

process. The Commission accepted the ISO's proposal in an order issued on September 26, 2008.³

On September 18, 2009, the ISO filed its tariff amendment to modify the GIPR process in the LGIP, consisting in the main of reductions to the amount of security that it would require interconnection customers to post at the earlier stages of the process to cover the costs of any necessary network upgrades, as well as reducing the amount of security that would be forfeited by interconnection customers that withdrew prior to the construction of those upgrades. Under the label of a "protest" to this amendment, one entity, Clipper Windpower, filed comments taking issue with a feature of the 2008 GIPR Amendment which was not modified by the September 18 filing, namely, that an interconnection customer's initial security deposit for network upgrades is based on its share of both reliability network upgrades and deliverability network upgrades, even when that interconnection customer switches from Full Capacity deliverability status⁴ to Energy-Only deliverability status.⁵ The ISO provided an answer to Clipper's pleading and Clipper filed an answer to the ISO's answer.

In the November 17 Order, the Commission accepted the ISO's September 18 amendment to the GIPR tariff provisions. With respect to the issue raised by Clipper regarding the appropriate financial security requirements for interconnection customers that change their status from Full Capacity to Energy-Only prior to the commencement of the Phase II study, the

³ 124 FERC ¶ 61,292 (2008).

⁴ Full Capacity deliverability status is defined in the ISO Tariff, Appendix A as "the condition whereby a Large Generating Facility interconnected with the CAISO Controlled Grid, under coincident CAISO Balancing Authority Area peak Demand and a variety of severely stressed system conditions, can deliver the Large Generating Facility's full output to the aggregate of Load on the CAISO Controlled Grid, consistent with the CAISO's Reliability Criteria and procedures and the CAISO On-Peak Deliverability Assessment."

⁵ Energy-Only deliverability status is defined in the ISO Tariff, Appendix A as "A condition elected by an Interconnection Customer for a Large Generating Facility interconnected with the CAISO Controlled Grid the result of which is that the Interconnection Customer is responsible only for the costs of Reliability Network Upgrades and is not responsible for the costs of Delivery Network Upgrades, but the Large Generating Facility will be deemed to have a Net Qualifying Capacity of zero, and, therefore, cannot be considered to be a Resource Adequacy Resource."

Commission noted that it agreed with the ISO as to the importance of tariff provisions balancing the need for required financial security amounts large enough to discourage speculative projects but not so large as to discourage the continuation of viable projects.⁶ However, the Commission expressed concern that it might not be just and reasonable “to require a financial security obligation for an amount greater than an interconnection customer’s full exposure of reliability upgrades” following a customer’s switch from Full Capacity to Energy-Only status.⁷ Therefore, the Commission instituted a Section 206 investigation into the justness and reasonableness of the ISO’s current tariff provisions relating to the financial security deposit following an interconnection customer’s change in status from Full Capacity to Energy-Only, and required the ISO to submit a filing within 30 days of the date of this order demonstrating that such provisions are just and reasonable.⁸ This filing responds to that directive.

II. DISCUSSION

One of the primary goals of GIPR was to reduce queue backlogs and encourage requests that more closely reflected system needs by increasing the level of developer financial commitment required in order to participate in the interconnection process, and by requiring substantial commitments at an earlier stage in the process. At the same time, GIPR streamlined the interconnection study process by reducing the number of studies from three to two, but enhanced the initial study (the Phase I study) by providing that this study would indicate, on a preliminary basis, all of the network upgrades necessary to interconnect the various facilities in each study group, as well as the expected costs of those upgrades. One of the rationales behind this approach was that because substantial financial commitments would be required from interconnection customers earlier in the process, it was appropriate that the Phase I study process

⁶ *Id.* at P 41.

⁷ *Id.*

⁸ *Id.* at P 42.

provide accurate information that customers could use to understand the technical and financial consequences of their interconnection requests, and assess their continued viability.

