



Forecast Enhancements in the Buyer-side Mitigation Rules

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July 6, 2016

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Background and Objective

- **Stakeholder meetings:**
 - *December 12, 2014, March 18, 2015, and May 18, 2016*
- **Continue discussion on developing rules to enhance to forecasts used in the Buyer-Side Mitigation (BSM) determinations**
 - *Proposed Framework*
 - *Design Concepts*
- **Next steps**

Benefits

- **The purpose of forecast enhancements in the BSM rules is to improve upon the current BSM rules by refining assumptions on market exit and entry, and thus, assumptions on the resource mix, thereby:**
 - *Addressing concerns raised by the Market Monitoring Unit* and guidance provided by FERC** regarding the issue of treatment the units that have exited or signaled to exit the markets and may potentially return under specific market conditions*
 - *Creating consistent and well-defined rules that will minimize the chances of under or over mitigation*
 - *Better reflecting the value to the market of new entry*

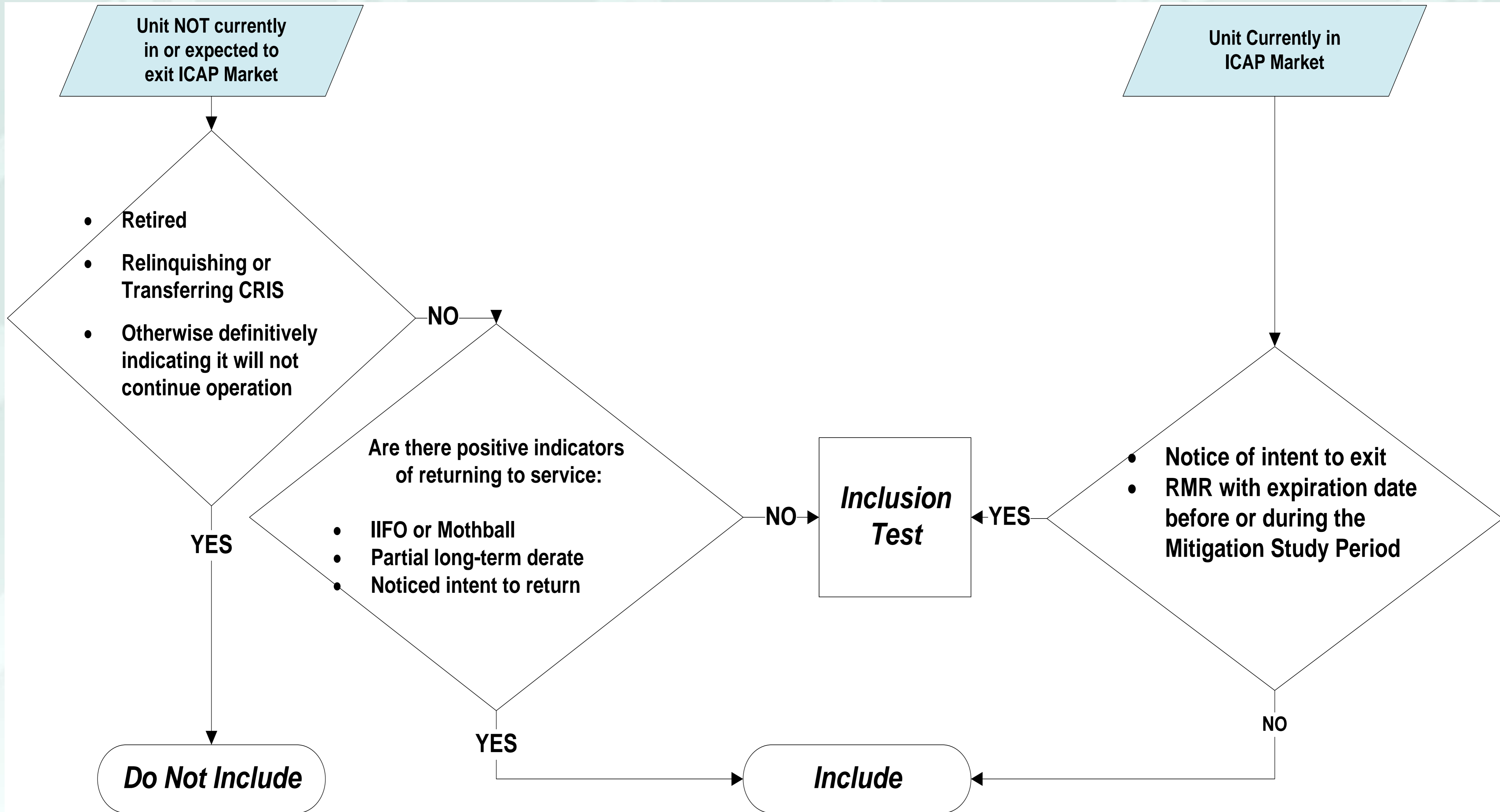
* See SOM and BSM_determination_reports

** See *New York Independent Sys Operator, Inc.*, 143 FERC ¶ 61,217 at P 111 (2013) at P 111

Proposed Framework

- **Include:**
 - *Currently operating (i.e., Gold Book)*
 - *Forced Outage*
 - *Inactive Reserve*
 - unless there publicly available information definitively indicating a unit will not continue operation*
- **Do not Include:**
 - *Retired*
 - *Relinquishing/Transferring CRIS*
 - *Other publicly available information definitively indicating a unit will not continue operation**
