6. Instrument Wiring Diagrams
- 1.13.7. I/O List
- 1.13.8. Network Architecture Drawing

High Voltage Interconnect Facility

Attachment A-9

ATTACHMENT A-9

High Voltage Interconnect Facility Criteria

1.1 Remote Switchyard (Tie in Point)
- 1.1.1 General Description
- 1.1.2 Location
- 1.1.3 Required Switchyard Modifications
- 1.1.4 Transmission Line To Plant Switchyard

1.2 Plant Switchyard (Air Insulated)
- 1.2.1 General Description
- 1.2.2 Switchyard Equipment
- 1.2.3 Transmission Line to Interconnect Facility
- 1.2.4 Grounding/Lightning Protection
- 1.2.5 Lighting
- 1.2.6 Switchyard AC/DC Power
- 1.2.7 Protective Relaying
- 1.2.8 Revenue Metering

Construction / Erection and Installation

Attachment A-10

ATTACHMENT A-10

CONSTRUCTION / ERECTION AND INSTALLATION

1.0 Introduction

1.1 General
- 1.1.1 Mobilization
- 1.1.2 Project Controls Program
- 1.1.3 Site Conditions
- 1.1.4 Lifting, Rigging, and Transporting
- 1.1.5 General Cleaning
- 1.1.6 Final Terminations
- 1.1.7 Demobilization

1.2 Security / Safety / Environment

1.3 Quality Assurance / Quality Control

1.4 Civil / Structural / Architecture

1.5 Mechanical

1.6 Piping and Supports

1.7 Electrical

1.8 Instrumentation and Control

Terminal Points

Attachment A-11

Attachment to be inserted by Bidder as part of Proposal

Division of Responsibility

Attachment A-12

Attachment to be inserted by Bidder as part of Proposal

Equipment Labeling and Signage Procedure

Attachment A-13

Attachment to be inserted by Bidder as part of Proposal

Training Procedure

Attachment A-14

Attachment to be inserted by Bidder as part of Proposal

Drawing Specification

Attachment A-15

Attachment to be inserted by Bidder as part of Proposal

Approved Manufacturers List

Attachment A-16

Approved list of manufacturers is current at time of RFP issuance and is subject to change prior to execution of a final Definitive Agreement.

	Approved Manufacturers List										
Equipment											
Combustion Turbine Generators											
Lube Oil Conditioners (BOP only)	Alfa laval	Kaydon									
Air Compressors (Oil-Free)	Atlas Copco	Ingersoll-Rand									
Air Dryer (Desiccant)	Hankinson	Pneumatech	Zeks	Zurn	Atlas-Copco	Ingersoll-Rand					
Oil Water Separator	Highland Tank	PS International									
CEMS	ESC										
Gas Chromatograph	ABB	Daniel									
Composite Sampler	Omega										
Cathodic Protection	CTS	Corrpro	Norton Corrosion Limited	MESA	Farwest Corrosion	ARK Engin.					
Pumps											
Boiler Feed	Flowserve	Sulzer	KSB								
Centrifugal Horizontal	Flowserve	ITT Goulds	Grundfos								
Submersible	Flygt										
Vertical Sump	Flowserve	ITT Goulds	Sulzer/ Johnston								
Heaters and Tanks (BOP only)											
Fuel Gas Heater	Manning & Lewis Engineering Company	Hebeler	Fabsco								
Tank Immersion Heaters	Watlow										
Shop Fabricated Tanks (Steel)	Arrow	Highland Tank									
Field Erected Tanks (AWWA)	Matrix Service	RECO	CB&I	Peabody							
Field Erected Tanks (API)	Matrix Service	RECO	CB&I	Peabody							
Electrical (BOP only)											
Power Distribution Center	Powell	Zachry	PACS								
HV Circuit Breakers	ABB	GE-Hitachi	Mitsubishi	Siemens	Alstom						
HV Disconnect Switch	Pascor	Southern-States	GE	S&C Electric							
Generator Circuit Breakers	ABB	GE/Hitachi	Alstom	Mitsubishi							
Generator Step-Up Transformers	ABB	Waukesha	Siemens	Alstom	Hyundai	Mitsubishi	JST	EFACEC			
Station Service Transformers	ABB	Waukesha	Virginia Transformer	Cooper	Niagra Transformers	Pennsylvania Transformers	Siemens	Alstom	Hyundai - suggest removing	Mitsubishi	
Auxiliary Transformers	ABB	Waukesha	Virginia Transformer	Cooper	Niagra Transformers	Pennsylvania Transformers	Siemens	Alstom	Hyundai	Mitsubishi	EFACEC
Switchgear	ABB	Cutler-Hammer	GE	Powell	PACS						
Isophase Bus Duct	ABB	Delta-Unibus	GE	Calvert	Technibus	Crown Electric					
Cable Trays	MP Husky	PW Industries	T&B	Eaton (Cutler Hammer)	ABB	Schneider Electric					
Motor Control Center - 480V	Allen-Bradley	Cutler-Hammer	GE	Square D Co.	Siemens	Rockwell Automation	Powell				
Motors	GE	Reliance	Siemens	TECO-Westinghouse *See Note 1	U.S. Electrical Motors						
Relays (New line item)	ABB	Beckwith	Schweitzer	GE	Basler						
Instrumentation (BOP only)											
Motor Monitoring	Schweitzer	GE (MulitLin)									
MOV Actuators	Limitorque (See Note 2)										
Transformer On Line Monitoring (New Line Item)	Dynamic Ratings	Doble									
PLC	Rockwell Automation - ControlLogix	Emerson Delta V									
Pressure Transmitter	Rosemount 3051 Smart										
Flow Transmitter	Rosemount 3051 Smart										
Level Transmitter	Rosemount 3051 Smart										
Temperature Transmitter	Rosemount 3051 Smart										
Level Guided Wave Transmitter	Magnetrol	Rosemount									
Liquid Level Gauges	Magtech	Yarway (Division of Pentair)	Clark-Reliance	Penberthy							
Analyzers (Conductivity, pH, ORP, and I	Emerson	Siemens	Yokogawa								
Instrument Enclosures	OBrien	Intertec									
Instrument Tube Fittings	Swagelok	Parker									
Limit Switch	Stonel	Namco									
Pressure Switch	SOR, Inc	ITT Barton	Ashcroft								
Flow Switch	Clark-Reliance Jacoby-Tarbox										
Level Displacement Switch	Magnetrol										
Liquid Ball Float Level	Magnetrol										
Temperature Switch	Ashcroft										
Temperature Guage Indicators	Ashcroft	Wika									
Pressure Guage Indicators	Ashcroft	Wika									
Flow Indicator	Clark-Reliance Jacoby-Tarbox	Dwyer Midwest									
Flow Rotometer	Brooks Instrument										
Flow Meter Tube	Daniel	Fluidic									
Orifice Plate	Rosemount (Daniel)	Fluidic									
Solenoids	Asco	Parker-Hannifin									
Remote Mounted Level Instrument	Clark-Reliance										