One of the main decisions that interconnection customers must make at the outset of the GIPR process is whether they wish to be studied as a Full Capacity or Energy-Only resource. Full Capacity deliverability status signifies that the customer wishes to be able to deliver the full output of its facility to the aggregate of Load on the CAISO Controlled Grid along with existing Full Capacity generation, and is willing to fund the network upgrades (known as “Delivery Upgrades”) necessary to do so. A customer that elects Energy-Only deliverability status, on the other hand, signifies that it is not willing to fund Delivery Upgrades and thereby foregoes its ability to be counted as a Resource Adequacy resource for planning purposes.⁹

The results of this election determine how the ISO conducts the Phase I study for each study group within a queue cluster. For all projects in a study group, the ISO identifies Reliability Upgrades, which are those upgrades necessary to safely and reliably interconnect the generators in the study group, through short circuit and stability analyses. However, if one or more projects in a study group have elected Full Capacity status, the ISO also performs on- and off-peak deliverability assessments for those customers electing Full Capacity deliverability status and identifies any additional necessary upgrades, *i.e.*, Delivery Upgrades.¹⁰

Because the need for Delivery Upgrades is, by definition, driven by those customers that have selected Full Capacity deliverability status at the outset of the interconnection process, the Phase I study assigns the costs of Delivery Upgrades to only those customers. With respect to customers that selected Energy-Only deliverability, the Phase I study only assigns those

⁹ Exh. ISO-1 at 3:14-23.

¹⁰ Exh. ISO-1 at 3:23 – 4:5.

customers their share of the costs of the Reliability Upgrades identified in the study.¹¹ This is also reflected in the initial security posting requirement, which requires that within 90 days after the conclusion of the Phase I study (120 days for the transition cluster), interconnection customers post their first financial security based on the overall costs for network upgrades assigned to them in the Phase I study.

In response to requests from certain parties, the ISO agreed that it would include as part of the original GIPR amendment in July of 2008 the option to allow interconnection customers to switch their deliverability status from Full Capacity to Energy-Only at the conclusion of the Phase I study process and prior to the commencement of the Phase II study. The ISO agreed to include this flexibility so that customers who originally expected to interconnect as Full Capacity resources but encountered unexpected hurdles prior to the commencement of the Phase II study could continue the interconnection process as Energy-Only resources in their current queue cluster, rather than having to withdraw and resubmit their application.

Although the ISO continues to believe that permitting this flexibility is a valuable feature of its clustered interconnection process, it is important that this flexibility not trump the fundamental structure and purposes of GIPR identified above. As explained below, it is therefore important to have sufficient financial consequences attached to the decision of interconnection customers to switch their deliverability status, and the requirement that such customers continue to make their first security posting based on the Phase I study cost assignments, which include both Delivery and Reliability upgrades, provides such a consequence, and is not excessive in nature.

¹¹ Exh. ISO-1 at 5:16-22.

A. The Requirement that Interconnection Customers Who Switch Their Deliverability Status Make Their Initial Security Posting Based on Both Delivery and Reliability Upgrades Provides a Financial Incentive Necessary to Protect the Integrity of the Interconnection Process

As Mr. Rutty explains in his attached testimony, associating an appropriate level of costs and financial risk with a switch in deliverability status is important because it encourages interconnection customers to engage in accurate and realistic assessments of their expected deliverability status at the outset of the interconnection process, *i.e.*, at the time that they make their interconnection request, which is important because it preserves the goals of the GIPR process, discourages gaming opportunities that would otherwise arise, and prevents harm to transmission owners and other customers.¹²

Without a sufficiently strong incentive to provide an accurate assessment regarding deliverability status at the outset, the GIPR study process would be undermined. One of the fundamental elements of the GIPR design is a Phase I study that provides, to the greatest degree possible, an accurate assessment of the network upgrades, both Reliability and Delivery, that are necessary to interconnect the customers in each study group. This accuracy depends in large part on the information provided by interconnection customers at the beginning of the study process, particular with respect to deliverability status. If there is little or no assurance that the majority of customers who elect Full Capacity deliverability will maintain that deliverability status throughout the interconnection process, then the accuracy of the Phase I study, insofar as it

¹² Exh. ISO-1 at 7:13-22.

represents a preliminary identification of what network upgrades will ultimately be necessary, is seriously compromised.¹³

Promoting accurate Phase I studies is of the utmost importance. As Mr. Ruttly explains, the Phase I study results provide both customers and transmission providers with critical information that is necessary for them to make informed business and engineering decisions, and in particular, for assessing ongoing project viability. Without a reasonable expectation of accuracy in the Phase I studies, participants will be placed in the position of having to make these types of decisions with little or no solid information upon which to rely. The result will be a less efficient process overall, with increased costs both to individual interconnection customers and to the grid as a whole.¹⁴ As stated earlier, one of the main reasons for developing GIPR was to implement an interconnection process that encouraged decision-making earlier in the process so as to avoid the consequences that all too often resulted under the ISO's previous process from customers withdrawing or modifying their requests well after the study process had commenced.¹⁵

