Straw Proposal

A New Scheduling Priority Class for Regulatory Must-Run Pump Load in the Integrated Forward Market and Modifications to the Definition of Regulatory Must-Take Generation

December 14, 2010

Table of Contents

Straw Proposal

A New Scheduling Priority Class for Regulatory Must-Run Pump Load in the Integrated Forward Market and Modifications to the Definition of Regulatory Must-Take Generation

1 Background

The California Independent System Operator Corporation (ISO) has evaluated potential modifications to its tariff in light of two situations that suggest some urgent clarifications. These clarifications would maintain reliability of the state water system and also provide clarity of must-take status for the qualifying facilities in California.

1.1 Scheduling priority for regulatory must-run pump load

Certain pumping facilities within the ISO service territory provide water services that are vital to the state and the health and welfare of California residents. The services may be also subject to federal and state laws. While the schedules of some existing pumping facilities are protected by Existing Transmission Contract (ETC), concerns have been raised with the expiration of such contracts in the near future that the schedules of these critical pumping facilities may be interrupted prematurely without special priority consideration in the ISO scheduling process. The interruption could cause violation of various federal and state legal and regulatory requirements that govern stream flow, water temperature, water quality and quantity, flood control space, after-bay, reservoir, or lake elevation, and other environmental and wildlife constraints.[1]

The ISO recognizes that these pumping facilities require a reliable and flexible supply of energy in order to perform their functions. The ISO has the obligation to ensure energy supply to such pump facilities in the energy scheduling process through its markets, in the absence of a system contingency that affects the facilities. The ISO tariff states the obligation as follows:

> Nothing in this CAISO Tariff is intended to permit or require the violation of federal or California law concerning hydro-generation and Dispatch, including but not limited to fish release requirements, minimum and maximum dam reservoir levels for flood control purposes, and in-stream flow levels. In carrying out its functions, the CAISO will comply with and will have the necessary authority to give instructions to Participating TOs and Market Participants to enable it to comply with requirements of environmental legislation and environmental agencies having authority over the CAISO in relation to Environmental Dispatch and will expect that submitted Bids, including Self-Schedules will support compliance with the requirements of environmental legislation and environmental agencies having authority over Generators in relation to Environmental Dispatch. In contracting for Ancillary Services and Imbalance Energy the CAISO will not act as principal but as agent for and on behalf of the relevant Scheduling Coordinators.[2]

One of the purposes of this stakeholder process is to develop revisions to the ISO tariff so that it can provide necessary protection for the schedules of the critical pump load regardless of the status of ETC. The ISO expects that these tariff revisions may be applicable to other pump load schedules that also have regulatory must-run type of requirements. Based on the ways of

[1] ISO tariff sections 9.3.1.2.1 and 22.13.

[2] ISO tariff section 22.13.

scheduling different types of generation and load in its markets by pre-defined priorities, the ISO proposes to create a new scheduling priority class.

Currently the definition of Regulatory Must-Run Generation in the ISO tariff applies to generation only. However certain pump load as discussed above may also be subject to similar federal and state laws that govern irrigation and water supply. As a result, this ISO will propose an extension of the Regulatory Must-Run definition to applicable pump load in addition.

1.2 Definition of Regulatory Must-Take Generation

The second purpose of this stakeholder process is to develop revisions to the ISO tariff provisions regarding Regulatory Must-Take Generation and its application to qualifying facilities (QFs). Currently, the ISO tariff specifies that "Regulatory Must-Take Generation" has special treatment with regard to certain tariff requirements. The tariff currently defines Regulatory Must-Take Generation as follows:

> Those generation resources identified by CPUC, or a Local Regulatory Authority, the operation of which is not subject to competition. These resources will be scheduled by the relevant Scheduling Coordinator directly with the CAISO on a must-take basis. Regulatory Must-Take Generation includes generation from Qualifying Facility Generating Units subject to a mandatory purchase obligation as defined by federal law, nuclear units and pre-existing power purchase contracts with minimum Energy take requirements.[3]

Recently, the ISO has been approached by representatives of QFs and other facilities that intend to produce electricity in conjunction with an industrial process. These representatives are seeking clarity concerning how their resources will be treated in light of the evolution of state and federal policies affecting QFs. A particular motivating factor is the settlement agreement filed with the California Public Utilities Commission (CPUC) on October 8, 2010 by representatives of QFs, utilities, and ratepayer advocates in CPUC Application 08-11-001 and related proceedings. This settlement agreement anticipates that the utilities will seek to have the Federal Energy Regulatory Commission (FERC) declare that the mandatory purchase obligation of the Public Utility Regulatory Policies Act of 1978 (PURPA) will no longer apply to them. Instead, the utilities will conduct procurement of energy from QFs including combined heat and power facilities through alternative processes.

