



# **Black Start and System Restoration Phase 2**

**Draft Final Proposal**

**March 14, 2017**

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# Black Start and System Restoration

## 1 Introduction and Background

In order to secure additional black start capability, the California ISO is proposing to change its current practice regarding procurement and compensation for black start services. This proposal includes a process to procure this capability and allocate costs of that procurement. The ISO requests stakeholder feedback on this draft final proposal.

Today, pursuant to NERC reliability standard EOP-005-2, transmission operators must have approved plans for system restoration following widespread outages.<sup>1</sup> Based on the ISO's review of the timelines associated with the ISO and utilities' system restoration plans, the ISO requires additional black start resources to ensure service restoration in the greater San Francisco Bay area in a manner that is reasonably consistent with other major population centers in the state. To secure this additional capability, the ISO proposes to adopt a selection and procurement process. In addition, while the incremental cost for the provision of this service is relatively small compared to the overall cost of electricity supply, fair cost allocation is an important consideration.

## 2 Stakeholder process

In comments on the ISO's straw proposal, stakeholders expressed concern that care should be taken to ensure that any PTO employees used to review and evaluate incremental black start proposals are independent from any PTO employees that may respond to the associated RFP. Specifically, PG&E requested the ISO to revise its proposed process to state that the ISO would consult with a participating transmission owner on the technical merits of offers to provide black start capability but that the ISO select the offer. In addition, the Western Power Trading Forum (WPTF) recommended that an applicable participating transmission owner should provide input as to the technical

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<sup>1</sup> Pursuant to NERC Reliability Standard EOP-005-2, a transmission operator must have a restoration plan approved by its Reliability Coordinator. System restoration plans must be submitted to the Reliability Coordinator on an annual basis. The ISO currently has an approved system restoration plan. The ISO tariff requires the ISO to determine the amount and location of black start generation it requires through a system restoration plan that meets the requirements of applicable reliability criteria. This plan draws from and considers the system restoration plans of participating transmission owners. The ISO may, however, identify black start generation needs for the ISO system not identified in participating transmission owners' system restoration plans. See ISO tariff section 8.2.3.4.

capability fit of suppliers' offers but WPTF does not support sharing the financial terms of those offers with the participating transmission owner. The ISO's Department of Market Monitoring (DMM) concurred with the stakeholders noting in comments they submitted that to avoid the appearance of bias in selection, it could be more appropriate for an independent entity to make the final selection on the basis of cost and merit. The ISO has considered these comments in its development of an incremental black start RFP process.

The ISO has accelerated the schedule for this initiative and appreciates stakeholder participation in this effort. The following table sets forth the remaining dates in this initiative. In addition, the ISO plans to issue in the second half of April technical specifications for the provision of incremental black start capability, a sample black start contract, and draft tariff language to implement this initiative.

<b>Remaining Stakeholder process schedule</b>		
<b>Step</b>	<b>Date</b>	<b>Activity</b>
Draft Final Proposal	March 14, 2017	Post Draft Final Proposal
	March 21, 2017	Stakeholder Call on Final Proposal
	April 4, 2017	Stakeholder comments due
Board approval	May 2, 2017	ISO Board of Governors meeting

### **3 FERC Cost Allocation Principles**

Order Nos. 890 and 1000 set forth FERC's cost allocation principles. They are based on two significant principles for FERC: (1) rates should reasonably align cost allocation for any given transmission facility or group of facilities with the distribution of benefits from the facilities; and (2) cost allocation is not an exact science. FERC recognizes the need for allows ISOs/RTOs flexibility in allocating costs for transmission facilities as long as there is reasonable cost-benefit alignment, adequate incentives to construct new transmission, and general support among the participants across the ISO territory.<sup>2</sup> In Order No. 1000, FERC specified six cost allocation principles for new transmission projects:

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<sup>2</sup> See *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, FERC Stats. & Regs. ¶ 31,241 at P 559; *order on reh'g*, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), *order on reh'g*, Order

1. Costs must be allocated in a way that is roughly commensurate with benefits.
2. Costs may not be allocated involuntarily to those who do not benefit.
3. A benefit to cost threshold may not exceed 1.25.<sup>3</sup>
4. Costs may not be allocated involuntarily to a region outside of the facility's location.
5. The process for determining benefits and beneficiaries must be transparent.
6. A planning region may choose to use different allocation methods for different types of projects.<sup>4</sup>

The ISO plans to generally rely on these cost allocation principles in connection with procuring additional black start capability.