In order to preserve the benefits of the current process, of which an accurate Phase I study is a critical component, it is important to have tangible financial costs and risks connected with an individual interconnection customer's choices on deliverability, so that customers are encouraged to make careful and candid choices regarding their deliverability status from the outset. The collective desire for accuracy in Phase I studies is not in and of itself a sufficient incentive. This is because while there is theoretically an incentive for customers, in the aggregate, to make accurate and candid deliverability elections at the outset, in the context of an

¹³ Exh. ISO-1 at 8:1-12.
¹⁴ Exh. ISO-1 at 8:14-20.
¹⁵ Exh. ISO-1 at 8:21 – 9:2.

individual customer, the incentive is only that *other* interconnection customers do so.¹⁶ Mr. Rutty explains that this would turn the ISO’s interconnection process into a type of “poker game,” in which customers would be often be best served by working directly contrary to the interests of other customers and transmission providers.¹⁷

This environment would encourage gaming behavior by participants. Mr. Rutty provides an example of one type of gaming behavior that might result: because of the often “lumpy” nature of network upgrades, a customer might elect Full Capacity deliverability status and then subsequently switch to Energy-Only, with the knowledge or expectation that at least one other customer in the study group will remain as Full Capacity, thereby gaining the benefits of Full Capacity status while unfairly pushing the costs of the Deliverability upgrades on to other interconnection customers and/or the transmission owner.¹⁸ The ISO submits that this sort of incentive is contrary to a fair and efficient interconnection process. The interconnection process should be as transparent as possible, so that all participants have sufficient information in order to make well-informed and rational decisions. Ultimately, it is this sort of process that encourages the best grid design in terms of integrating both generation and transmission assets, which results in the lowest costs to end-use consumers.

B. The Costs and Risks Associated with Posting Initial Security Based on Both Reliability and Delivery Upgrades for Interconnection Customers Who Switch Deliverability Status Are Appropriate and Reasonable Means to Ensure the Integrity of the Interconnection Study Process

Given the importance of maintaining direct financial incentives encouraging realistic and accurate customer choices regarding deliverability from the outset of the interconnection process,

¹⁶ Exh. ISO-1 at 9:7-16.
¹⁷ Exh. ISO-1 at 9:18-21.
¹⁸ Exh. ISO-1 at 9:21 – 10:4.

the ISO submits that it is entirely just and reasonable to require that interconnection customers who switch their deliverability status after the conclusion of Phase I be required to make their initial security posting based on the costs assigned to them through the Phase I study, *i.e.*, based on the costs of both Reliability and Delivery upgrades. Moreover, because of the various limits on these costs and risks, the magnitude of the financial consequences to interconnection customers who switch their deliverability status is not excessive in nature.

First, for an interconnection customer that switches from Full Capacity to Energy-Only deliverability and remains in the interconnection process through at least the date on which the second posting of financial security is due (180 days after publication of the Phase II study), the only cost that such a customer might incur as a result of having to make their initial posting based on the costs of both Reliability and Delivery network upgrades is the cost of money associated with maintaining a larger letter of credit or other financial security, based on any difference between the amount of Reliability and Deliverability upgrade costs assigned to that customer.¹⁹ The exact cost will obviously vary from customer to customer, but would presumably not be excessive for any reasonably creditworthy entity. No customer, including Clipper Windpower, has demonstrated any result to the contrary. Moreover, at the conclusion of Phase I, prior to the initial security posting deadline, the customer always has the option of withdrawing from the current queue cluster and placing a new interconnection request in the next LGIP interconnection request window. While the customer making this choice would have to place an additional study deposit with the ISO, the second request could reflect the customer's revised choice of Energy-Only deliverability status and the customer would not be required to make an initial security posting that included any Delivery network upgrade costs in the subsequent queue cluster. Accordingly, the customer can weigh the option of providing another

¹⁹ Exh. ISO-1 at 11:19 – 12:3.