If FERC and the CPUC were to approve this change in the regulatory framework applicable to combined heat and power facilities, there would be a significant uncertainty how the current tariff definition of Regulatory Must-Take Generation would apply to these facilities. Moreover, the ISO believes that this definition would benefit from updating to make it more generally applicable to industrial facilities capable of producing electricity and to emphasize and clarify the distinction between non-dispatchable and dispatchable generation from these types of facilities. The ISO seeks to encourage the provision of dispatchable capacity from these types of facilities while providing them protection for their non-dispatchable capacity.

2 The ISO Proposal

2.1 New IFM scheduling priority class for regulatory must-run pump load

The ISO proposes to create a new scheduling priority class in the Integrated Forward Market (IFM) for pump load with regulatory must-run requirements. The new scheduling priority

[3] ISO tariff appendix A "Master Definitions Supplement."

class will ensure that schedules of regulatory must-run pump load will not be curtailed unless there is a system contingency that affects the physical capability of transferring energy to the locations of the pumping facilities, or there is severe shortage of energy supply such that the demand of the ISO system cannot be met.

The proposed new scheduling priority class for regulatory must-run pump load has the following characteristics.

1) It has a scheduling priority just below ETCs and Converted Rights, but above transmission constraints. The parameter value ("penalty price") of the class is $5100/MWh in the scheduling run and $750/MWh in the pricing run.[4]

2) The new priority class exists only in the IFM. In the Real Time Market (RTM), the IFM schedules of regulatory must-run pump load are fixed values that are not a part of the RTM optimization.

3) The regulatory must-run pump load must submit self-schedule demand bids into the IFM. The schedules do not need to be balanced as ETC schedules do.

4) The portion of pump load intended to provide non-spinning reserve in the IFM will not be protected under the new priority class.[5]

Revised tariff sections 31.4 and 34.10 will reflect the priority of such regulatory must-run pump load in the IFM relative to other priorities and constraints. In addition, modifications to Market Operations BPM Section 6.6.5, "Adjustments for non-priced quantities in IFM," will reflect the new priority class.

2.2 Revised definition of Regulatory Must-Take Generation and related changes

The ISO proposes to revise the tariff definition of Regulatory Must-Take Generation to remove the limitation based on PURPA and to make it more generally applicable to industrial facilities with the capability to produce electricity in conjunction with the operation of their industrial processes and to other facilities producing electricity in conjunction with useful thermal energy. The revised definition would include the following characteristics:

1) The ISO proposes to remove the limitation that these types of facilities are not subject to competition. The ISO proposes that any industrial facility or other facility producing useful thermal energy with non-dispatchable generation capacity be eligible for this classification.

2) The ISO proposes to remove the limitation that this definition only applies to QFs subject to a mandatory purchase obligation as defined by federal law. If the utilities are successful in obtaining FERC direction that the PURPA mandatory purchase obligation no longer applies to them pursuant to the settlement agreement described above, the ISO does not intend for the current definition of Regulatory Must-Take Generation to end QF eligibility for must-take treatment of non-dispatchable generation capacity.

3) The ISO proposes to revise the definition to emphasize and clarify the distinction between non-dispatchable and dispatchable generation capacity from these types of

---

[4] The $750/MWh parameter value in the pricing run is set equal to the value of the maximum energy bid price, which will be raised to $1000/MWh on April 1, 2011. Some of the existing and proposed IFM parameter values are listed in the Appendix.

[5] This is because the IFM schedules of regulatory must-run pump load are fixed in the RTM and cannot be curtailed to provide non-spinning reserve.

facilities. The ISO believes that the special treatment of must-take generation should be focused on the truly non-dispatchable portion of a facility's output and that a facility for which a portion of its generation is dispatchable should be encouraged to submit economic bids for that portion of generation in the ISO's markets and not have that portion of generation capacity be subject to a blanket must-take requirement.

For discussion purposes, the ISO offers the following potential revisions to the definition of Regulatory Must-Take Generation:

> ~~Those~~ The following G~~g~~eneration resources ~~identified by CPUC, or a Local Regulatory Authority, the operation of which is not subject to competition. These resources will be scheduled by~~ that the relevant Scheduling Coordinator may bid or schedule directly with the CAISO on a must-take basis~~. Regulatory Must-Take Generation includes~~ : (1) G~~g~~eneration from Qualifying Facility Generating Units subject to an Existing QF Contract pursuant to a mandatory purchase obligation as defined by federal law~~,~~; (2) the non-dispatchable capacity of Generation from (a) other QF Generating Units, (b) other Generating Units of facilities producing electricity in conjunction with useful thermal energy, or (c) Generating Units of facilities producing electricity as part of a process to capture and inject carbon dioxide for enhanced oil recovery; (3) Generation from nuclear units; and (4) the minimum take Generation from Generating Units subject to pre-existing power purchase contracts with minimum Energy take requirements.

