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Unit Specific MOPR Floor for Resources with Out-of-Market Payments

The amount of out of market ("OOM") payments[1] made to plant developers through contracts or other funding arrangements for the procurement of new generation resources provides a valid and reliable source of data to determine a unit specific "minimum offer price rule" ("MOPR") value for participation in RPM auctions. If achieved via a competitive but discriminatory process[2] or through a regulatory review process, conceptually, these offers and associated OOM payments should reflect the developer's perception of costs and risks associated with the project and thus provide a means to help determine the mitigated MOPR capacity price that should accurately represent the cost of new entry for its project.

The level of OOM payments for the development of new or refurbished electric generating plants is generally determined in one of two basic contexts: (i) a procurement process intended to rely on competition among prospective developers; or (ii) a cost of service study or similar analysis in which the level of costs is reviewed and approved by a governmental agency or oversight board. In both instances, the goal is to force the developers to reveal their lowest cost proposals taking account of each developer's particular situation with respect to factors such as procurement of materials and equipment, access to capital and risk tolerance. Accepting that these processes will be rigorously implemented, it follows that the information inherent in the OOM payment arrangement (whether through contract or regulatory construct) provides the best possible indication of the developer's "true" costs and thus provide a means to help accurately set a valid MOPR floor value for these entities.[3] Other than the impact of the inclusive OOM credit support of such an arrangement, all other information should reflect the best basis for establishing unit specific costs.

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[1] The FERC has defined "out-of-market" payments under PJM's buyer-side market power mitigation rules to include a subsidy payment that a state offers to a generating resource contingent on its clearing in an RPM auction or revenues received through an uncompetitive or discriminatory state-sponsored or state-mandated procurement process. *See PJM Interconnection, L.L.C.*, 143 FERC ¶ 61,090 at PP 28-30 (2013). For purposes of this proposal, the FERC's definition is being accepted.

[2] An example would be a competitive procurement for "new" generation resources only.

[3] This entire discussion presumes, only for these purposes, that such arrangements are not void *ab initio* based on findings similar to those recently made by federal district courts in Maryland and New Jersey. *See PPL EnergyPlus, LLC v. Nazarian*, 2013 WL 5432346 (D.Md. 2013); *PPL EnergyPlus, LLC v. Hanna*, 2013 WL 5603896 (D.NJ. 2013).

By comparison, any other means of determining these parties' costs would be expected to yield less supportable results. Even if reasonable industry proxies for the various factors used to determine cost of new entry could be developed, there will always be a risk that the proxies will not reflect the cost or risk structure of a particular company or project or the associated risk mitigation and incentives contained in the OOM payments. The empirical willingness of a particular company to take on the commercial obligation of constructing a new or refurbished plant via a binding bid provides a much more reliable benchmark for determining a floor reflecting that company's perception of new entry costs. As discussed below, the major modification to the information contained in such offers to establish a MOPR would be to adjust the cost of funds in order to reflect the impact of the OOM payments and subsidy.

The alternative - relying on *post hoc* studies prepared by a company of its "true" costs when it already has entered into an OOM arrangement - can be expected to provide a poor indication of actual costs. In this circumstance, the company has no commercial risk associated with such representations, and, if anything, is biased towards understating costs to reduce the impact of potential mitigation. Indeed, the entire point of the OOM arrangement is typically to make the offeror indifferent to wholesale market results. Accordingly, the *post hoc* study approach is inherently less reliable because of the lack of incentives to accurately report costs in the exception process. Further, while the process of determining the implied cost of new entry associated with particular OOM arrangements will not always be simple, it should be possible to make it relatively objective, transparent and capable of being reproduced. In contrast, not only would the *post hoc* study yield less accurate results, but the implementation of that methodology would be less transparent and more vulnerable to gaming and subjective "inputs."[4]

The basic process for converting OOM payments into an RPM sell-offer price to be used in the unit specific MOPR test is set forth below. In general, this process will consist of two steps: (i) determining the capacity portion of the OOM payment stream; and (ii) using the OOM payment stream amounts to determine a nominal levelized payment calculated in the same fashion as the corresponding reference MOPR unit. For these purposes, the reference unit falls into the categories identified by IMM/PJM, i.e., combustion turbine, combined cycle or IGCC.

