Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market & Infrastructure Development

Date: May 21, 2014

Re: **Decision on interconnection process enhancements for independent study and fast track processes and FERC Order No. 792 compliance**

This memorandum requires Board action.

EXECUTIVE SUMMARY

As part of the interconnection process enhancement initiative, the ISO proposed changes to improve both the independent study and fast track processes. On November 22, 2013, FERC issued Order No. 792 to amend the Small Generator Interconnection Procedures (SGIP) and the ISO incorporated compliance with this order in the independent study and fast track processes improvement stakeholder initiative.

As a result of an extended stakeholder process to address both technical and policy issues related to the independent study and fast track processes, and compliance with Order No. 792, Management proposes revisions to:

- Clarify the independent study process, while expanding the criteria for qualifying for the independent study process;
- Clarify the behind-the-meter expansion process within the independent study process;
- Improve the screens for the fast track process to align them with the ISO's networked transmission interconnection requirements; and
- Comply with Order No. 792 requirements.

Management recommends the following motion:

Moved, that the ISO Board of Governors approves the proposal to modify the independent study and fast track interconnection processes, as described in the memorandum dated May 21, 2014;

Moved, that the ISO Board of Governors approves the proposal to modify the generator interconnection and deliverability allocation procedures in compliance with FERC Order No. 792, as described in the memorandum dated May 21, 2014; and

Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.

DISCUSSION AND ANALYSIS

Independent study process improvements

The independent study process is a process where a project can enter the interconnection study process outside of the annual generator interconnection request window and be studied independently of the projects studied in the cluster study process and on a faster timeline. A project must qualify for the independent study process by demonstrating that it is at an advanced stage of development such that the standard cluster study process cannot accommodate its commercial operation date and any potential network upgrades needed would not be shared by any projects in ongoing cluster studies.

The independent study process was added to the interconnection procedures in 2010. After gaining experience with the relatively small number of projects that have applied for the independent study process to date, the ISO and stakeholders agreed that clarifications and improvements were needed. The primary changes proposed are to:

1. Further define the criteria for independent study process eligibility;
2. Relax the tests for electrical independence;
3. Enhance the process and timeline; and
4. Clarify the behind-the-meter expansion and its impact on net qualifying capacity

The most significant change proposed is the test for electrical independence where the test for independence related to deliverability network upgrades has been removed, leaving only the requirement for independence related to reliability network upgrades in place. This is a significant relaxation of the requirements as independence for reliability network upgrades is a significantly easier requirement to demonstrate than independence from deliverability network upgrades. This change is appropriate since any independent study process project that requests full capacity deliverability status is

already required to be studied for deliverability network upgrades in the next cluster study. Other significant proposed changes relate to providing more definition to the study process, the inputs to the studies, and to the process timeline.

The proposed improvements for the behind-the-meter expansion process include:

1. Removing the requirement for a separate expansion breaker;
2. Adding a requirement for an automatic tripping scheme; and
3. Adding a requirement for separate metering and a separate resource ID to retain the full capacity deliverability status of the original facility.

Fast track Improvements

The fast track process allows for a project of 5 MW or less to seek to interconnect as "energy only" status by passing a set of screening criteria FERC developed as part of its pro forma interconnection procedures. Projects can proceed through the fast track process if all screening criteria are met and it is determined that no upgrades would be reasonably anticipated. To date it has been very difficult for a project to pass all screens. Furthermore, some screens are not relevant for a project seeking to interconnect to a networked transmission system. Such screens, which were included in the FERC pro forma tariff, were designed for distribution level interconnections that are primarily to radial circuits. Accordingly, the fast track improvement process scope was primarily focused on developing more appropriate screening criteria based on both technical and policy considerations. The proposed improved fast track screening process will enable fast track interconnection projects requesting interconnection to the networked transmission system to be processed more quickly and with a greater likelihood of proceeding to commercial operation. The proposed fast track screens are summarized below.

1. The proposed generating facility's point of interconnection must be on the ISO controlled grid, subject to availability of vacant switch rack position at an existing substation. Taps to an existing transmission line shall not be allowed. (new);
2. For interconnections to a radial transmission circuit the aggregated generation on the circuit, including the proposed generating facility, shall not exceed 15 percent of the line section annual peak load. This screen will not be required for a proposed interconnection of a generating facility to a radial line with no load. (modified);
3. The proposed generating facility, in aggregation with other active fast track projects on the transmission circuit, shall not contribute more than 5 percent to the transmission circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership. (modified);
4. The proposed generating facility, in aggregate with other generation on the transmission circuit, shall not cause any transmission protective devices and

equipment, or interconnection customer equipment on the system, to exceed 80 percent of the short circuit interrupting capability; nor shall the interconnection be allowed on a circuit that already exceeds 80 percent of the short circuit interrupting capability. (modified);

5. The generating facility will not be permitted to interconnect in an area where there are known transient stability limitations; voltage & thermal limitations; or any other known reliability limitations. (modified);
6. The proposed generating facility, in the aggregate with other generating facilities interconnected to the same transmission circuit, shall not cause the violation of ISO voltage standards on any ISO controlled facility. (new); and
7. The proposed generating facility, in the aggregate with other generating facilities interconnected to the same transmission circuit on an existing substation, shall not cause the power flow on any ISO-controlled facility to increase by 5 percent, and shall not exceed 80 percent of the same facility's normal rating. (new)

FERC Order No. 792 compliance

FERC issued Order No. 792 on November 22, 2013, to adopt reforms to the small generator interconnection procedures and small generator interconnection agreement originally set forth in FERC Order No. 2006. In Order No. 792, FERC directed that public utility transmission providers submit revised tariffs to comply with these reforms by August 1, 2014. Given the timing of this directive, the ISO incorporated its compliance effort into the fast track improvement stakeholder discussions.