- **Include if there are “positive indicators” that resources in the following outage status will be returning to service:**
 - *ICAP Ineligible Forced Outage (“IIFO”), including units that were determined to have had a Catastrophic Failure*
 - *Mothball Outage*
 - *Partial long-term derate*
- **Perform “inclusion test” for certain units; including:**
 - *Any of the above without positive indicators of repair (except Catastrophic Failure units)*
 - *RMR (RSSA) with an expiration date before or during Mitigation Study Period*

*The use of this provision will be accompanied by additional documentation & notice requirements



Proposed Framework (2)

- **Positive indicators that a unit will be returning to service may include**
 - ***(A) indications of repair evidenced by items such as:***
 - ***A repair plan including schedule (e.g., “Credible Repair Plan”)***
 - ***Steps that it has commenced repair(s)***
 - ***Or (B) indications of return-to-service including such items as:***
 - ***visible site activity***
 - ***labor arrangements***
 - ***fuel supply arrangements***
 - ***unit testing***

Inclusion Test

- **Performed for resources that have ability to re-enter the market, or remain in the market, under “favorable conditions”**
- **To evaluate whether a resource might return to service, or remain in service (as applicable), over a given time period (spans from the beginning of CY to the end of Mitigation Study Period**)**
 - *At the time of the BSM determination the NYISO will determine solely for purposes of the BSM determination whether the resources examined in the inclusion test should be assumed “in-service”*
 - *If forecasted market signals are favorable, such resource would be included in the BSM forecasts*