## 4 Draft Final Proposal

The ISO requested stakeholders provide comments on the proposed procurement process to select additional black start resources in the Greater Bay Area and allocate the costs of that procurement.

### 4.1 Procurement

The ISO has considered the comments submitted by stakeholders and agrees that securing additional black start resources should occur through an open and transparent competitive procurement process.

The ISO proposes the following revised general RFP process steps;

1. The ISO, in consultation with the applicable participating transmission owner, will develop a black start technical specification document that defines requirements and key selection criteria.

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No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228, *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

<sup>3</sup> This principle refers to the threshold criterion a transmission planning entity applies to approve an economic transmission project; in effect, it says that the threshold cannot be so high as to prevent approval of projects whose benefits are shown to exceed their costs. Given the significant economic costs associated with a widespread outage, the cost of additional black start capability should easily meet this threshold criterion.

<sup>4</sup> *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 at P 612 et seq. (2011), *order on reh'g*, Order No. 1000-A, 139 FERC ¶ 61,132, *order on reh'g*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012), *aff'd sub nom. S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 41 (D.C. Cir. 2014).

2. The ISO will conduct an onsite meeting to review the technical requirements and selection criteria and answer interested parties questions.
2. The ISO will issue a request for proposals for incremental black start resources.
3. The ISO will apply the technical criteria and evaluate the proposals. The ISO will consult with the applicable participating transmission owner with respect to how each offer meets the technical requirements.
5. The ISO will apply its selection criteria and select the most technically and commercially viable offer based on the technical and cost data submitted. As part of this selection, the ISO will consider the nature of the costs and whether they are reasonable as well as what assurances exist that the prospective black start resource will continue to operate over the term of the black start agreement.
6. The ISO will initiate a contracting process with the black start resource. The contract will be a three party agreement between the ISO, the participating transmission owner and the black start resource.

The ISO requests stakeholder comment on this aspect of the draft final proposal for black start procurement.

## 4.2 Cost Allocation

Stakeholders reiterated that compensation for this service should be based on a cost of service model that reflects capital and fixed operations and maintenance costs plus a reasonable margin. Most stakeholders agreed with the ISO's straw proposal to allocate the costs of incremental black start capability as a reliability services cost. Under this approach, the ISO would allocate the black start procurement costs to the applicable participating transmission owner and the participating transmission owner would recover these costs through its reliability services tariff.

In its comments, SCE raised a concern that its current tariff does not allocate reliability service charges to all municipal entities operating within SCE's transmission access charge area. SCE asked that the ISO consider allocating the costs to all scheduling coordinator for load serving entities within an applicable transmission access charge area consistent with ISO tariff section 43.8.5, *Allocation of CPM Significant Events*. The Capacity Procurement Mechanism (CPM) Designation grants the ISO the authority to designate eligible capacity for specific circumstances. Section 43.2.4 of the ISO tariff notes that the CAISO may designate CPM capacity to provide service on a prospective basis following CPM Significant Event, to the extent necessary to maintain compliance with Reliability Criteria and taking into account the expected duration of the CPM Significant Event. Furthermore, section 43.3.5, Term – CPM Significant Event, limits the duration of the event. The ISO

does not believe the addition of black start resources in the Greater Bay Area meets the general criteria of this section of the tariff.

In addition, the current ISO settlement charge codes for black start costs are not configured to be allocated as CPM Significant Events. Implementing this type of a cost allocation methodology would require, among other steps, settlements software modifications, a product release plan and market simulation testing. This has the potential to add delay and complexity to the procurement of the incremental black start resources required in the greater bay area.