Notes:					
1. Horizontal World Series Class Only					
2. B320 gearboxes are not permitted for valves with a design temperature above 700 deg. F					

Gas Turbine Technical Specification

Attachment A-17

Attachment to be inserted by Bidder as part of Proposal

Turbine Driven Generator
Technical Specification

Attachment A-18

Attachment to be inserted by Bidder as part of Proposal

Steam Turbine Technical Specification

Attachment A-19

Attachment to be inserted by Bidder as part of Proposal

HRSG Technical Specification

Attachment A-20

Attachment to be inserted by Bidder as part of Proposal

GSU Transformer Specification

Attachment A-21

Attachment to be inserted by Bidder as part of Proposal

Continuous Emission Monitoring System

Attachment A-22

Attachment to be inserted by Bidder as part of Proposal

Fire Protection System

Attachment A-23

Attachment A-23

Summary

Entergy Risk Engineering endorses the design process as described in NFPA 850 (2020 edition) Chapter 4. The design process should be initiated as early in the process as possible under the direction of a qualified Fire Protection Engineer having extensive experience in power plant operation.

Initial Stakeholders (Risk Engineering, Owner's Engineers' design team, Constructors, Operating Plant representatives, and others with an interest in the property protection risks) determine the goals and objectives and evaluate whether the recommendations of NFPA 850 are adequate to meet those goals.

The site-specific Design Basis Document (DBD) provides a record of the thought processes and decisions made in the application of the recommendations delineated in Chapters 5 through 20 of NFPA 850. The format for the site-specific Design Basis Document is a statement on the general philosophies (protection, separation, evaluated risk) followed by a comparison of the fire protection design features to the specific chapters in NFPA 850 applicable to the plant. Finally, the administrative controls to be put in place during construction activities are evaluated against this standard. The DBD is a living document prepared by the organization responsible for the fire protection design. It may begin with general information and will continue to evolve as the project progresses until it is turned over to the plant at project completion to be maintained by plant staff after plant commissioning.

What follows is documentation of the Property Protection Goals established by Entergy Risk Engineering, specific design concerns to be addressed in the development of the detailed plant design and finally a template that meets the intent of NFPA 850 and should be used in developing the DBD as a required Deliverable.

It is an expectation that all applicable NFPA codes and standards will be followed whether or not specifically called out in this document. It is further expected that all recommendations in NFPA 850 be followed unless specifically addressed in this document.

Applicability

NFPA 850 shall be the standard of comparison to all new facilities and major revisions to existing facilities in the Entergy Power Generation Fleet. Despite language in NFPA 850 that suggests compliance is “advised, but not required”, for the purposes of Entergy Risk Engineering, compliance with the recommendations in NFPA 850 is expected unless documented by an Engineering justification prepared by a qualified individual and acceptable to the Authority Having Jurisdiction. Throughout this document references will be made to “qualified individuals” and the “Authority having Jurisdiction”. A “qualified individual” or “Fire Protection Engineer” shall meet the education and experience requirements of “Member” grade in the Society of Fire Protection Engineers. Membership in the Society is not required however the qualified individual shall have met the education and experience required to be considered. “Authority Having Jurisdiction” (AHJ) is a term defined by NFPA as “An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation or a procedure.” For the purposes of this document, the AHJ may be the Office of the State Fire Marshal, an insurance company, or Entergy’s Risk Engineering Staff.

NFPA Codes and Standards

NFPA documents (codes, standards, recommended practices and guides) are developed through a consensus standards development process. This process brings together volunteers representing different viewpoints and interests to achieve consensus on fire and other safety issues. Engineers in the Entergy Risk Engineering Staff participate in many of the technical committees and have been personally responsible for much of the revised content in these documents over the past 20 years. The NFPA administers this process, and issues the documents, but does not have any power to enforce compliance with the contents of any NFPA document.