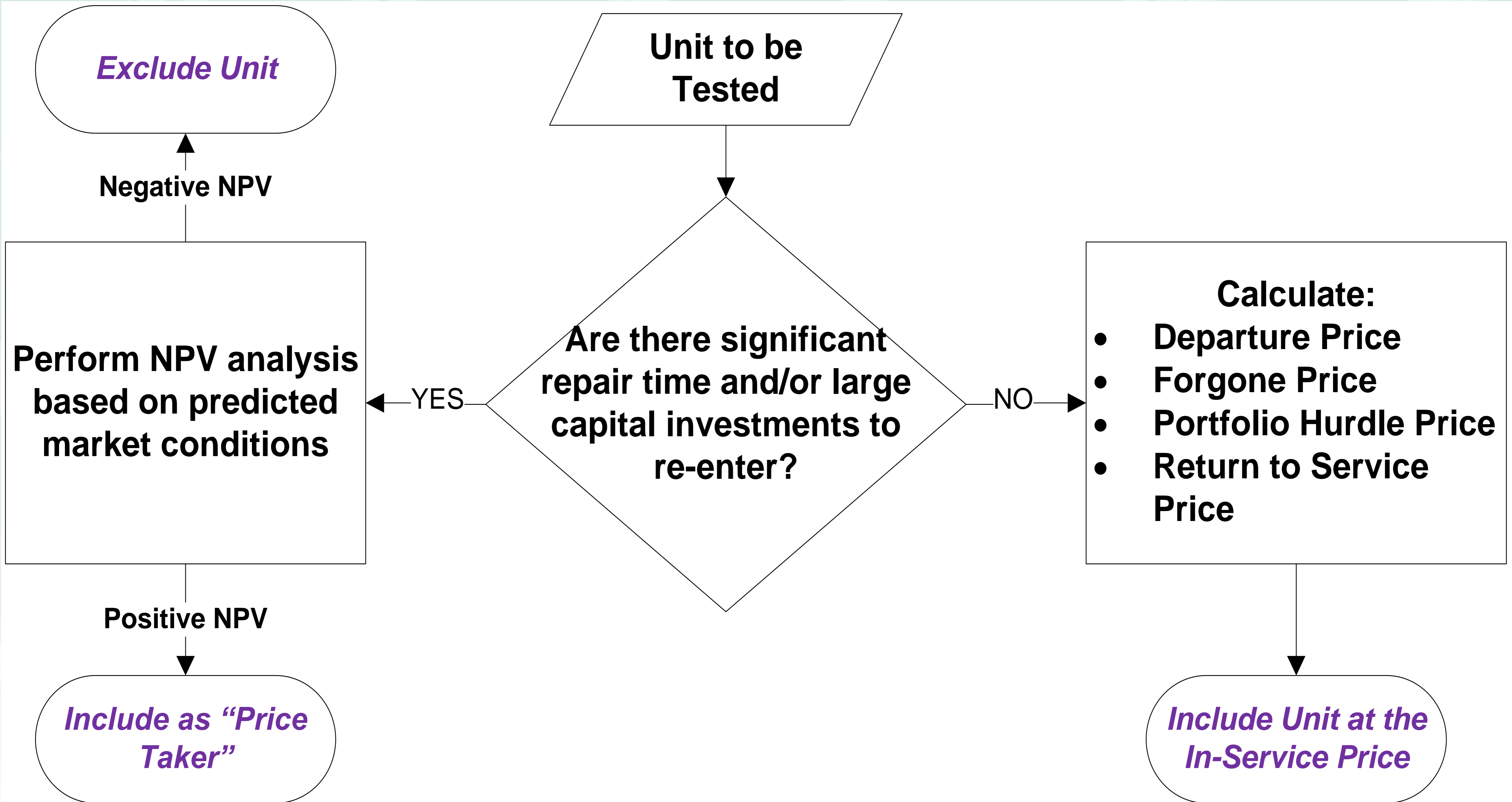
** In a separate proposal, the NYISO will be discussing enhancements to the MSP

Inclusion Test (2)

- For units requiring significant capital investment(s) and/or a long lead time to return:
 - *The analysis is based on the estimated net present value (“NPV”) under predicted market conditions of*
 - estimated costs to return and operate, including lost opportunity costs and lost revenues
 - projected net revenues associated with the production and sale of energy, capacity and Ancillary Services
 - *If NPV is positive, the unit is modeled as “in-service”*
 - *Otherwise, the unit is excluded from the forecasts for the purpose of the BSM evaluation*
- For units requiring small capital expenses and/or a short time to return:
 - *include at (seasonally shaped) “in-service price”*
- The analysis will be performed iteratively in order to efficiently account for competition with proposed new units (from both prior and current CY)

Inclusion Test (3): factors

- **Market Signals**
 - *“departure price”*: collected revenues at which the unit had exited or signaled its intent to exit (not enough to support continued operation)
 - *“forgone price”*: potential revenues the unit could have earned if it had stayed in the market (not enough to trigger its return)
 - *likely projected net Energy, Ancillary Services, and Capacity revenues*
- **Portfolio Effect (“portfolio hurdle price”)**
 - *lost revenues on the rest of the unit owner’s portfolio*
 - for units that are not currently in the market
- **Unit-specific “cost-return-service”**
 - *Calculated based on confidential unit specific data collected by the NYISO*
 - e.g., going forward costs and avoidable costs
- **Any other additional relevant costs or lost opportunity costs based on publicly available and verifiable information**