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[4] This treatment is also consistent with FERC orders regarding the competitive entry exemption recognizing that market participants in competitive settings have incentives to bid their minimum costs consistent with their perceived return on investment. *See, e.g., PJM Interconnection, L.L.C.*, 143 FERC ¶ 61,090 at P 57 ("Because a purely merchant generator places its own capital at risk when it invests in a new resource, any such resource will have a strong incentive to bid its true costs into the auction, and it will clear the market only when it is cost effective."); *PJM Interconnection, LLC, PJM Power Providers Group v. PJM Interconnection, LLC*, 137 FERC ¶ 61,145 at P 25 (2011) ("[W]e conclude that a competitive capacity market would provide annual revenues over time that, on average, would approximate Net CONE. If annual revenues were significantly lower, prospective developers of new capacity would not enter the market, because they would not expect to recover the costs of their investments over time.")

## I. Determining the Capacity Component of an OOM Arrangement

OOM Contracts:

There will not always be an expressly stated capacity payment component for an OOM contract and, similarly, not always a self-evident value that can be used as the basis for the MOPR unit specific bid determination. This means that, in some cases, the OOM contract must be "decomposed" to determine the appropriate capacity and energy components. The general principle will be to isolate any anticipated energy and ancillary services margins under the OOM contract (using a combination of information from the contract terms and the IMM's/PJM's forecast of future location-specific E&AS offsets) and to subtract these from the total OOM contract payments. Variable payments independent of E&AS (other than appropriate variable O&M) would not be netted.

For example, the simplest case would be a tolling contract that consisted of fixed or scheduled capacity payments to the Seller and in which the Purchaser was responsible for energy related expenses and variable O&M expenses and received energy and ancillary services revenues. Under a contract of this type, the revenue stream should reflect the "Gross CONE" because it would represent the payment stream perceived by the Seller to be needed for new entry without any entitlement to other revenues. Other contract structures with different allocations of costs and benefits would require adjustments to isolate the payment stream that is reflective of Gross CONE. However, it should be possible to develop transparent methodologies to make this calculation.

Appendix A sets forth methodologies for addressing the most likely anticipated alternate contract structures. Naturally, other alternatives could be described and addressed and, to the extent that unanticipated contracted structures were encountered, the "decomposition" process could still be accomplished through the application of general principles.[5]

In this simple case, the displayed Gross Cone would be increased to reflect the higher cost of funds that would be incurred by a market based entrant for the same facility (i.e., remove the benefit of the OOM subsidy). Then a nominal levelized value would be determined consistent with the market based cost of funds. Finally, an E&AS off-set would be applied calculated consistently with the IMM/PJM approach for a similar reference unit in the proposed location.

[5] Total OOM payments arising out of arrangements other than contracts will usually be discernible through findings made by the regulatory body or other authority having decisional authority. The IMM's/PJM's forecast of future location-specific E&AS offsets would be adjusted to reflect these payments, and, similarly, credits or debits to the inferred amount of a capacity payment would be made.

## II. Using the OOM Payment Stream To Determine the Unit Specific Cost of New Entry Value

In the above example, an annual capacity payment was determined for one of several potential different business arrangements reflecting potential OOM payments. This amount then needs to be converted into a single metric that the IMM or PJM can use to make a determination as to what the unit specific Net CONE should be, comparable to the determination used for the reference units.

**Step 1**. Take the isolated capacity portion as determined in Section I above and scale up this amount to reflect the change in NPV that would be expected from the use of the reference unit's cost of funds versus the cost of capital to the holder of the OOM contract supported by out-of-market payments and non-by-passable surcharges. A systematic and transparent method is needed to make this adjustment.[6] Applying a scaling factor to displayed Gross CONE amounts calculated under Section 1, as described below, is proposed to make this adjustment.[7]

An alternative to the scaling factor may simply be to determine the NPV of the gross OOM capacity related payments (using the OOM cost of funds) and then to create a levelized nominal gross capacity payment using the appropriately higher market based cost of funds. Both approaches should reach the same result.

As the base case for both categories of OOM payments, the scaling calculation would use the levelized annual costs of the reference unit as determined using the cost of funds established by the IMM/PJM. For comparison, a lower cost of funds imputed to applicant's plant would be estimated based on the impact of the OOM payments and associated guarantees on the capacity related payments (see below). This cost of funds value would then be used to calculate a lower levelized annual capacity related Gross CONE cost for the reference unit. A ratio would be established based on the higher levelized reference case costs divided by the levelized costs for the same reference unit

[6] It should be possible to partition the adjustment between, on the one hand, OOM payments supported by "self-supply" arrangements by a municipal or public power agency and rate-based recovery arrangement obtained by public utilities and, on the other hand, those that would be supported by a state-directed surcharge on retail rates. While this proposal describes the application of the adjustment to the payment arrangements supported by state-directed surcharges, a similar adjustment would be applied in the case of "self-supply" arrangements that did not qualify for a MOPR exemption.