Enforcement of compliance is through legislative action to adopt certain NFPA documents into State and local Laws, recommendations made by insurance companies to maintain insurability, and through actions of corporate risk management groups, such as Entergy Risk Engineering. NFPA 850 is the standard by which we and our insurers measure the protection of Entergy property assets and actions used to mitigate the risks from fires exposing these assets.

NFPA 850 is a Recommended Practice and typically not adopted into legal statutes by any Building Official. NFPA therefore recommends that all Stakeholders (e.g. EPC Contractor, Owner’s Engineers, Insurance Underwriters, and various Owner groups) collaborate to establish common goals and objectives. Inclusion into the detailed design takes into consideration the goals of the various Stakeholders.

Applicable NFPA codes, Standards, and Recommended Practices shall include, but are not limited to the following:

NFPA 10, Standard for Portable Fire Extinguishers

NFPA 11, Standard for Low-, Medium-, and High-Expansion Foam

NFPA 12, Standard on Carbon Dioxide Extinguishing Systems

NFPA 12A, Standard on Halon 1301 Fire Extinguishing Systems

NFPA 13, Standard for the Installation of Sprinkler Systems

NFPA 14, Standard for the Installation of Standpipe and Hose Systems

NFPA 15, Standard for Water Spray Fixed Systems for Fire Protection

NFPA 16, Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems

NFPA 17, Standard for Dry Chemical Extinguishing Systems

NFPA 17A, Standard for Wet Chemical Extinguishing Systems

NFPA 20, Standard for the Installation of Stationary Pumps for Fire Protection

NFPA 22, Standard for Water Tanks for Private Fire Protection

NFPA 24, Standard for the Installation of Private Fire Service Mains and Their Appurtenances

NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems

NFPA 30, Flammable and Combustible Liquids Code

NFPA 37, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

NFPA 54/ANSI Z223.1, National Fuel Gas Code

NFPA 55, Compressed Gases and Cryogenic Fluids Code

NFPA 56, Standard for Fire and Explosion Prevention During Cleaning and Purging of Flammable Gas Piping Systems

NFPA 58, Liquefied Petroleum Gas Code

NFPA 70®, National Electrical Code®

NFPA 72®, National Fire Alarm and Signaling Code

NFPA 75, Standard for the Protection of Information Technology Equipment

NFPA 76, Standard for the Fire Protection of Telecommunications Facilities

NFPA 80, Standard for Fire Doors and Other Opening Protectives

NFPA 80A, Recommended Practice for Protection of Buildings from Exterior Fire Exposures

NFPA 85, Boiler and Combustion Systems Hazards Code

NFPA 101®, Life Safety Code®

NFPA 214, Standard on Water-Cooling Towers

NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations

NFPA 750, Standard on Water Mist Fire Protection Systems

NFPA 780, Standard for the Installation of Lightning Protection Systems

NFPA 850, Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations

NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems

NFPA 2010, Standard for Fixed Aerosol Fire Extinguishing Systems

Entergy Risk Engineering Generic Goals and Objectives

- The Fire Protection Design shall meet all Specific EPC Contractual requirements.
- The Fire Protection Design shall meet all applicable State and Local Building Codes and Standards incorporated into them by reference.
- Specific plant features shall be protected as recommended by NFPA 850 where specifically recommended, except as documented in the Design Basis Document.
- All fire protection features, where indicated in this document as required, shall be designed and installed in accordance with the applicable NFPA standard.
- With regard to potential options presented by NFPA 850 to protect against fire and explosion hazards (e.g. Outside Oil Filled Transformers), protection should be considered in the following order of importance
    - Spatial separation and/or fire rated construction, or
    - If separation is not practical, provide fixed fire suppression systems.
- Each hazard identified in this document should be evaluated and the appropriate mitigation strategy identified along with the decision-making process.
- Each hazard discussion should identify any assumptions and or source documents used in the decision-making process.
- Selection of fixed fire protection systems should consider a balance between effectiveness, drainage, containment, manual fire fighting access, and lifetime maintenance costs.
- In situations where UL or FM approved fire retardant oils are specified (Including Steam Turbine and CT Lube oils, Seal oils, EHC units, and transformers), Fire Suppression may be omitted after Entergy Risk Engineering's review and prior concurrence.

Entergy Risk Engineering Compliance Assumptions

1. NFPA 850 recommends specific protection for some hazards, protection for other hazards may be listed with several options, and for some equipment, protection is optional based on a Hazard Evaluation.
    a. Where specifically addressed, compliance is expected as recommended (unless documented as an approved exception in the Fire Protection Design Basis Document).
    b. NFPA 850 Protection goals related to options for specific hazards to be addressed in the project design documents are listed below.
    c. Where protection is omitted based on a hazard evaluation, the hazard evaluation shall be submitted for review and concurrence of the Authority Having Jurisdiction prior to the design being issued for construction.
2. All components used for fire protection services shall be UL listed or FM approved for the intended service.
3. This document is specifically applicable to construction of power plants intended for continuous personnel occupation. Plants that are partially occupied or intended for remote operation will require a separate design basis risk evaluation approved by Risk Engineering prior to commencement of construction.
4. All fire protection equipment shall be supplied in accordance with applicable Code/Standard. The applicable edition of the standard shall be the current Code/Standard as of the Contract execution date.

