

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

California Independent System Operator Corporation)	Docket No. ER13-2063-000
)	Docket No. ER14-1004-000

**ANSWER OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
TO A JOINT PROTEST BY THE NRG AND DYNEGY COMPANIES**

The California Independent System Operator Corporation (ISO)¹ hereby files this answer to the February 5, 2014, joint protest submitted by the NRG and the Dynegy Companies in the two above-referenced dockets of the ISO's January 15, 2014, deficiency letter response.² No other party protests the ISO's response to the Commission's request, nor did any other party protest the ISO's original filing in the above-referenced docket.

The Commission should disregard the NRG/Dynegy protest of the ISO's deficiency letter response as it would unjustly impede the ISO's implementation of a proposal that will bring greater efficiency to the ISO markets by requiring units with multiple operating ranges to participate in the multi-stage functionality. NRG/Dynegy fail to present any compelling evidence that the ISO proposal would instead harm market efficiency. Indeed, the central basis for the ISO proposal is to promote efficient and

¹ The ISO is also sometimes referred to as the CAISO. Capitalized terms not otherwise defined herein have the meanings set forth in Appendix A to the ISO tariff.

² The ISO submits this answer pursuant to Rules 212 and 213 of the Commission's Rules of Practice and Procedure, 18 C.F.R. §§ 385.212, 385.213. The ISO requests waiver of Rule 213(a)(2), 18 C.F.R. § 385.213(a)(2), to permit it to answer the protest filed in this proceeding. Good cause for this waiver exists here because the answer will aid the Commission in understanding the issues in the proceeding, provide additional information to assist the Commission in its decision-making process, and help to ensure a complete and accurate record in this case. See, e.g., *Entergy Services, Inc.*, 116 FERC ¶ 61,286, at P 6 (2006); *Midwest Independent Transmission System Operator, Inc.*, 116 FERC ¶ 61,124, at P 11 (2006); *High Island Offshore System, L.L.C.*, 113 FERC ¶ 61,202, at P 8 (2005).

transparent market processes. This is further supported by the fact that NRG/Dynegy continue to be the only parties that protest the ISO's filing despite the lengthy pre- and post-filing public process on this matter.

For these reasons, the ISO respectfully requests that the Commission accept the ISO's July 30, 2013 tariff amendment (as amended on October 17, 2013), subject to any additional amendments to reflect modifications proposed by the ISO in its January 15 response, which the ISO will make on compliance if so ordered by the Commission.

I. PROCEDURAL BACKGROUND

On July 30, 2013, the ISO submitted in docket no. ER13-2063 proposed amendments to its Fifth Replacement FERC Electric Tariff.³ The centerpiece of the proposed amendments would require units with multiple operating ranges to participate in the ISO's multi-stage generating unit functionality.⁴ Under the current tariff, such participation is optional. NRG/Dynegy submitted a joint protest of the tariff filing⁵ and submitted an answer to the ISO's answer to that protest.⁶ On October 22, 2013, Commission Staff issued the ISO a deficiency letter, requesting the ISO provide additional information to support its July 30 filing.⁷ The ISO filed its response on

³ The ISO subsequently amended the tariff filing on October 17, 2013.

⁴ In its initial filing made on July 30, 2013, the ISO proposed to modify sections 11.8.2.1.2, 11.8.3.1.2, and 11.8.4.1.2 to better determine whether a resource was actually on for the purpose of determining whether the resource is entitled to minimum load cost compensation. In the October 17 filing, the ISO filed an additional amendment modifying the proposed effective date from November 1, 2013 to April 1, 2014. In light of the delayed implementation, the ISO also withdrew the proposed amendments sections 11.8.2.1.2, 11.8.3.1.2, and 11.8.4.1.2 because these sections were addressed by the changes proposed in FERC Docket No. ER13-2452. The Commission approved the ISO's changes in that docket on December 19, 2013. *Cal. Indep. Sys. Operator Corp.*, 145 FERC ¶ 61,254 (2013). Therefore, the changes originally proposed to sections 11.8.2.1.2, 11.8.3.1.2, and 11.8.4.1.2 are no longer included in this filing.

⁵ *Cal. Indep. Sys. Operator Corp.*, Limited Protest of the NRG Companies and the Dynegy Companies, FERC Docket No. ER13-2063-000 (Aug. 20, 2013).

⁶ *Cal. Indep. Sys. Operator Corp.*, Motion for Leave to Answer and Limited Answer of the NRG Companies and the Dynegy Companies, FERC Docket No. ER13-2063-000 (Sep. 17, 2013).

