FRIENDLY AMENDMENT

1.5.11 Treatment of Storage as Transmission Asset (SATA)

1. A storage facility proposed as Storage as Transmission Asset ("SATA") may be considered for inclusion in the RTEP as a transmission enhancement or expansion.
    a. In addition to the criteria set forth in the Operating Agreement, Schedule 6, section 1.5.8(c)(1), all SATA proposals **MUST BE** submitted in the proposal windows **AND** also must contain the following information as part of the proposal:
        i. Direct capital cost;
        ii. Expected useful life;
        iii. Equipment replacement schedules and associated life-cycle costs and other ongoing costs to maintain the SATA at its required capability necessary to address the system needs identified, or otherwise comparable to a traditional wires solution; and
        iv. Other cost and performance information as the Office of the Interconnection may determine is necessary to compare cost and performance with other proposed solutions to the system needs identified.
    b. In evaluating the appropriateness of a SATA proposal as an expansion or enhancement to address the posted reliability violations, operational performance, economic constraints, as well as Public Policy Requirements, the Office of the Interconnection will consider the following factors in evaluating the appropriateness of SATA as proposed to be a transmission solution:
        i. The ability of the proposed SATA to address and solve the posted system reliability violation, operational performance, economic constraints, as well as Public Policy Requirements, in all hours that the system need is determined to exist with a life- cycle cost that is comparable to other proposed transmission solutions, or as otherwise required to address the potential system need after consideration of the comparability in system performance to other proposed solutions, including any non-transmission alternatives.
        ii. The required charge and discharge capability (MWh capability) of the proposed SATA to address the identified system need shall be treated as a Transmission Facility. The capital cost of the SATA MWh capability included in the RTEP is limited to the portion of the SATA's MWh capability required to address system needs and will be pro-rated on that basis if a SATA of higher MWh capability is proposed and selected.

iii. Assurance of sufficient instantaneous energy and/or reactive capability (MWh/MVAr) to charge or discharge energy for any magnitude and duration identified as necessary in the planning study to address the identified system need.

iv. Life-cycle cost comparisons, including consideration of the duration required to address the system needs, which may be less than the life cycle cost of alternatives that would otherwise be required to address the system needs. Life cycle costs shall include all maintenance costs for the life of the SATA to ensure it continues to address the system needs for which SATA was planned throughout the projected life of the facility.

v. Demonstrate operating characteristics necessary to automatically respond to system needs, with the automatic response initiated through sensing of conditions requiring the SATA to be located local to the system need. Additionally, provisions for manual operability of the SATA shall be included in the PJM Manuals.

vi. The SATA must remain connected to the Transmission System while operating to address the system needs for which SATA was planned.

c. In order to consider potential impacts by the proposed SATA on New Service Requests in the New Services Queue, the Office of the Interconnection will test the models used to identify reliability criteria violations, operational performance or constraints with and without the SATA operating in the manner required for the SATA to address the system needs for which SATA was planned. If such assessment demonstrates that the necessary operating mode of the proposed SATA would cause the need for additional system upgrades, the cost of such upgrades driven by the SATA will be included as part of the SATA proposal.

2. Operating Guides associated with SATA will be developed as needed to provide clear guidance with regard to the use of the SATA.
3. Any changes to the location or capability of the SATA included in the RTEP must be proposed through the RTEP planning process.
4. The resource payment and cost allocation for the Annual Transmission Revenue Requirement associated with the SATA will be billed in accordance with Schedule 12.
5. Limitations on SATA Market Activity
    a. A SATA may not offer into PJM's Energy or Ancillary Service Markets.
    b. A SATA's operation will be limited to the charging and discharging necessary for the SATA to meet or be ready to mitigate the identified system needs for which the SATA was included in the RTEP
    c. SATA resources will be paid for the relevant intervals of energy injections and withdrawals reported via Power Meter. Such payments include Spot Market Energy, Transmission Congestion Charges, and Transmission Loss Charges as further described in the PJM Manuals. To avoid double compensation, the SATA owner must account for net revenues paid for the

associated energy injections and withdrawals in the formulation of next year's Annual Transmission Revenue Requirements.