\$250,000 study deposit and the timeline for interconnection through a subsequent queue cluster against the cost of carrying the required initial deposit for the time period between the initial and second postings of security.²⁰

For the switching customer who elects to remain in the current queue cluster, the time period in which the posting amount is based on both the Reliability and Delivery upgrades is limited to the period between the initial and second security postings, because an interconnection customer's financial security obligation for network upgrades at the time of the second security posting is revised based on the *lesser of* its assigned cost responsibility in the Phase I or Phase II studies. Because an interconnection customer must, if it elects to do so, switch its deliverability status to Energy-Only prior to the Phase II study, the Phase II study will take into account the lower deliverability level and any resulting change in the necessary network upgrades for the study group, and assign costs to the switching interconnection customer limited to those associated with Reliability upgrades.²¹

In addition, the overall amount of security required as of the initial posting is constrained by the formula set forth in Section 9.2 of the LGIP, which limits the required security to the least of 15 percent of the total cost responsibility assigned to the customer for network upgrades, \$20,000 per megawatt of output, or \$7.5 million (but in any event no less than \$500,000). This further limits the cost that an interconnection customer would incur even in maintaining a higher level of credit between the first and second posting dates.²²

Customers that switch their deliverability status and then withdraw prior to the completion of the Phase II study would, as is the case with all customers that withdraw at this stage, forfeit at least some of the security that they provided in their initial posting. However,

²⁰ Exh. ISO-1 at 12:7-19.

²¹ Exh. ISO-1 at 12:21 – 13:8.

²² Exh. ISO-1 at 13:10-19.

assuming that the customer withdraws for one of the reasons set forth in Section 9.4.2 of the LGIP, the amount subject to liquidation is only half of the amount posted, which itself constitutes a small percentage of the overall cost responsibility assigned to the customer for network upgrades based on the Phase I study. Moreover, the amount subject to forfeit is capped at a maximum of \$10,000 per MW of the facility's approved capacity at the time of withdrawal.²³ These limits, which were adopted as part of the ISO's amendment to its LGIP which was filed in September of this year, place at risk a much smaller portion of an interconnection customer's posted security than was the case in the original GIPR security provisions, which the Commission approved as just and reasonable in September 2008.²⁴

Given the importance of maintaining appropriate incentives encouraging realistic and accurate customer choices regarding deliverability discussed above, it is just and reasonable to require interconnection customers who switch their deliverability status to bear these limited costs and risks. This requirement strikes a reasonable balance between promoting a transparent, efficient and cost-effective interconnection process and not excessively penalizing customers for changing their deliverability status.

Nevertheless, if the Commission believes that there is the potential under these provisions for customers that switch their deliverability status from Full Capacity to Energy-Only to bear an unreasonable amount of risk, the ISO, as set forth in Mr. Rutty's testimony, recommends adopting an additional limitation on the amount of security at risk for forfeiture upon withdrawal. Specifically, if an interconnection customer switches its deliverability status and then subsequently withdraws for one of the reasons set forth in LGIP Section 9.4.2, the amount at risk would be capped at an amount equal to its total cost responsibility for Reliability network

²³ Exh. ISO-1 at 14:5-12.

²⁴ Exh. ISO-1 at 14:12-16.

upgrades as assigned in the Phase I study.²⁵ This additional limitation would prevent a situation from occurring in which an interconnection customer who changed its deliverability status and then subsequently withdrew for reasons beyond its control would be required to forfeit more than the total amount of its cost responsibility for Reliability upgrades. Although the ISO does not believe its current tariff provisions are rendered unjust and unreasonable without this additional limitation, it does not believe that it will undermine the incentives for interconnection customers to make careful and candid choices regarding their deliverability status at the time they submit their interconnection requests.

²⁵ Exh. ISO-1 at 15:6-15.

III. CONCLUSION

For the reasons explained above, the Commission should find that the ISO's current tariff provisions regarding interconnection financial security requirements continue to be just and reasonable. However, if the Commission does not believe that it is just and reasonable to require interconnection customers who switch from Full Capacity to Energy-Only deliverability to be at risk for forfeiting an amount of security greater than their maximum commitment for Reliability network upgrades, then the ISO requests that the Commission direct the ISO to adopt that amount as a cap on the amount of security at risk from such customers, but otherwise leave the ISO's existing interconnection security requirements in place.

Respectfully submitted,

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Dated: December 17, 2009

Exhibit ISO-1

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

7 **California Independent System Operator) Docket No. EL10-15-000**
8 **Corporation)**

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**PREPARED DIRECT TESTIMONY OF
STEPHEN RUTTY REGARDING REASONABLENESS OF EXISTING
CALIFORNIA ISO INTERCONNECTION FINANCIAL SECURITY
PROVISIONS**

17 **Introduction**

18 **Q. Please state your name and business address.**

19 **A.** My name is Stephen Ratty. My business address is California Independent
20 System Operator Corporation (ISO), 151 Blue Ravine Road, Folsom, California
21 95630.

