Appendix B – Transmission Interconnection and Deliverability Considerations

1. Overview

This Solicitation is driven by the need for firm, dispatchable capacity and associated energy to support the reliability of JEA's system, and to serve its customers. This Solicitation is issued at a time when JEA is proactively planning for additional capacity and energy as JEA's generation approaches retirement, and JEA is including the integration of additional renewable generation into its resource portfolio. The diverse mix of future generation resources requires significant attention to reliability impacts to JEA's transmission system that could result from a resource proposed through this Solicitation.

Generally, and detailed more fully within this appendix, any Response to supply firm, dispatchable capacity and energy must account for the full incremental transmission and interconnection costs to deliver the proposed capacity and energy on a firm basis into the JEA system. Proposed resources must interconnect at a location and deliver energy in a manner that does not compromise or diminish the reliability of the present JEA system or adversely affect any other utility's transmission system. Consistent with the description provided within this appendix, costs associated with alleviating any reliability impacts must be accounted for either through the pricing provided in the Response, or through an estimate developed by JEA and applied through the evaluation process. A summary of responsibilities between the parties are outlined in Table 1 and Table 2 below.

The proposed generation resource is expected to be in service by December 31 of 2030. Consequently, the required transmission pathway must be in-service with adequate lead time to support construction completion, testing, and commissioning of the proposed generation resource. The Respondent is responsible for complying with all applicable state and federal transmission regulations.

JEA reserves the right to review and study all Responses and request further clarifications or reject the Responses with insufficient transmission service information. JEA also reserves the right to reject Responses that have an excessively high risk of not being able to meet JEA's proposed project schedule.

2. Existing Transmission System

JEA's transmission system consists of bulk power facilities operated at 69 kV, 138 kV and 230 kV. The 69 kV system basically serves the urban core in Jacksonville. The 138 kV and 230 kV transmission systems provide a backbone around the service territory. JEA has several Transmission ties at 230 kV and 138 kV with its neighboring utilities for power transfers. JEA also jointly owns two 500 kV transmission lines to the north to interconnect with Georgia Integrated Transmission System (ITS). These transmission ties facilitate the power import into JEA for the current long-term firm power purchases that JEA has, as well as any other occasional power purchases and sales.

JEA's import allocation is about 1,200 MW over these lines through FPL's substation but gets significantly reduced under planned or unplanned transmission outage conditions.

3. Transmission Interconnection & Delivery Requirements

3.1. On-System Resources

Table 2 below summarizes what costs should be assumed and incorporated within the Response pricing and who will be responsible for the cost and the implementation of any necessary upgrades resulting from the interconnection and delivery of a resource located on the JEA System. The Response project schedule should account for transmission queue entry requirements or required studies across the impacted transmission systems, and the implementation of any and all required transmission upgrades.

Table 1: Summary of Transmission Responsibility for On-System Resources

Transmission Cost Type	Respondent to Include within Proposal Pricing	JEA to Estimate and Include Within Evaluation	Financial Responsibility of Solution	Responsible Party to Implement
Transmission from Facility to Interconnecting Substation	Yes	No	Seller	Seller
Interconnection Upgrade Costs at the Substation (existing or new)	No	Yes	Seller	JEA
Transmission Impact on JEA's System (including export power, if applicable)	No	Yes	Seller	JEA
Impact to Reserve Requirements (>700MW Response from a single unit)	No	Yes	JEA	JEA
Transmission Impact External to JEA's System (export power only)	Yes	No	Seller	Seller

Details below provide additional information regarding the transmission cost type and the requirements outlined above. In order for JEA to effectively estimate potential transmission upgrade requirements, within Appendix F – Respondent Questionnaire of the Response, the Respondent must clearly identify the intended point of interconnection on JEA's transmission system.

Transmission from Facility to Interconnecting Substation

For any Response that will use an on-system generation resource (generation inside of or adjacent to JEA's service footprint with a transmission line connecting directly with JEA's Transmission system), it will be the responsibility of the Respondent to build and maintain any required facilities to facilitate transmission interconnection up to the interconnecting substation, along with all the associated activities such as regulatory and environmental permitting, acquiring the real estate for the transmission right-of-

way, etc. All costs and the timeline associated with the building and maintaining these facilities should be included within the Response pricing.