The ISO notes that the incremental procurement of black start resources does not directly affect the current cost allocation structure used by participating transmission owners to recover their existing black start costs from retail bundled customers. Any consideration of changing this cost allocation approach will require additional stakeholder discussion and coordination with the participating transmission owners' local regulatory authority.

The ISO proposes to maintain the cost allocation approach identified in its straw proposal to allocate the incremental costs of black start services to the respective participating transmission owner in which the incremental black start capability is located. The CAISO would invoice the participating transmission owner for incremental black start capability costs as a reliability services cost. The participating transmission owner would recover these costs through its reliability services tariff. Under its tariff, the ISO identifies certain reliability-related costs in support of transmission service it provides. The ISO charges these costs to individual participating transmission owners and the transmission owner then passes through these charges to its customers under the participating transmission owner's tariff, through a reliability services rate schedule. The ISO anticipates it will need to modify its tariff to revise the list of reliability services to include incremental black start capability. Transmission owners may also need to update their reliability services rate schedules in their own transmission owner tariff. The CAISO recognizes that in some specific cases this approach may not allocate incremental black start costs to all transmission customers within a participating transmission owner's transmission access charge area. However, in this instance the use of the PTO's reliability service charge will allocate the incremental black start costs in the greater bay area to the transmission customers benefiting from a the more expedient restoration time.

The ISO also proposes to evaluate potential black start service providers based on a cost of service model. The ISO anticipates that the black start service provider would submit

these costs to the Federal Energy Regulatory Commission for acceptance under Section 205 of the Federal Power Act.

## 5 Contractual Considerations

The length of any contractual commitment by the ISO and the black start service provider carry different risks and benefits to each party. A longer commitment term to the ISO will provide greater certainty of sufficient black start capability, but the ISO may also want reasonable exit provisions to address changes in circumstances. Similarly, a longer term contract provides greater certainty to the black start service provider, but also could restrict future flexibility for the resource.

The term of black start service provision contracts should take into account the cost-of-service based approach anticipated for compensating black start service providers. These arrangements should provide a reasonable expectation of cost recovery and margin to the black start service provider, but not sufficient revenue to keep an otherwise uneconomic resource in operation. The ISO also appreciates that black start service providers would not want future operation – up to and including retirement – to be overly limited for the relatively marginal incremental benefits obtained by providing black start service provision. To that end, the ISO asked stakeholders to provide comments on the appropriate term for a black start contract as well as whether the ISO should consider the likelihood that a resource will operate for the duration of the contract as a selection factor. The majority of stakeholders stated that the likelihood that a resource will operate for the duration of the black start contract should be considered, in some fashion, in the black start resource procurement analysis. In contrast, one responder noted that this could provide utility owned generation with an advantage due to the fact that these resources do not face the risk of having shorter term commercial commitments. As reflected in its procurement steps identified above, the ISO will consider these comments during the development of the black start resource RFP selection factors and technical specification.

Given this context, the ISO considers that a multi-year contract term with exit provisions is appropriate. A five or (preferably) a ten year term, evergreen unless cancelled, seems a reasonable approach. For termination provisions, the ISO may consider either requiring a 1 year notice requirement to allow for time to identify a replacement resource or explore the option of developing an RMR contract to retain the resource until a replacement resource exists. RMR arrangements including black start service provision could in turn bridge getting alternative resources in place and operational. Stakeholders provided the ISO some



general observations concerning ISO's proposed contract provisions but did not oppose the specific elements referenced in the straw proposal (e.g. PG&E suggested giving preference to those generators that would commit to a longer term contract). The ISO will make a sample black start agreement available for stakeholder review in April 2017.

## **6 Next steps**

The ISO will conduct a conference call to discuss this draft final proposal on March 21, 2017. The ISO invites stakeholders to submit comments on the ISO's straw proposal. Comments are due April 4, 2017 and should be submitted to [InitiativeComments@caiso.com](mailto:InitiativeComments@caiso.com).

Following review and evaluation of the comments received, the ISO will consider potential revisions to its proposal that it will present to its Board of Governors on May 2, 2017.