Non-Fire Protection Design Specifications

1. All cable (regardless of voltage level and use) shall be constructed utilizing a fire retardant jacket and shall have successfully passed the appropriate (IEEE, ASTM, or UL) flame spread and smoke generated test for the class, voltage rating and size of the specific cable.
2. Generation Step Up (GSU) transformers shall be equipped with a minimum of 8 gas (plus moisture) online monitoring and bushing monitors.
3. Motor overloads for DC lube oil pumps shall cause an alarm but shall not cause a pump trip.
4. Vented Lead Acid (VLA) batteries shall be installed in a room(s) dedicated to the batteries and associated equipment with approved ventilation.
5. Battery Rooms containing Vented Lead Acid batteries shall be provided with ventilation (Natural or forced) to limit the concentration of hydrogen to 1 percent by volume. Loss of forced ventilation shall be monitored and alarmed at a constantly attended location.
6. Properly designed normal battery room ventilation will keep Hydrogen below dangerous levels and eliminate the need for Hazardous Electrical Classification and explosion proof components.
7. Valve Regulated Lead Acid (VRLA) batteries do not require dedicated rooms or special ventilation.
8. Installations of large NiCd, NiMH, or Lithium ion batteries (any quantity greater than that contained in portable electronics equipment) are not addressed in this standard and shall have a separate Fire Hazard analysis approved by Entergy Risk Engineering.
9. All buildings and equipment structures shall be protected against damage due to lightning strikes in accordance with NFPA 780.

Fire Barriers and Sealed Penetrations

1. Rated Fire Barriers shall be provided to separate the following specific hazards
2. Fire Rated walls may be used in conjunction with physical separation between transformers and other equipment in lieu of providing automatic suppression as follows:
    a. For outdoor transformers with oil capacity less than 500 Gallons, maintain separation of 5 ft. from other structures.
    b. For outdoor transformers with an oil capacity between 500 and 5000 gallons, maintain clear separation of 25 feet or provide a 2 hour fire rated barrier
    c. For outdoor transformers with an oil capacity of greater than 5000 gallons, maintain clear separation of 50 feet or provide a 2 hour fire rated barrier.
    d. For Indoor transformers with an oil capacity greater than 100 gallons, provide a 3 hour rated fire barrier.
    e. For transformers using a Listed Less Flammable Oil, a specific detailed hazard evaluation is required prior to altering separation or omitting barriers.
3. Separate Fire Pumps with a combination of a two hour fire rated barrier and automatic suppression covering both pumps.
4. Provide fire rated barriers to separate adjacent fire areas as described in the Design Basis Document where physical separation is not sufficient.
5. Provide fire rated seals in all openings and penetrations in all rated barriers commensurate with the fire rating of the barrier.
6. Provide Non combustible or fire rated sealing materials for all cable penetrations entering from below a raised electrical structure (Power Distribution Center, MCC Enclosure, etc.).

Fire Protection Water Supply

1. The water supply should be capable of supplying the larger of the following plus 500 gpm manual hose streams:
    a. The largest single calculated system demand for a minimum of 2 hours.
    b. All fixed fire suppression demands that could reasonably be required to operate simultaneously for a 2 hour period.
2. A water supply sufficient to meet the above system demand flow rate is required to be supplied from a reliable source (tank, pond, river, lake, or cooling tower basin). The standard for a reliable source includes a single supply of sufficient volume, two redundant Listed Fire pumps with diverse power supplies (i.e. Diesel Engine and Electric Motor), and a suitable underground distribution network.
3. If a tank is used, it shall meet the requirements of NFPA 22
4. Combination tanks for Fire Protection and other water (e.g. Service Water) is permitted, however the tank must maintain an adequate dedicated volume accessible only for Fire Protection service.
5. If a tank is used, the refill rate should be calculated/demonstrated to provide a complete refill of the minimum water supply volume within 8 hours.

6. Each Fire Pump shall be chosen in accordance with NFPA 20 such that the maximum system demand is between 90-140% of the pump rating.
    a. Oversized pumps are not conservative and shall be avoided.
7. The Fire Pump House should be located a minimum of 50 ft. from any structure representing an exposure fire hazard.
8. Redundant fire pumps shall not be subject to a single electrical or mechanical failure (piping or valves) that would prevent the operation of both pumps.
9. Diesel and Electric fire pumps shall be separated by a minimum 2 hour rated fire wall and the entire building protected by a wet pipe sprinkler system.
10. The diesel engine air intake/filter shall be protected from direct water impingement from the building sprinklers.
11. Discharge from the Circulation relief valve (Electric Motor Driven Pump), the Diesel Relief Valve (If needed) and the Cooling Water discharge from the Diesel engine shall be routed to open drain hubs with their respective flows visible from the pump room.
12. The Fire Pumps shall be capable of full flow testing by the following means
    a. Flow through a calibrated flow meter routed back to the tank (above the water level), and
    b. Flow through a test header to the ground with a sufficient number of test valves for the rated flow.
    c. The test meter shall be located so that it is easily accessible for annual use.
    d. The test header shall be located outside the pump house so that all test valves are located not more than 5 feet above finished grade (or made accessible via a permanent platform).