Interconnection Upgrade Costs at the Substation (existing or new)

The Respondent will be responsible for all cost to JEA's transmission system to facilitate interconnection and delivery of power, including, but not limited to, the cost of the interconnecting substation or existing substation upgrades for interconnection. JEA reserves the right to either self-perform substation work at the Proposer's cost, or to approve a suitable contractor to perform that work under JEA's construction standard and at the Respondent's cost.

Transmission Impact on JEA's System (including export power, if applicable)

The Respondent will be responsible for all cost to JEA's transmission system to facilitate interconnection and delivery of power, including, but not limited to JEA's existing transmission infrastructure and JEA's existing import and export capability. It is not necessary to include any costs for impacts to the JEA transmission system, as these impacts and costs will be evaluated by JEA during the Response evaluation and added to the Response price as needed.

The existing capacity of JEA for power import and export over its existing ties is required to support system operation and must not be adversely impacted by the interconnection and delivery of the proposed facility. This includes the preservation of JEA's full use of its allocation over the 500 kV ties with Georgia ITS (i.e., utilization of JEA's existing transmission allocation for this new transaction is not acceptable). JEA will analyze each Response for impacts to JEA's current capabilities, and if remedies are required to preserve current capabilities, JEA will estimate the cost of those remedies and add the appropriate cost to the Response.

For clarity, if, in addition to the proposed capacity and energy allocated to JEA, the Respondent's proposal includes export of capacity and energy from a unit interconnected within the JEA system, the Respondent will be responsible for all upgrades necessary to facilitate that export without impacting JEA's present import or export capabilities or reliability, and must secure the necessary transmission service with JEA including ancillary services and accounting for transmission losses.

Impact to Reserve Requirements (>700 MW Response from a single unit)

If the Response is for capacity and energy that exceeds 700 MW for JEA from a single unit, JEA will incorporate within the evaluation of the Response the cost of any system upgrades and services needed to meet reliability and backup regulatory requirements relative to the loss of a single unit for the capacity exceeding 700 MW. For the purpose of this requirement, a unit is defined as either 1) the rating of a single generator supplying the proposed capacity, or 2) the aggregated rating of all generators for interrelated combustion turbine(s) and steam turbine(s) that make up a combined cycle combustion turbine resource supplying the proposed capacity. Reserve requirements for any capacity allocated to the Seller or separate off-taker, would be the supplier's responsibility.

Transmission Impact External to JEA's System (export power only)

If the Response includes export of capacity and energy from the proposed resource the Respondent will be responsible for all upgrades necessary to facilitate that export including all upgrades outside the JEA system. The Respondent must also secure the necessary transmission service, including ancillary service and accounting for transmission losses, with the third party/parties, if required. All costs associated with this transmission service should be accounted for within the Response pricing.

The Respondent is expected to account in the Response the pricing and timeline for the cost of any transmission upgrades or additions outside the JEA system required for delivery of energy and attributes from the proposed project. The Response, within Appendix F – Response Questionnaire, shall include a breakout of the assumed cost of these upgrades to facilitate JEA's assessment of risk associated with the proposed upgrades or construction.

The Respondent is encouraged to include within the Response a price contingency that the Respondent feels is reasonable and responsible for mitigating any impacts to non-JEA party owned transmission facilities resulting from any transmission upgrades or additions detailed in the Respondent's Response. The contingency cost shall be identified as a breakout to facilitate JEA's assessment of risk associated with the potential impacts to non-JEA parties from the proposed upgrades or construction.

Notes on Process Requirements for On-System Resources

1) If any new transmission line(s) is/are required for the interconnection, the Respondent shall accommodate all applicable state and federal transmission regulations and procedures (Florida's Transmission Line Siting Act – TLSA, Order No. 1000 as applicable to FRCC etc.).
2) It is the responsibility of the Respondent at Respondent's cost to address all the associated activities such as regulatory and environmental permitting, acquisition of real estate for the development, permitting and construction of the transmission line(s).
3) The impact of interconnection shall be studied through ***JEA Procedures for Generator Interconnection to Transmission System (***JPGITS***)*** as available at JEA's OASIS site under JEA Business Practices.
    a) As part of JPGITS, a system impact study, which will also incorporate FRCC's[1] Transmission Service Request (TSR)/Generation Interconnection Service Request (GISR) process, must be performed. This study must be completed by a transmission consulting engineering firm with experience in the FRCC region, and at the Respondent's expense. It is the responsibility of the Respondent to provide all the modeling data pertaining to the generation resource and transmission configuration (as applicable) required for the study.
    b) The proposed resource could impact non-JEA party owned Transmission facilities as well. To address this potential, the TSR/GISR procedure of FRCC with the associated study(ies) must be followed. The Respondent is responsible for any cost of 3rd-party impacts for interconnection and delivery resulting from these studies.