[7] The appropriateness of this adjustment is supported by FERC precedent recognizing that offers to obtain OOM payments would implicitly/explicitly have assumed a lower cost of funds based on successfully receiving the OOM contract. *See, e.g.*, *Astoria Generating Co., L.P. v. New York Indep. Sys. Operator, Inc.*, 139 FERC ¶ 61,244 (2012). The bias has to be corrected by adjusting for differences in the cost of capital. The value would reflect differences in cost of funds for OOM and merchant projects over the contract term.

using the lower cost of funds associated with the OOM supported unit. The capacity component for the OOM supported unit as determined in Section 1 above would be multiplied by this ratio in determining a unit specific cost.[8]

For the purposes of this calculation, the cost of funds for the OOM supported unit should reflect the ultimate source of security or support. Thus, in the case of a state-directed surcharge on retail rates, the cost of funds would be the cost of debt as supported by a non-bypassable utility surcharge. For example, in the case of the LCAPP contracts in New Jersey, the cost of OOM funds would not be based on the cost of funds to the local distribution companies that were directed to purchase the output. Rather, the cost of funds used in this scaling factor calculation would reflect the lower risk associated with the non-bypassable surcharge imposed by the state action. This reflects the fact that the security for the payments under the contract was not ultimately intended to be provided by the balance sheet of the LDC, but rather by the state action mandating the collection of these costs through the LDC via the surcharge. This results in what is essentially "risk-free" cost of funds or a cost of funds related to the risk of non-recovery via the non-bypassable surcharge. The risk impact is misstated if the only consideration is the cost of funds to the entity collecting the surcharge.

One possible method for calculating the imputed cost of funds for the developer would be to identify the "spread" between debt rates available to typical merchant developers and a risk-free debt rate. This spread could then be subtracted from the reference unit cost of funds to calculate a proxy value cost of funds for the purposes of the scaling factor.[9] Other methods may be possible.[10]

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[8] Logically the cost of funds value associated with plants receiving OOM payments should be lower than the cost of funds established by the IMM/PJM for plants that do not receive such payments. However, in the unlikely event that the cost of funds associated with the plants receiving the OOM payment is adequately shown to be equal to or higher than the cost of funds for the corresponding reference unit, this adjustment would not be necessary.

[9] As proposed here, the debt "spread" would be applied to both the debt and equity components of the cost of funds. This would appear to be a conservative adjustment in that the actual benefit of the OOM payments in terms of savings to the developer would likely be greater than reflected by this method. For example, this calculation does not make any changes to the capital structure even though the OOM payments should enable the developer to carry more debt than assumed for the reference unit.

[10] In the case of OOM payments supported by "self-supply" arrangements by a municipal or public power agency or a rate-based recovery arrangement obtained by a public utility, the cost of funds as used in the calculation of the subsidy adjustment should be the cost of funds approved by the oversight board or regulatory agency. This should be readily discernible from the decisional documents. The base case for this analysis – the numerator in the ratio – would remain the levelized annual costs of the reference unit as determined using the cost of funds established by the IMM/PJM.

For payment terms less than 20 years, no adjustment of the term would be necessary. For example, under a 10 year contract, if the contract ascribed more value for the second 10 years than ascribed by the reference unit calculation, the capacity payment proceeds being received under the contract should reflect the applicant's expectation in terms of higher future margins via a lower bid. Therefore, the offer price would be expected to be representative of this anticipated future revenue and would need no adjustment. Similarly, if the contract ascribes less value than the value ascribed for the reference unit for the second 10 years, the unit-specific value would tend to be higher – consistent with the applicant's view of the market. In the same manner, in this situation, the offeror would have presumably accounted for this lower future income and adjusted its bids accordingly. In each case, the resulting bids implicitly reflect the anticipation of the remainder of the 20 year term.

For payment terms of longer than 20 years, the capacity related payment amounts determined to be received by the applicant would be scaled up to reflect recovery of the same amount of present value over 20 years and the 20-year scaling factor would be applied to that value. This is to conform to FERC's decision to assume the life of a generating unit to be 20 years for the reference unit determination.[11]

**Step 2**: Calculate a PV from the scaled annual capacity payments determined in Step 1. The discount rate will be based on the reference unit cost of funds as determined by the IMM/PJM.