Underground Fire Main

1. Underground Fire Main shall be designed in accordance with NFPA 24.
2. The Fire Main shall be arranged in a complete loop. Sectionalizing valves (Post Indicator Valves -PIV) shall be arranged such that the maximum number of Fire Protection Connections between two valves does not exceed five.
3. The supply mains shall be looped around the main power block and sized such that the hydraulic demand of all individual sprinkler systems can be met with the hydraulically shortest part of the loop out of service.
4. Piping Materials shall be limited to those permitted in NFPA 24. HDPE is preferred, Ductile Iron is acceptable, Steel is not permitted.
5. Heat fusion welded HDPE if used is considered a self-restrained joint. No additional restraints are required; however, this applies to restraint of joints only. The need for thrust blocks shall be evaluated at locations where the direction of water flow changes.
6. Hydrants shall be placed strategically around the site such that hydrant spacing does not exceed 250 feet.
7. Hydrants shall be located not less than 40 ft. from the plant building, structure, or major equipment to be protected. Where this clearance cannot reasonably be provided, an adjacent accessible hydrant within 250 ft. is considered acceptable.

8. The total number of hydrants shall be sufficient that all major equipment is accessible between 40 and 250 ft from at least one hydrant.
9. Mechanical joint fittings that utilize set screws to clamp the fitting to the HDPE pipe shall not be used. Transition pieces that use fusion welding and a standard flange shall be used to transition between HDPE pipe and non-HDPE components.
10. All hydrants shall be dry barrel type and shall have two 2 ½" outlets and a 4 ½" pumper outlet for Fire Department use. All Hydrants and Fire Hose connections shall be NST National Standard Fire Hose Thread (sometimes indicated as NH).
11. All hydrants shall be installed such that the 4 ½" pumper connection faces the access road or most logical access point for the Fire Department.
12. Each hydrant and sectionalizing Post Indicating Valve shall be equipped with an operating device attached to the Hydrant/PIV.
13. There shall be a minimum of one Hydrant hose house located near the closest Hydrant to the plant entrance equipped with the following tools:
    a. Two Hydrant Wrenches
    b. Four Universal Spanners
    c. Two Curb Box valve operator extension handles.
    d. One Adapter to connect the 4 ½ inch hydrant pumper connection to the local responding fire departments. If the responding departments require different adapters, then provide one of each type.

Automatic Suppression

Automatic suppression systems shall be provided for the following areas at a minimum and other areas as determined by the Hazard Evaluation (application rates as defined in applicable NFPA documents):

1. Fire Pump House - Wet Pipe
2. Warehouse – Wet Pipe
3. Combustion Turbine – Per OEM Requirements
4. Reciprocating Engine halls – Dry or Wet Pipe
5. Steam Turbine Bearings – Single Interlock Preaction
6. Steam Turbine Under deck Lube oil hazards – Dry Pipe or Deluge
7. Steam Turbine Lube Oil Tank – Dry Pipe or Deluge
8. Hydrogen Seal oil Skids – Dry Pipe or Deluge
9. EHC system skids unless using Listed Fire Retardant fluids (e.g. Fyrquel EHC, Quinto Lube, EcoSafe).
10. Transformers – Deluge, Only IF adequate separation cannot be achieved.
11. Burner Fronts of any liquid fueled boiler (including oil ignitors and Aux Boiler main fuel) – Dry Pipe or wet pipe.
12. Steam Driven Boiler Feed Pumps – Deluge, Preaction, or Dry Pipe
13. Motor Driven Feed Pumps – Greater than 100 Gallons Mineral oil requires separate documented hazard evaluation approved by Entergy Risk Engineering. None if Listed Fire-Retardant oil is used in Coupling.
14. Emergency Diesel Generators located inside a building – Preaction.
15. Areas with large concentrations of cable critical to plant operations (e.g. Inside Cable Spreading Rooms) – Clean Agent Gaseous systems (NOVEC 1230 preferred. Other agents with Risk Engineering Permission)
16. Other areas with grouped electrical cables (e.g. External Stacked Cable Trays, Internal Cable tunnels) should be provided with automatic suppression unless cables with fire retardant jackets are used.

Manual Fire Fighting Features

1. Fire Hose additional demand over and above the automatic suppression system demand shall be as follows
    a. 500 GPM for all lube oil and liquid fuel hazards regardless of quantity.
    b. 500 GPM for all outdoor transformers containing > 1000 gallons mineral oil
    c. 250 GPM for all outdoor transformers containing < 1000 gallons mineral oil
2. Containment of all firefighting water used (particularly Turbine ground floor and transformers) shall be sized at a minimum to accommodate the following without uncontrolled flooding or off-site discharge:
    a. The spill of the largest single container of any flammable or combustible liquid in the area, and
    b. The maximum expected manual hose streams (above) for ten minutes, and
    c. The maximum design discharge of any fixed fire suppression systems operating for a minimum of ten minutes.
3. Where open pits are used for transformer containment, a 12 inch layer of rock between steel gratings should be provided at the top of the pit.
4. Portable Fire Extinguishers should be provided at strategic locations in accordance with NFPA 10. Extinguisher types shall be as follows
    a. Sensitive Electronic Equipment areas (Control Room/DCS servers/Computer Room, etc.) shall have an ABC Rated Clean agent, Halotron, water mist, or other effective agent that does not leave a residue. Dry Chemical Extinguishers shall not be used in these areas.
    b. General Electrical Hazard Areas shall utilize CO2 or a clean agent extinguisher sized appropriately for the hazard. Dry Chemical shall not be used for general electrical hazards
    c. General areas and oil hazard areas may use any suitable ABC rated extinguisher including Dry Chemical.
    d. Large Oil Hazards (Turbine Deck, Lube oil System, Emergency Diesel Generator, etc.) shall have one 250 lb. wheeled unit, or two 125 lb. wheeled unit in addition to any general extinguisher, located between 10 and 50 ft. from the hazard.
    e. Extinguishers shall be located as follows:
        i. Near entrances and/or exits to an area
        ii. Extinguishers in occupied buildings (Warehouse, Control Room, DCS/Computer Rooms, Electrical Distribution, etc.) shall be located at a minimum, one at each exit door with additional extinguishers in the interior if required to meet NFPA 10 travel distances.
        iii. Extinguishers in unoccupied enclosures (e.g. Emergency DG) should be mounted outside near the access doors.