Order No. 792 amends the pro forma small generator interconnection procedures (SGIP) to:

1. Incorporate provisions that provide an interconnection customer with the option of requesting a pre-application report providing existing information about system conditions at a possible point of interconnection;
2. Revise the 2 megawatt (MW) threshold for participation in the fast track process;
3. Revise the customer options meeting and the supplemental review process following a project's failure of the fast track screens;
4. Allow the interconnection customer the opportunity to provide written comments on the upgrades required for interconnection;
5. Revise the pro forma SGIP and the pro forma SGIA to specifically include energy storage devices; and
6. Clarify certain sections of the pro forma SGIP and the pro forma SGIA.

The ISO and stakeholders developed the plan to comply with Order No. 792's compliance requirements as part of the fast track improvement discussions. Some existing tariff provisions already comply with or are superior to Order No. 792 reforms.

Some issues addressed by the order overlap with the proposed fast track improvements. The ISO will request that FERC approve any deviations from Order No. 792 under the independent entity variation standard[1]. To comply with Order No. 792, the ISO proposes to incorporate the following:

1. Incorporate a pre-application report process that applies to projects no larger than 20 MW;
2. Maintain its current fast track eligibility thresholds at 5 MW for all interconnection types;
3. Modify the customer options meeting and supplemental review process;
4. Define electric storage devices 20 MW or less as generating facilities;
5. Incorporate Order No. 792's direction for how to measure capacity of energy storage resources for interconnection purposes.

POSITIONS OF THE PARTIES

All stakeholders fully support the proposal with the exception of the clarifications to the behind-the-meter expansion and its impact on net qualifying capacity. While the behind-the-meter process was initially a very minor component of the improvements proposed here, a minority of stakeholders raised the following concerns with Management's proposed treatment of behind-the-meter expansions:

1. *Proposal should be modified to allow behind-the-meter expansions to be eligible for the annual full capacity process.*

   Management Response:

   The annual full capacity process allows projects that are energy only to seek some level of deliverability based on unallocated transmission capacity that their project could utilize. The ISO has determined that a behind-the-meter project is not eligible for the annual full capacity process. Behind-the-meter expansions do not go through a comprehensive reliability assessment and hence are not allowed to dispatch capacity above the capability of the original generating facilities capacity to the grid. If a project desires to seek full capacity deliverability status then it must choose either the full independent study process or the cluster study process.

[1] The "independent entity variation" standard permits an RTO/ISO to adopt interconnection procedures that are responsive to specific regional needs. Under this standard, the Commission affords an RTO/ISO greater flexibility than it does for a non-independent transmission provider because an RTO/ISO does not own generation, and thus lacks the incentive to discriminate in favor of certain generation or to obstruct access to the grid by independent generators.

2. *Proposal should be modified to allow behind-the-meter capacity to count towards an increase in the net qualifying capacity of the expanded facility above that of the original generating facility.*

Management Response:

As originally conceived and clarified throughout the working group discussions on the independent study process improvements, the behind-the-meter process is designed to add generation behind-the-meter that can supplement the production of the original generating facility's capacity, but cannot raise the total production levels of the expanded facility to levels greater than the original facility's capability. The behind-the-meter process was designed for quick additions of limited amounts of supplemental generation behind the meter of an existing facility without studying the expansion for issues related to reliability and deliverability. To count behind-the-meter's added capacity for a net qualifying capacity increase a comprehensive reliability and deliverability study is needed, the same as standard independent study process or cluster study does for any new project. The behind-the-meter was not intended to be a means to bypass the established study requirements for reliability and deliverability.

3. *Proposal should be modified to allow behind-the-meter capacity expansion through the material modification assessment.*

Management Response

This issue has been raised late in the behind-the-meter improvement process. The ISO has been holding stakeholder discussions related to the interconnection of energy storage facilities and has committed to accept requests for project modifications for "bolt-on" energy storage projects and make a determination for materiality on a case-by-case basis. This will allow the ISO to gain experience in performing material modification assessments on projects seeking to incorporate energy storage and guide future enhancements to the material modification assessment process. Stakeholders that desire to discuss the material modification assessment process further can do so within the ISO's ongoing energy storage interconnection stakeholder initiative.

4. *Proposal should be modified to allow separate owners for behind-the-meter expansion projects.*

Management Response:

The ISO originally proposed not allowing for separate ownership of the original project and the expansion component of the facility because the metering configuration for a behind-the-meter expansion is typically more complex than the original project's meter configuration and would significantly complicate the market settlement. However, after further consideration, the ISO modified the proposal to perform the settlement function in these cases in an aggregated fashion as if the project has a single owner. The owners of the different components of the generating equipment that exist behind-the-meter could disaggregate the ISO settlement amounts as they see fit.

CONCLUSION

Management recommends that the Board approve the proposal described in this memorandum so that improvements to the generation interconnection independent study and fast track processes may be implemented. Furthermore, Management recommends that the proposal related to FERC Order No. 792 compliance be approved so that the ISO may move forward with its compliance filing requirements under the order. This proposal is broadly supported by stakeholders and was refined where possible to address stakeholder comments and concerns. Management believes that its proposal will provide interconnection customers with improved options for interconnection projects, improve the effectiveness of the ISO's study processes and generally improve the efficiency of administering the interconnection queue.