One logistical aspect of the ISO's proposal is that the ISO does not propose to revise the name of the term "Regulatory Must-Take Generation." This approach would minimize the need for revisions to tariff sections just to revise the references to this term and would avoid the need to have to review agreements and other external documents to consider whether references to that term in those documents will also need to be revised to conform to a change in the name of this term.

In conjunction with the proposed revisions to the definition of Regulatory Must-Take Generation, the ISO anticipates having to make other minor revisions to the tariff to implement its intended revision to the scope and treatment of must-take generation. Provisions that the ISO is considering revising include sections 4.6.3, 9.3.5.2, and 10.1.3.3 with regard to the references in those provisions to existing agreements with the Regulatory Must-Take Generation resources. The ISO is also considering revising provisions of the tariff linking Regulatory Must-Take Generation status to QF status, including potentially expanding the applicability of the provisions of section 4.6.3 and appendix B.3, which currently apply only to QFs, to other Regulatory Must-Take Generation.

The ISO anticipates that these revisions will not require changes to the ISO's systems. The ISO's systems are already programmed to recognize the special category and treatment of Regulatory Must-Take Generation. The ISO expects that its proposal will simply continue to recognize must-take capacity for resources that have non-dispatchable capacity while ending this treatment for resources that do not have non-dispatchable capcity and no longer qualify for regulatory must-take status under any other prong of the revised definition.

3 Curtailment of Regulatory Must-Run Pump Load

The proposed new scheduling priority will provide sufficient protection for regulatory must-run pump load. The likelihood of curtailing the schedules of such pump load should be very small.

The proposed scheduling run parameter value of the new priority class is higher than that of transmission constraints. When there is insufficient energy supply to serve regulatory must-

run pump load due to transmission congestion, the IFM will relax relevant transmission constraints before curtailing the regulatory must-run pump load. Therefore curtailing regulatory must-run pump load will happen only if there is a system contingency that actually limits energy being transferred to the pump facilities or there is a severe system-wide energy supply shortage.

To curtail regulatory must-run pump load in the IFM, the scheduling run LMPs at the locations of the pump facilities must reach the proposed parameter value, $5100/MWh. An ISO review shows that since the implementation of the ISO's new markets on April 1, 2009, the IFM scheduling run LMPs at locations of the California Department of Water Resources pump facilities have never reached $5100/MWh.[6] In other words, the regulatory must-run pump load at these locations would never have been curtailed if this priority class had existed since the implementation of the new ISO markets.

4 Next Steps

The following is a proposed schedule for this stakeholder process. The ISO plans to present a final proposal to its Board of Governors for decision in March 2011.

December 15, 2010	ISO posts the Straw Proposal
December 22, 2010	Stakeholder conference call
January 11, 2011	Stakeholder comments due
January 20, 2011	ISO posts Final Draft Proposal
January 27, 2011	Stakeholder conference call
February 10, 2011	Stakeholder comments due
February 22, 2011	ISO posts Final Proposal
March 30, 2011	ISO Board of Governors meeting for decision

[6] The scheduling run LMP has reached $1500/MWh in only one hour.

Appendix:

Some of the Integrated Forward Market (IFM) Parameter Values[7]

Penalty Price Description	Scheduling Run Value	Pricing Run Value	Comment
Transmission Ownership Right (TOR) self schedule	5900, -5900	750, -30	A TOR Self-Schedule will be honored in the market scheduling in preference to enforcing transmission constraints.
Existing Transmission Contract (ETC) self schedule	5100 to 5900, -5100 to -5900	750, -30	An ETC Self-Schedule will be honored in the market scheduling in preference to enforcing transmission constraints. The typical value is set at $5500, but different values from $5100 to $5900 are possible if the instructions to the ISO establish differential priorities among ETC rights. For some ETC rights the ISO may use values below the stated scheduling run range if that is required for consistency with the instructions provided to the ISO by the PTO.
Converted Right (CVR) self schedule	5500, -5500	750, -30	A CVR Self-Schedule is assigned the same priority as the typical value for ETC Self-Schedules.
Regulatory Must-Run Pump Load	5100	750	Such identified pump load schedules that are required to operate to satisfy state and federal statutory obligations.
Transmission constraints: branch, corridor, nomogram (base case and contingency analysis)	5000	750	In the scheduling run, the market optimization enforces transmission constraints up to a point where the cost of enforcement (the “shadow price” of the constraint) reaches the parameter value, at which point the constraint is relaxed.

[7] “Business Practice Manual for Market Operations” v13