4) If the Response includes the construction of a new transmission line, its impact must be studied through FRCC's TSR/GISR process. Also, all the regulatory and environmental permitting, and processes for transmission construction as applicable (e.g. Florida Transmission Line Siting Act – TLSA, Order 1000 process as applicable to FRCC etc.) must be followed by the Respondent.

5) JEA's Transmission Planning team can facilitate a public webinar for more information on JPGITS as well as FRCC's TSR/GISR processes prior to the Response submittal deadline.

[1] FRCC = Florida Reliability Coordinating Council, Inc. is a not-for-profit company in Florida with a mission to coordinate a safe, reliable, and secure bulk power system in the state. FRCC is registered for the Reliability Coordinator and Planning Authority functions with NERC. It has established many procedures to achieve these functions and mission, which its members (like JEA) must follow.

6) The Respondent will be responsible for ensuring that all required processes associated with interconnection and delivery of power from the facility is initiated according to the required development timeline to meet the proposed commercial operation date.

3.2. Off-System Resources

Table 2 below summarizes what costs should be assumed and incorporated within the Response pricing and who will be responsible for the cost and the implementation of any necessary upgrades resulting from the interconnection and delivery of a resource located outside the JEA System. The Response project schedule should account for transmission queue entry requirements or required studies across the impacted transmission systems, and the implementation of any and all required transmission upgrades.

Table 2: Summary of Transmission Responsibility for Off-System Resources

Transmission Cost Type	Respondent to Include within Proposal Pricing	JEA to Estimate and Include Within Evaluation	Financial Responsibility of Solution	Responsible Party to Implement
All interconnection costs	Yes	No	Seller	Seller
Required Transmission Cost for Service between Facility and Delivery Point on JEA's system	Yes	No	Seller	Seller
Impacts to other utility transmission systems	Yes	No	Seller	Seller
Impact to JEA Transmission System	No	Yes	Seller	JEA
Impact to JEA Import/Export Capability	No	Yes	Seller	JEA
Impact to Reserve Requirements (>700MW Response from a single unit)	No	Yes	JEA	JEA

Details below provide additional information regarding the transmission cost type and the requirements outlined above. In order for JEA to effectively estimate potential transmission upgrade requirements, within Appendix F – Respondent Questionnaire of the Response, the Respondent must clearly identify the intended point of delivery on JEA's transmission system.

All Interconnection Costs

The Respondent will be responsible for the process and cost of interconnection to a 3rd-party system. Any cost associated with interconnection service on a 3rd-party system must be included within the Response pricing. Additionally, within Appendix F – Respondent Questionnaire, it is requested that the Respondent provide the estimated cost of interconnection service, as applicable.

The Respondent will be responsible for all cost to JEA's transmission system to facilitate interconnection and delivery of power, including, but not limited to JEA's existing transmission infrastructure and JEA's existing import and export capability. It is not necessary to include any costs for impacts to JEA's transmission system, as these impacts and costs will be evaluated by JEA during the Response evaluation and added to the Response price as needed.

Required Transmission Cost for Service between Facility and Delivery Point on JEA's System

For any Response that will use an off-system generation resource (existing or a new generating resource physically located outside of JEA's service territory), it must include sufficient transmission services, including ancillary services and the transmission losses, to transport the full proposed power (MW) into JEA. As this will involve wheeling through 3rd party-owned transmission facilities, it is the responsibility of the Respondent to facilitate all such transmission transactions with that/those party/parties. Any cost associated with transmission service must be included within the Response pricing. Additionally, within Appendix F – Respondent Questionnaire, it is requested that the Respondent provide the estimated cost of transmission services for the life of the project, as applicable.

If the off-system generation resource is located outside of Florida, it is the responsibility of the Respondent to facilitate the associated transmission services with Georgia ITS as well. However, due to the limited inter-state power transfer capacity from Georgia into Florida under planned and unplanned transmission outage conditions, **the Response must clearly state, within the submission of Appendix F- Respondents Questionnaire, the methods for which the power transfer under such contingency situations will be seamlessly maintained for JEA.**

Impacts to Other Utilities' Transmission Systems

The proposed resource could impact a 3rd-party transmission system (i.e., not JEA or the interconnecting transmission owner) The Respondent will be responsible for all upgrades necessary to alleviate the impacts to the 3rd-party transmission owner.