⁷ *Cal. Indep. Sys. Operator Corp.*, Deficiency Letter, FERC Docket No. ER13-2063-000 (Oct. 22, 2013).

January 15, 2014, in both of the above dockets. On February 5, 2014, NRG/Dynegy filed a protest of the ISO's deficiency letter response,⁸ to which the ISO now offers this answer.

II. ANSWER

NRG/Dynegy protest the expansion of mandatory participation in multi-stage modeling to any unit that is not a combined cycle.⁹ NRG/Dynegy claim that because there is "no compelling need to approve the CAISO proposal for reliability reasons, the Commission should evaluate the CAISO Proposal with regards to its impacts on market efficiency" ¹⁰

The ISO agrees firmly with the protestants' desire for the Commission to evaluate the ISO proposal on its impact to market efficiency. The Commission should weigh the enhanced economic efficiency of a market dispatch that explicitly models and optimizes for units' actual physical limitations, rather than relying on manual interventions against any countervailing harms of the ISO proposal. Such Commission evaluation will yield an undeniable result: the ISO proposal is just and reasonable and merits adoption. The ISO proposal will provide clear benefits to market efficiency, whereas the market harms alleged by NRG/Dynegy are illusory.

⁸ *Cal. Indep. Sys. Operator Corp.*, Protest of the NRG Companies and the Dynegy Companies, FERC Docket Nos. ER13-2063-000 & ER14-1004-000 (Feb. 5, 2014) (NRG/Dynegy Deficiency Letter Response Protest).

⁹ In its January 15 filing, the ISO addressed earlier protests from NRG/Dynegy suggesting that their opposition to mandatory multi-stage registration is limited to resources that would only be required to register as such because they have multiple operating modes associated with different ancillary services capability. The NRG/Dynegy Deficiency Letter Response Protest clarifies that their objection is not limited to any particular sub-class of non-combined cycle units.

¹⁰ *Id.*

A. The ISO Has Established the Benefits of the Multi-Stage Functionality

Dating to the ISO's initial multi-stage filing in May 2010 running through its most recent response in January 2014, the ISO has provided a clear and consistent account of the benefits of multi-stage modeling.¹¹ In approving the initial multi-stage modeling tariff requirements, the Commission acknowledged these benefits.¹² Indeed such a modeling approach was specifically required by the Commission when the ISO began operation of its nodal market.¹³

For generators that have multiple and mutually exclusive physical operating modes, the multi-stage functionality allows the ISO market systems to optimize the appropriate operating mode, or configuration. In the absence of the ISO proposal, the alternative is to manage these operational limitations through manual interventions such as self-schedules, exceptional dispatch, or derate/rerate tickets in the Scheduling and Logging system for the CAISO (*i.e.*, SLIC). NRG/Dynergy argue that the ISO's ability to manage the operational limitations of the non-combined cycles through existing functionality proves that the ISO proposal is unnecessary.¹⁴ It is certainly true that much of the ISO's operations can be managed manually, even for combined cycles. Indeed, the ISO operated under its nodal market design for nearly two years before implementing the multi-stage functionality. However, these manual interventions are an inferior approach because they are after-the-fact measures that react to what the

¹¹ *Cal. Indep. Sys. Operator Corp.*, Deficiency Letter Response, at 5 & 7-9, FERC Docket Nos. ER13-2063-000 & ER14-1004-000 (Jan. 15, 2014); *Cal. Indep. Sys. Operator Corp.*, Transmittal Letter, at 3-4, FERC Docket No. ER14-480-000 (Jul. 30, 2013); *Cal. Indep. Sys. Operator Corp.*, Transmittal Letter, at 1-2, FERC Docket No. ER12-992-000 (Feb. 3, 2012); *Cal. Indep. Sys. Operator Corp.*, Transmittal Letter, at 1-9, FERC Docket No. ER14-480-000 (May 27, 2010).

¹² *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,087, P 3 (2010).

¹³ *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, P 573 (2006).

¹⁴ *Id.* at 9.

market optimization or generating unit already has done. The multi-stage functionality, in contrast, permits the market optimization to consider the unit's physical restrictions prospectively, allowing for greater overall efficiency. These manual options also increase the risk of generators misrepresenting, either wittingly or unwittingly, the actual physical characteristics of a unit. So the fact that these issues can be managed operationally through manual processes proves nothing about the merits of the ISO proposal. The question is not whether the ISO can operate the grid reliably without multi-stage modeling of resources that can operate in different modes or have operational limitations. The question is whether it is reasonable for the ISO not to seek authority to maximize the benefit of the ISO's efficiency-enhancing multi-stage model to further its ability to operate the system reliably. NRG/Dynegy ask the Commission to ignore the benefits of multi-stage modeling provides and force the ISO to operate under a less efficient market model that imprecisely captures unit's actual physical limitations and flexibilities.