**Step 3**: Using the PV established in Step 2, calculate a nominal levelized payment stream based on the scaled capacity PV for the OOM award project over the contract term (or over 20 years with the adjusted PV for contracts longer than 20 years), using the same discount rate as used for the reference unit.

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[11] *See New York Indep. Sys. Operator, Inc*., 111 FERC ¶ 61,117, P 31 (2005) ("We find that NYISO's use of a 20-year recovery period is reasonable … typical useful life, length of permanent debt term, and the fact that the other RTOs use the same financing period.")

## Appendix A – Possible Alternative Arrangements for Out of Market Contracts

The following are the anticipated alternative situations and approaches to adjustment. Obviously, more alternatives may be possible and should be resolved under the principles identified in Section I of the main body of this document.

1) <u>Tolling contracts with fixed or scheduled capacity payments in which all energy expenses and variable O&M charges as well as all energy and ancillary services revenues go to the Buyer under the OOM contract</u>: (The capacity is assigned to the Buyer (or equivalently transferred via a contract for differences.) In this situation, the OOM payment is equivalent to the concept of Gross CONE. The Seller receives no revenues based on output.

2) <u>Same as "1" above but also including variable tolling payments made by the Buyer to the Seller</u>: To the extent these variable payments are above the IMM's/PJM's estimate of the related variable costs (as used in calculating the unit for the reference MOPR), the above cost portion of variable payments will be added to the capacity revenues and included in the determination of Seller's unit specific MOPR. For example if the IMM/PJM estimates that the appropriate variable O&M payment is $7 per MWH and the payments to the seller are $10 per MWH, the $3 difference will be deemed capacity; or alternatively a situation where payments per start are larger than the IMM/PJM reference estimate, the amount over the estimate will ($7 per MWh) be treated as capacity related revenue to seller. The IMM/PJM will estimate a capacity factor for variable payments based on the estimated capacity factor for the related reference unit. (This can be a default rate or based on how the reference unit would have operated in the forecast or last year.)

3) <u>Contracts with formula capacity payments and all energy margins go to the Buyer</u>. (Capacity and energy deemed transferred to the Buyer.) In such contracts, the IMM/PJM will calculate the estimated capacity payments as per the contract terms without any E&AS offset. This will again establish a Gross CONE as in case 1 above. Again any other variable payments will be reviewed and to the extent they exceed variable costs used in the reference unit calculation, the margin will be added to capacity revenues.

4) <u>Contracts where there is a tolling or capacity payment to the Seller and additionally there is a separate fee other than O&M based on variable output:</u> (Capacity and energy deemed transferred to the Buyer.) These are sometimes called energy or tolling conversion fees. If the IMM/PJM makes two findings: i) that the underlying procurement was competitive (even if discriminatory); and ii) that the sell offer rate into the energy market is reflective of the reference unit cost, then the conversion fees will be treated as an energy offset and used to reduce the capacity payment received by Seller under the contract. If these two determinations cannot be made, the conversion fee will be treated as additional capacity-related income to the Seller and included in the determination of the Seller's unit specific Net CONE.

5) Contracts where there is a fixed capacity payment to the Seller and the Seller retains the energy and right to energy and ancillary services revenue. The fixed capacity payment effectively represents the Net CONE. To determine the Gross CONE, add in the IMM/PJM E&AS offset value.

6) Contracts that have only fixed or formula payments per MWH of output and with no divisible capacity payment. (Capacity and energy market values are deemed delivered to the Buyer) The IMM/PJM will calculate the anticipated gross revenues under the MWH payments (scheduled, fixed or formula) and subtract an appropriate long-term forecast energy and variable O&M expenses commensurate with the reference unit. The remainder will be deemed capacity payments. The capacity factor assumed will be that estimated for the reference unit.

7) Contracts with capacity payments but fixed or formula energy payments that *ex ante* are deemed to be above market or defined to be above market. The same type energy forecast used above prepared by the IMM for the appropriate term will be used here and subtracted from estimated fixed or formula energy rates and the difference added to capacity revenues. If the difference is zero or negative, nothing will be added or subtracted.

8) Contracts with lump or periodic side payments as potential additional compensation to any of the above. Aside from the above adjustments, all such additional revenue will be deemed capacity payments for the purposes of estimating the MOPR offer floor and included in the calculation of the representative capacity payment.

In each of the above cases, an appropriate nominal levelized unit specific Net CONE payment will be developed reflecting IMM/PJM determined cost of funds and discount rates.