Fire Detection and Alarm

1. All fire alarms shall be arranged to annunciate at a constantly attended location on a main fire alarm control panel. Local panels may be installed in addition to the main panel as required.
2. If local panels and the Main Fire Alarm Panel are installed by multiple organizations, one organization shall be designated as responsible for the integration of all remote alarms to the Main Fire Alarm Panel.
3. All devices shall be individually addressable
4. All communications (network) wiring shall be Class A. Individual detection circuits may be Class B.
5. The Main Fire Alarm Control Panel shall have the capability to store an electronically retrievable historical record of a minimum of 500 alarms.
6. Smoke and /or heat detection (as appropriate) shall be provided in accordance with NFPA 72 and where recommended by NFPA 850, (specifically, but not limited to the following areas):
    a. Air Aspirating Early Warning Smoke Detection (e.g. VESDA) shall be provided in areas with critical electronic equipment (e.g. Computer Rooms/DCS Servers).
    b. Control Rooms shall have smoke detection installed throughout the Control Room in the operating spaces, below raised floor systems, and above suspended ceilings.
    c. In Control Rooms that are occupied 24/7, the detection in the operating spaces may be omitted.
    d. Control Room Break Areas.
    e. In-duct detectors should be used for ventilation systems in occupied buildings.
    f. Cable Spreading rooms, cable tunnels, and other areas with high concentrations of electrical cables.
    g. Switchgear rooms and relay rooms. (Including Turbine OEM Structures)
    h. Battery Rooms
    i. Warehouses
    j. CEMS enclosures
    k. Maintenance Shops

Combustion Turbine/Generators

1. The design shall include automatic protection for all areas as recommended by the OEM manufacturer. Water Mist is the preferred choice of extinguishing agent. If CO2 is required by the CT vendor, a low pressure system shall be used. Full scope of suppression to be provided shall be discussed and approved by Entergy Risk Engineering prior to design finalization.
2. Fixed suppression systems should be sized to provide the required protection for the full time of turbine coastdown, exposure to hot metal, or where uncontrolled combustible liquid flow may exist, whichever is longest.
3. Early Warning Alarm-only Fire Detection shall be provided for any areas not covered by an automatic suppression system (e.g. Generator and Exciter areas) In addition, Combustible Gas detection shall be provided for the Turbine Compartment.

4. Any area capable of being occupied (i.e. electrical compartment with computer terminal) shall use a Clean Agent gaseous suppression system if automatic suppression is required. Total Flooding CO2 shall not be specified in spaces that could reasonably be occupied.
5. Hydrogen cooled generators shall be equipped with excess flow devices at the hydrogen source to eliminate uncontrolled hydrogen leaks.

Steam Turbine Lube Oil

1. Cabling for redundant Lube Oil Pumps (AC/DC Motors) shall be separated such that a single event will not render both inoperable. Adequate separation shall be accomplished by one of the following means
    a. Physical separation throughout the cable run (minimum 10 ft. horizontal separation), OR
    b. Separate cables for DC Driven Pump by routing in dedicated conduit.
2. Pressurized bearing lube oil for both Turbine and Generator (lube and seal oil) shall be run in concentric guarded piping where possible. Any turbine or generator bearing lube or seal oil piping pressurized to greater than 50 psi with flanges outside of the guard pipe shall utilize noncombustible flange guards. If a listed fire retardant fluid is used, neither guard pipe, flange guards, nor automatic suppression is required.
3. Piping containing steam or other fluids in excess of flash points of nearby lube oil (within 25 ft.) shall be fully insulated.
4. Lube oil lines shall be separated by a minimum of 10 ft. horizontal separation or run below steam lines (or other piping that could exceed lube oil flash points) to minimize the potential for ignition.

Cooling Tower (If provided)

1. Cooling towers shall be constructed in accordance with NFPA 214.
2. Cooling towers constructed fully out of non-combustible materials do not require automatic suppression systems
3. Cooling towers constructed in accordance with an FM Approved design out of FM approved materials do not require Automatic Suppression Systems. Documentation of FM Approval is required.
4. Cooling towers constructed out of FM Approved, Fire Retardant materials with a documented flame spread less than 25 shall be evaluated prior to construction without an automatic suppression system. The evaluation shall be reviewed and concurrence obtained from the AHJ (Entergy Risk Engineering) prior to issue for construction.
5. Cooling towers constructed out of combustible materials shall require an automatic suppression system.