As explained in the July 30 filing, "[t]he time is ripe to make participation in the multi-stage functionality mandatory"¹⁵ because "the multi-stage functionality has operated stably and successfully for over two years"¹⁶ and the market has "benefited from the enhancements provided by the multi-stage generating resources functionality" by optimizing "the use of such resources through the ISO's market dispatch."¹⁷ In light of these issues, the ISO does not see how competitive, efficient, and transparent markets would be best fostered by maintaining the status quo.

¹⁵ *Cal. Indep. Sys. Operator Corp.*, Transmittal Letter, at 7, FERC Docket No. ER14-480-000 (Jul. 30, 2013);

¹⁶ *Id.* at 8.

¹⁷ *Id.*

B. The Multi-Stage Functionality Recognizes Existing Physical Constraints

NRG/Dynegy claim that for non-combined cycle units, registration under the multi-stage functionality creates additional new minimum load levels that are artificial constructs. NRG/Dynegy provide an example of a non-combined cycle that faces a hold point at a certain output level. In their example, when the unit is dispatched upwards, it must hold at that output and not move upward while additional equipment is made available. The hypothetical unit does not, however, face a physical restriction preventing the resource from being dispatched downward. NRG/Dynegy concede that the unit “is clearly not marginal for *incremental* dispatch during the time of the hold”¹⁸ They note, however, that the unit is marginal at the hold point in the downward direction because it is not necessary for the unit to “hold at the low end MW level while it is being ramped down in order to take the auxiliary equipment out of service.”¹⁹ NRG/Dynegy claim that the ISO would make the unit ineligible to set price if it were dispatched downwards even though the unit did not face a physical restriction for dispatch in that direction.

NRG/Dynegy’s claim of compromised price formation due to allegedly artificial modeling of non-combined cycle units has no merit. Specifically, the claim that multi-stage modeling creates *artificial* constraints for non-combined cycle units misrepresents the ISO’s multi-stage functionality. The ISO proposal, instead, recognizes existing *physical* constraints. The ISO proposal is to require that units with physical operating modes, regardless of the technology of the resource, be modeled as multi-stage. In the case of combined cycles, all units with such technology inherently have these

¹⁸ *Id.* at 8 (italics in original).

¹⁹ *Id.* at 8.

limitations. For non-combined cycles that would be subject to the ISO requirement, they would be subject to mandatory MSG because of their operating limitations, not because of any specific technology.

The hypothetical example NRG/Dynegy offer fails to highlight any flaw in the ISO proposal and their critique is based on a simplistic understanding of the full scope of enhanced modeling offered by the multi-stage functionality. Their own example involves a unit with an actual physical restriction (*i.e.*, a hold time driven by the need to put a feed water pump in services) that limits its operational flexibility. The ISO fails to see how it is artificial to recognize this physical limitation. Where the unit does not face a restriction in its downward dispatch, the presence of the hold point in the upward direction would not necessarily prevent the unit from setting price if it were dispatched downwards.

How the ISO optimizes a unit under the multi-stage functionality is driven, in part, by how the configurations are defined. In the NRG/Dynegy example, the unit's hold point could simultaneously mark the minimum load of one configuration and the maximum operating point of another. If the unit were being dispatched upwards, then the unit could be modeled as being in the configuration that has the hold point as the minimum load. In this instance, the unit appropriately would be prevented from setting price. Alternatively, if the unit were dispatched downwards, then it could be modeled as being in the configuration that has the hold point as the maximum operating point. Where a multi-stage unit is at the maximum MW level of a configuration, it would not be restricted in setting price. The mirror situation would receive consistent treatment. If a unit faced a hold point that kept the unit from being dispatched downwards, then it

would be ineligible to set price in that direction but if no restriction kept it from being dispatched upwards, then it would be marginal and could set price.