22
23 **Q. By whom and in what capacity are you employed?**

24 **A.** I am the Manager of Grid Assets at the ISO.
25

26 **Q. Please describe your professional and educational background.**

27 **A.** I received a BSEE from California Polytechnic State University, San Luis Obispo
28 and a Management for Technical Personnel Certificate from the University of
29 California, Los Angeles. I am registered in the State of California as a
30 Professional Engineer in Electrical Engineering. I worked for the Los Angeles
31 Department of Water and Power for 16 years (1984-2000) in various engineering

1 positions of increasing responsibilities, most recently in the Transmission
2 Engineering section. I joined the ISO in 2000 as a Transmission Engineer in
3 Grid Assets, responsible for implementing the ISO Maintenance Standards. Over
4 the last 8 years, my responsibilities have increased as I was promoted to Senior,
5 then Lead Transmission Engineer. In early 2007, I was promoted to Manager of
6 Grid Assets. As Manager of Grid Assets, I oversee the Transmission
7 Maintenance group, the Loads and Resources group, and the Resources
8 Interconnections group.

9

10 **Q. Please describe your role in the development of the Generation**
11 **Interconnection Process Reform (GIPR) proposal.**

12 **A.** As mentioned in the prior question, I oversee the Resources Interconnection group,
13 which is responsible, among other things, for the implementation of the ISO's
14 Large Generation Interconnection Procedures (LGIP). In this capacity, I have
15 been responsible for the development of the GIPR from its beginning as well as
16 its implementation.

17

18 **Q. What is the purpose of your testimony?**

19 **A.** My testimony will address the justness and reasonableness of the ISO's current
20 tariff provisions relating to financial security requirements for interconnection
21 customers. In particular, I explain why it continues to be reasonable for the ISO
22 to require that an interconnection customer that elects Full Capacity deliverability
23 status in Phase I of the interconnection study process be required to make its

1 initial financial security posting based on the costs of both reliability and delivery-
2 related network upgrades, even if that customer decides to switch to Energy-Only
3 deliverability status at the conclusion of Phase I. As I explain in detail below, this
4 policy is reasonable because it provides an appropriate incentive for
5 interconnection customers to accurately identify their desired deliverability status
6 at the time of their interconnection request, which is important to preserving the
7 efficient functioning of the GIPR interconnection process.

8
9 **Overview of ISO Deliverability Status and Interconnection Financial Security**
10 **Requirements**

11
12 **Q. Please describe the two levels of deliverability status under the ISO's GIPR**
13 **provisions.**

14 **A.** When an entity submits a request for interconnection service under the ISO tariff,
15 it must elect a deliverability status: either Full Capacity or Energy-Only. Full
16 Capacity deliverability status signifies that the customer wishes to be able to
17 deliver the full output of its facility to the aggregate of Load on the CAISO
18 Controlled Grid along with existing Full Capacity generation, and is willing to
19 fund the network upgrades (known as "Delivery Network Upgrades") necessary
20 to do so. A customer that elects Energy-Only deliverability status, on the other
21 hand, signifies that it is not willing to fund Delivery Network Upgrades and
22 thereby foregoes its ability to be counted as a Resource Adequacy resource for
23 planning purposes. Under the study process set forth in the ISO's Large
24 Generator Interconnection Procedures ("LGIP") for requests that are evaluated in
25 a queue cluster, the ISO identifies Reliability Network Upgrades, which are those

1 upgrades necessary to safely and reliably interconnect the generators in a study
2 group, through short circuit and stability analyses. The ISO also performs on- and
3 off-peak deliverability assessments for those customers electing Full Capacity
4 deliverability status and identifies any necessary Delivery upgrades, which are
5 known as Delivery Network Upgrades.

6

7 **Q. Can an interconnection customer switch its deliverability status after the**
8 **commencement of the study process?**

9 A. Yes. During the stakeholder process that led to the filing of the GIPR amendment
10 in July of 2008, the ISO, at the request of certain participants, agreed to include
11 provisions in the revised LGIP allowing interconnection customers to switch their
12 deliverability status from Full Capacity to Energy-Only at the conclusion of the
13 Phase I study process and prior to the commencement of the Phase II study. The
14 ISO agreed to include this flexibility so that customers who originally expected to
15 interconnect as Full Capacity resources but encountered unexpected hurdles prior
16 to the commencement of the Phase II study could continue the interconnection
17 process as Energy-Only resources in their current queue cluster, rather than
18 having to withdraw and resubmit their application.