Emergency Generators

1. Emergency Generators located within plant structures shall be protected by an automatic suppression system. A weather protected enclosure is not considered "within a plant structure".
2. Weather protected enclosures that are large enough to walk into shall have automatic (heat actuated) fire detectors.
3. Standalone emergency generators should be installed and protected in accordance with NFPA 37 "*Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*". NFPA 37 requires a Fire Risk evaluation considering at least:
    a. Location of the Engine, including separation from other structures
    b. Fuel type and location
    c. Criticality of the Generator to operations
    d. Anticipated replacement time if damaged.

Warehouses

1. Warehouses that house combustible materials or high value (combustible or noncombustible) equipment (>$1 Million) shall have a fixed automatic suppression system (Dry or Wet Pipe Sprinklers) designed for the expected materials to be stored.
2. The sprinkler systems for warehouse and storage areas are to be designed and installed in accordance with requirements of NFPA 13, for the commodity type, rack and storage arrangement and maximum available storage height to be present in the area. The minimum design shall be for Class III commodities on wooden pallets, in single or double row rack or piled storage, utilizing 8 foot aisles and maximum storage height suitable for the building height.
3. The sprinkler systems should be hydraulically designed. Pipe schedule systems are not permitted.
4. The systems should be designed for full protection from sprinklers installed at the ceiling. The installation of in-rack sprinklers should be avoided.
5. Classification of the storage as "miscellaneous or incidental storage" less than 12 feet in height, in order to permit the use of an ordinary hazard sprinkler systems shall not be permitted unless approved in writing by Entergy Risk Engineering.

Miscellaneous Site Structures

6. Miscellaneous site support structures such as oil storage buildings, vehicle maintenance facilities, water treatment facilities, supplemental offices, storage facilities, bulk compressed gas storage, or other facilities not specifically mentioned here shall be evaluated for provisions of automatic detection and suppression systems in accordance with applicable codes and standards.
7. Miscellaneous site structures shall be separated from other important plant structures and equipment in accordance with NFPA 80A.

Construction Site Considerations

8. A written Site Fire Prevention and Response Plan in accordance with NFPA 241 and Chapter 8 of NFPA 850 shall be documented and used during the construction of the facility.
9. Permanent plant fire protection systems should be in service and ready to support manual fire fighting prior to site “backfeed” and shall be in service and available prior to “first fire”.
10. Construction facilities (Offices, workshops, and warehouses) that are intended or are likely to be retained after construction shall have permanent fire protection in accordance with this document.
11. In the event “temporary” warehouses or offices are kept after completion of construction, they shall have protection in accordance with this criteria installed prior to occupancy of permanent plant staff or placement of permanent plant materials.

Deliverables

The Site Specific Fire Protection Design Basis Document as described in Chapter 4 of NFPA 850 is intended to address the above items and is prepared as a deliverable by the Fire Protection Engineer responsible for the design and supplied to the owners. It is intended to be prepared early in the design process and continue as a living document to be updated as the project progresses. The DBD should contain the following information (details can be obtained from NFPA 850 Chapter 4):

1. Plant name/ location information
2. Plant location
3. Responsible Fire Protection Engineer
4. Table of Contents
5. Stakeholders
6. General Fire Protection Philosophies
7. Assumptions
8. Site Specific Information
9. Source Documents
10. Plant Layout (description of fire areas)
11. Water Supply (Fire protection water storage, fire pumps, mains, hydrants, etc.)
12. Hazards
13. Administrative Controls

An example template for a Design Basis Document follows.

NOTE:

The purpose of this Compliance Guide is to illustrate the recommended information to be included and the structure of the Design Basis Document as required by NFPA 850, Chapter 4. Throughout this guide document, notes are inserted with bold, italicized text (this is an example). These notes are intended to be explanatory notes and not necessarily included as document text. Plain text is intended as standard text to be included in every Design Basis Document. The format is flexible, but preferred format elements are shown.

Cover Page

(Format and Title Block style are flexible)

(Project Name) Fire Protection Design Basis Document

Project Specific Information

Revision History

Approval Signatures

Table of Contents

1.0 Introduction (insert data as applicable)

1.1 Plant Description

1.1.1 Plant Name:

1.1.2 Plant Location:

1.1.3 Owner:

1.1.4 EPC Contractor:

1.1.5 Summary of Plant features:

1.2 Document Purpose

The purpose of this document is to identify the applicable building codes, Contract documents, and NFPA codes and standards used by the EPC Contractor in the development of the Fire Protection Design features. This document will also serve as the Fire Protection Design Basis Document as defined in Chapter 4 of the 2020 edition of NFPA 850, *Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations.* It is intended to remain as a living document that will evolve as the plant design is finalized. It is intended to provide a record of the decision-making process including concurrence of all applicable stakeholders. At the completion of the project, the document will be turned over as a Deliverable to the Owner who will then be responsible for the maintenance of the document.