The NRG/Dynegy price formation argument also ignores the fact that under the status quo, a unit using SLIC to manage a hold time or forbidden region is ineligible to set the marginal price in the direction of the hold or resource limitation.²⁰ Whether the NRG/Dynegy steam turbine is modeled as multi-stage or not, it will still be ineligible to set marginal price when it has a hold time in the direction of the hold or constraint. To the extent that behind NRG/Dynegy's protest is the conclusion that the ISO should allow a resource to set the price when it is physically not capable of producing incremental energy when it faces an upward restriction or decremental energy when it faces a downward restriction, then NRG/Dynegy's protest is a collateral attack on the ISO's existing long-standing policy. The ISO proposal to more accurately reflect their actual physical limitations does not degrade market efficiency because units that are not capable of producing incremental or decremental energy do not, and should not, set the price when they are physically constrained.

C. Gas Cost Recovery Issues are Unrelated to the ISO Proposal

Citing recent trends in gas prices, NRG/Dynegy argue that the current ISO market structure puts gas-fired units in an untenable position regarding how they bid in minimum load costs. Specifically, they claim that in contrast to other organized wholesale electricity markets, the ISO market is not designed to react to rapid changes in gas prices. Because each multi-stage configuration has a separate minimum load

²⁰ ISO tariff, §§ 31.3.1.4, 31.5.1.4, 33.8.1, 34.19.2.3.

level, NRG/Dynegy argue that requiring more units to face more minimum load cost considerations exacerbates what they claim is an existing problem.

NRG/Dynegy also claim that these additional minimum load levels distort the bid cost recovery mechanism. According to the protest, when a unit is dispatched below its day-ahead award, its day-ahead bid costs are deemed to be zero but its day-ahead revenues are accounted for as the product of the day-ahead MW award and the day-ahead price. As a result, according to NRG/Dynegy, multi-stage units “that are forced to run below their day-ahead awards are assumed to have day-ahead revenues with no associated day-ahead costs, which severely impacts the protection that BCR is supposed to provide for that unit for that day.”²¹

The NRG/Dynegy complaints about gas prices and bid cost recovery go to whether or not resources are able to recover for gas price excursions under the ISO’s production cost recovery methodology. This issue is entirely unrelated to the ISO proposal in this proceeding. This proceeding is about whether multi-stage registration should be mandatory for certain resources that have true physical operational constraints and characteristics that require them to operate in differing modes so that the ISO can better model and dispatch these resources through its markets reliably.

If NRG/Dynegy believe the ISO markets impermissibly restrict cost recovery, protesting the ISO’s response to a deficiency letter on multi-stage generating is not the appropriate way to register such concerns with the Commission. There is no merit to NRG/Dynegy’s assertion that the registration of more minimum load gas prices forces lesser recovery for fuel costs incurred due to artificial limitations. The ISO’s multi-stage

²¹ NRG/Dynegy Deficiency Letter Response Protest, at 4.

functionality allows for recovery of transition costs between registered configurations to account for the cost of fuel for those movements. The ISO's cost recovery for multi-stage resources provides full opportunity to recover their costs. To the extent that NRG/Dynegy is protesting the ISO's calculation of such costs based on its use of certain indices, such calculations are entirely unrelated to this proceeding.

Further, NRG/Dynegy do not even offer an explanation for how the ISO rules about not counting day-ahead bid costs for units not meeting their day-ahead schedules relates to multi-stage generator modeling. To the extent this aspect of bid cost recovery could be characterized as a flaw of the ISO market, when a unit is modeled as multi-stage, it can seek recovery of transition costs from one configuration to another. Such transition costs can include the increased gas costs arising from moving from one configuration to another. This is a type of cost recovery that is only available if a unit is modeled as multi-stage. Thus, participation in multi-stage modeling would alleviate this hypothetical problem.

III. CONCLUSION

The ISO respectfully requests that the Commission: (a) reject the NRG/Dynegy protest of the ISO's January 15 response to Staff's October 22 request for additional information; (b) accept the ISO's January 15 filing as providing a complete response to Staff's October 22 request; and (c) accept the ISO's July 30 filing as amended on October 17 and subject to any additional amendments ordered on compliance.

The premise of the ISO's initial filing, made over six months ago, remains valid. The ISO has justified its proposal fully and the ISO markets should not face continued uncertainty regarding multi-stage registration. The ISO renews its request that the

Commission provide it authority to require that units with multiple operating ranges participate in the multi-stage functionality.

Respectfully submitted,

By: /s/ David S. Zlotlow

Roger E. Collanton

General Counsel

Anna McKenna

Assistant General Counsel

David S. Zlotlow

Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

Tel: (916) 608-7007

Fax: (916) 608-7222

dzlotlow@caiso.com

Attorneys for the California Independent
System Operator Corporation

Dated: February 20, 2014

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service lists in the above-referenced proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 20th day of February 2014.

/s/ Anna Pascuzzo

Anna Pascuzzo