The Respondent is expected to account in the Response pricing and timeline for the cost of any transmission upgrades or additions identified on the 3rd-party system. The Response, within Appendix F – Response Questionnaire, shall include a breakout of the assumed cost of these upgrades to facilitate JEA's assessment of risk associated with the proposed upgrades or construction.

The Respondent is encouraged to include within the Response price a contingency that the Respondent feels is reasonable and responsible for mitigating any impacts to non-JEA party owned transmission facilities resulting from any transmission upgrades or additions detailed in the Respondent's Response. The contingency cost shall be identified as a breakout to facilitate JEA's assessment of risk associated with the potential impacts to non-JEA parties from the proposed upgrades or construction.

Impact to JEA Transmission System

The Respondent will be responsible for all cost associated with the impact to JEA's transmission system to facilitate the delivery of power from the proposed resource. This includes, but is not limited to, JEA's existing transmission infrastructure and JEA's existing import and export capability. It is not necessary to

include any costs for impacts to JEA's transmission system, as these impacts and costs will be evaluated by JEA during the Response evaluation and added to the Response price as needed.

Impact to Reserve Requirements (>700 MW Response from a single unit)

If the Response is for capacity and energy that exceeds 700 MW for JEA from a single unit, the JEA will incorporate within the evaluation of the Response the cost of any system upgrades and services needed to meet reliability and backup regulatory requirements relative to the loss of a single unit for the capacity exceeding 700 MW. For the purpose of this requirement, a unit is defined as either 1) the rating of a single generator supplying the proposed capacity, or 2) the aggregated rating of all generators for interrelated CT(s) and ST(s) that make up a CCCT unit supplying the proposed capacity.

Notes on Process Requirements for Off-System Resources

1) Generation resource located within Florida -
    - The Respondent should clearly state where the resource will be located and how it will be delivered to JEA. Depending upon the physical location as well as electric proximity, such resource may need to be wheeled through a single entity's transmission system or through multiple entities' systems. It is the responsibility of the Respondent to take all the necessary steps with any related transmission services; including the ancillary services; for the delivery into JEA's transmission system. The Respondent must submit a request for transmission service and the associated study (TSR/GISR study process of FRCC) to be in the transmission provider's queue consistent with the requirements of the proposed project schedule. This study must be completed by a transmission consulting engineering firm with experience in FRCC region, and at the Respondent's expense. It is the responsibility of the Respondent to provide all modeling data pertaining to the generation resource and transmission configuration (as applicable) required for the study.

2) Generation Resource located outside of Florida
    - The Respondent should clearly state where the resource will be located outside of Florida and how it will be delivered/wheeled to JEA. The wheeling of such resource will involve utilizing transmission resources inside Florida as well as that of Georgia ITS, and any other parties if the resource is located outside of Georgia ITS. As stated earlier, JEA's import allocation cannot be utilized for this option and the Respondent must clearly specify how the power import under planned and unplanned outage situations will be seamlessly maintained for JEA. In addition to going through FRCC's TSR/GISR process, this will also involve transmission service request and study for Georgia ITS, and any other parties if the resource is located outside of Georgia ITS.

- Any such studies (for FRCC, Georgia ITS, and outside of Georgia ITS transmission impacts) must be completed by a transmission consulting engineering firm with experience in both FRCC and ITS regions, and outside of Georgia ITS system if applicable, at the Respondent's expense. It is the responsibility of the Respondent to provide all modeling data pertaining to the generation resource and transmission configuration (as applicable) required for the system impact studies.

3) If the Response includes the construction of a new transmission line, its impact must be studied through FRCC's TSR/GISR process. Also, all the regulatory and environmental permitting, and processes for transmission construction as applicable (e.g. TLSA, Order 1000 process as applicable to FRCC etc.) must be followed by the Respondent. Similarly, the impact of the construction of any new

transmission line in Georgia ITS or outside of Georgia ITS must be studied with all appropriate procedure, if applicable.

4) The Respondent will be responsible for ensuring that all required processes associated with interconnection and delivery of power from the facility is initiated according to the required development timeline to meet the proposed commercial operation date.