2.0 References

NOTE:

Generally, the Codes and Standards will be the edition that is in effect at the time of Contract execution. Any exceptions should be identified and explained in this section. For example, if a Building Code has just been revised, it may not be the same as edition being enforced by the Local Building Authority. Any differences between the latest edition and the edition being enforced that affect the system design shall be explained in the Design Basis Text

2.1 Codes and Standards

2.1.1 Building Codes List all applicable Codes

2.1.2 NFPA (List All Applicable)

2.2 Project Documents (insert as applicable)

2.2.1 Contract Documents

2.2.2 Specifications

2.2.3 Drawings

2.2.4 Calculations

2.3 Fire Protection Design Basis Process

2.3.1 Building Code Applicability

Early in the Design Process, the EPC Contractor should discuss the project with applicable code officials (state and Local Fire Marshals or other building code Officials). This section should contain the scope of review and any agreements with regard to the design. If the Fire Marshal's review is limited in scope (e.g. Life Safety Concerns in occupied structures only, no reviews required for asset protection only, etc), those agreements should be documented here

2.3.2 NFPA Codes and Standards

2.3.3 NFPA 850 is a Recommended Practice and typically not enforced by any Building Official. NFPA therefore recommends that all Stakeholders (e.g. EPC Contractor, Owner's Engineers, Insurance Underwriters, and various Owner groups) collaborate to establish common goals and objectives. Inclusion into the detailed design takes into consideration the goals of the various Stakeholders.

2.3.4 The Owner Goals are as follows:

- The Fire Protection Design shall meet all Specific EPC Contractual requirements.
- The Fire Protection Design shall meet all applicable Building Codes and Standards incorporated into them by reference.
- Specific plant features shall be protected as recommended by NFPA 850 where specifically recommended, except as documented in this document.
- Where indicated in this document as provided, all fire protection features shall be designed and installed in accordance with the applicable NFPA standard.
- With regard to potential options presented by NFPA 850 to protect against fire and explosion hazards, protection should be considered in the follow order of importance
    - Spatial separation and/or fire rated construction, or
    - If separation is not practical, provide fixed fire suppression systems.
- Each hazard identified should be evaluated and the appropriate mitigation strategy identified along with the decision-making process.
- Each hazard discussion should identify any assumptions and or source documents used in the decision-making process.
- Selection of fixed fire protection systems should consider a balance between effectiveness, drainage, containment, manual fire fighting access, and lifetime maintenance costs.
- In situations where UL or FM approved fire retardant oils are specified (Including Steam Turbine and CT Lube oils, Seal oils, EHC units, and transformers), Fire Suppression may be omitted with Entergy Risk Engineering concurrence.

3.0 Definitions

3.1 Include any terms or acronyms used in this document and the following specific terms

3.2 AHJ - Authority Having Jurisdiction – AHJ is a term defined by NFPA as “An Organization, Office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation or a procedure.” For the purposes of this document, the AHJ may be the Office of the State Fire Marshal, and insurance company, or Entergy’s Risk Engineering Staff.

4.0 Occupancy Classifications

This information is preferred to be presented in a tabular format such as illustrated below (including, but not limited to the following). Include each building/floor or other defined area.

Occupancy Classifications				
Building Name	Approximate Dimensions	Floor Area/Number of Stories	IBC Occupancy Group	NFPA Occupancy/Construction Type
Warehouse	100 x 200 ft.	20,000 sq ft. Single Story	S-1	Storage Type II-B
Control Room/Offices	50 x 75 Ft	3750 sq. ft. Single Story	B	Business Type II-B

5.0 Facility Description and Hazard Evaluation

5.1 General Facility Design

This section should include description of natural hazards design basis (Wind, flood, seismic, etc).

5.2 Fire Protection Water Supply

This section should contain a description of the water source and fire pumps. Applicable specific design requirements should be included from the Risk Engineering Implementation Guide.

5.3 Hazard Evaluation

Each hazard in each plant area is reviewed against the goals and objectives in Section 2.3 above. Hazards may be mitigated by separation, protection, administrative controls, or a combination of all.

Tabular format as shown below is preferred.

Building/Area	
Description	Include physical description of the area and intended use.
Hazards	List the hazards/ignition sources/ etc. in the area
Separation from external hazards	Include description of spatial separation, fire rating of walls, containment of hazards, etc.
Passive Fire Protection	List/describe fire rated barriers
Active Fire Protection	List/describe automatic and manual suppression systems, detection systems, and early warning alarms.

6.0 Fire Detection and Alarm (***May be tabular combined with all manual and automatic suppression summaries below***)

7.0 Manual Fire Fighting Features

8.0 Fire Protection System Summary

9.0 Construction Fire Protection/Prevention Plan ***Add additional description as appropriate***

9.1 Prior to the delivery of high value equipment or where loss or damage could cause significant construction delays, either temporary or permanent fire protection demonstrated adequate for the hazard shall be in service.

9.2 All warehouses shall be equipped with an operating automatic sprinkler system prior to the introduction of high value equipment or significant quantities of combustibles.

9.3 Prior to the introduction of fuel or lube oils into permanent plant equipment, the permanent fire suppression (if included in the design) for the component shall be fully operable.

9.4 The Fire Protection Implementation Plan for the Construction Period shall be reviewed and concurrence obtained from the appropriate Authority Having Jurisdiction.

9.5 Any portable heating units shall be UL listed and used in accordance with their manufacturer's instructions.

9.6 All coffee pots shall be of the type that have either thermal carafe, or automatic timers to turn off the warming plate automatically

9.7 Cooking devices with open heating elements shall be prohibited.

10.0 Commissioning/Startup testing ***Describe processes***

11.0 Deliverables

11.1 This Design Basis document is intended as a living document. Initially it may have "Laters" and "To Be Determined". As the project progresses and design decisions are made and agreed between all stakeholders, they should be documented as revisions to this document.

11.2 Upon completion of Construction, a final review shall be made by the Responsible Design Organization, compiling all the “As-Built” data.

11.3 Upon final turnover, revision control of this Design Basis Drawing shall transfer to the Owners.