Inclusion Test (4a)

- For each unit, that requires significant capital investment(s) and/or long lead time to return, calculate NPV of:
 - ***“estimated revenues needed to be recovered” required to support a return to service based on (NYISO will request updated cost information as it is required):***
 - **Projected unit-specific “costs-return-service”**
 - *Avoidable costs, including required capital expenditures*
 - *Mobilization costs (i.e., additional expenses needed to bring the unit back to service, including testing costs)*
 - *Costs associated with RMR contract (i.e., “claw-back” payment (anti-toggling provision))*
 - **Any other additional relevant lost opportunity costs based on publicly available and verifiable information**
 - ***estimated value of net revenues associated with the production and sale of energy, ancillary services and capacity***
 - **including expected lost revenue on the rest of the unit owner’s portfolio due to reduction in ICAP prices**
 - ***analysis is performed for the period from the CY determination point through the end of the assumed investment horizon** (or the end of the MSP, as appropriate)***

** Calculated as the minimum of the periodicity of capital expense replacement and the maximum of 6 years and reasonably expected remaining life of the plant

Inclusion Test (4b)

- For all other units calculate “In-Service Price” based on:
 - **Portfolio Effect*** (“*portfolio hurdle price*”)
 - lost revenues on the rest of the unit owner’s portfolio
 - **“Departure price”**
 - market revenues at the time the unit had exited or signaled its intent to exit (which were not enough to support continue operation)
 - **“Forgone price**”**
 - market revenues that the unit could have been earning if it have stayed in the market (which were not enough to trigger its return)
 - **Return to service price**
 - **Projected unit-specific “costs-return-service”**
 - *including needed capital expenses and costs to re-enter (i.e., mobilization/testing costs)*
 - *any other additional relevant lost opportunity costs based on publicly available and verifiable information*
 - **Estimated value of net revenues associated with the production and sale of energy, ancillary services, and capacity**
 - *including expected lost revenue on the rest of the unit owner’s portfolio due to reduction in ICAP prices*

* applicable to units that are not currently in the market

** most relevant to units requiring smaller capital investment(s)

In-Service Price (1)

- **Portfolio hurdle price**
 - ***Accounts for incentives to withhold***
 - Based on the lost revenue on the rest of the unit owner's portfolio
 - ***Measured as an adjustment for***
 - the minimum level of ICAP price that would ensure that the owner of that unit would not reduce its total ICAP revenue for its portfolio as a result of returning the unit to service (and therefore decreasing capacity prices)
 - ***Applicable to units that are not currently in the market***

In-Service Price (2)

- **Departure price**
 - *Market revenues over several capability seasons preceding the time when the unit exited or signaled to exit*
 - *Indicates that these price levels did not support continued operation*
- **Forgone price**
 - *Market revenues a unit could have earned if it had stayed in the market*
 - From the time when the unit exited or signaled to exit to the BSM determination time
 - *Indicate that these price levels would not support a return to service*
 - *Most relevant for units without required significant capital investment(s)*

In-Service Price (3)

- **Return to Service Price**
 - *Costs that would be avoided if the unit were to exit the ISO-Administered Markets net of likely projected revenues (e.g., going forward costs)*
 - *Mobilization Costs*
 - additional expenses needed to bring the unit to service
 - testing costs
 - *Costs associated with RMR contract*
 - “claw-back” payment (anti-toggling provision)

Next Steps

- The NYISO will consider input received during today's ICAPWG meeting
- Stakeholders can also provide additional comments in writing to deckels@nyiso.com or to jpopova@nyiso.com by July 25, 2016
- Further review of the proposal at a future ICAPWG meeting

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:

- *Maintaining and enhancing regional reliability*
- *Operating open, fair and competitive wholesale electricity markets*
- *Planning the power system for the future*
- *Providing factual information to policy makers, stakeholders and investors in the power system*

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