19

20 **Q. Please describe the financial security posting requirements for network**
21 **upgrades as they apply to Full Capacity and Energy-Only interconnections.**

22 A. Under the current provisions of the LGIP, interconnection customers in a queue
23 cluster are required to make postings of financial security at three stages during

1 the interconnection process: (1) 90 days after the publication of the final Phase I
2 study (120 days for the transition cluster); (2) 180 days after the publication of the
3 final Phase II study; and (3) prior to the commencement of construction activities.
4 The initial posting must equal to the least of: (i) 15 percent of the total cost
5 responsibility assigned to the customer in the final Phase I study for network
6 upgrades; (ii) \$20,000 per megawatt of electrical output of the facility; or (iii)
7 \$7,500,000, but in no event less than \$500,000. The second posting must bring
8 the total security to 30 percent of the cost responsibility assigned to the customer
9 for network upgrades as indicated in either the final Phase I or Phase II study,
10 whichever is lower, but in no event less than \$500,000. Finally, prior to the
11 commencement of construction activities, the customer must post security equal
12 to the entire amount of its responsibility for network upgrade costs, as indicated in
13 either the final Phase I or Phase II study, whichever is lower, but in no event less
14 than \$500,000.

15

16 An interconnection customer's cost responsibility for network upgrades as
17 determined in the Phase I and Phase II studies is based on the deliverability status
18 elected by the customer. Interconnection customers who opt for Energy-Only
19 deliverability status are only assigned costs identified in the studies relating to
20 facilities that represent Reliability Network Upgrades. The costs of those
21 facilities that are designated as Delivery Network Upgrades in the studies are
22 assigned solely to those customers who elect Full Capacity deliverability status.
23 Therefore, if a customer elects Energy-Only deliverability status at the outset, all

1 of its interconnection financial security postings will be based only on the costs of
2 the Reliability Upgrades identified for its study group. However, if a customer
3 switches from Full Capacity to Energy-Only after the commencement of the
4 Phase I study, it will still be required to make its initial posting of financial
5 security based on the above formula that includes both Reliability and Delivery
6 Network Upgrades, because it was studied as a Full Capacity resource during the
7 Phase I study consistent with its original deliverability election. It is this
8 requirement which Clipper Windpower took issue with and into which the
9 Commission has initiated an investigation regarding its justness and
10 reasonableness.

11

12 **Q. Do you believe that it is reasonable to require interconnection customers that**
13 **switch their deliverability status from Full Capacity to Energy-Only prior to**
14 **the commencement of the Phase II study to make their initial posting based**
15 **on their share of the estimated costs of both Reliability and Delivery Network**
16 **Upgrades?**

17 A. Yes. I believe this requirement to be reasonable because it ensures that there is
18 sufficient cost and financial risk associated with an interconnection customer's
19 decision to switch its deliverability status so as to encourage interconnection
20 customers to carefully consider and determine the most appropriate deliverability
21 status at the outset, and discourage interconnection customers from attempting to
22 "game" the interconnection process, which would be far more feasible and
23 attractive if customers could switch deliverability status without consequence.

1 Moreover, given the various limits on financial liability contained in the LGIP, I
2 believe that the costs and risks faced by interconnection customers who switch
3 their status are reasonable and do not excessively penalize such customers for
4 making such an election.

5 **Maintaining an Appropriate Level of Cost and Financial Risk for Customers Who**
6 **Switch Deliverability Status Is Critical to Promoting the Correct Incentives and**
7 **Discouraging Gaming Behavior**
8

9 **Q. Please summarize why you believe that it is appropriate for interconnection**
10 **customers switching from Full Capacity to Energy-Only deliverability status**
11 **to incur an appropriate level of costs and financial risk associated with that**
12 **choice?**

13 A. I believe that associating an appropriate level of costs and financial risk with a
14 switch in deliverability status encourages interconnection customers to engage in
15 accurate and realistic assessments of their expected deliverability status at the
16 outset of the interconnection process, *i.e.*, at the time that they make their
17 interconnection request, which is important in order to maintain the integrity of
18 the GIPR process, and discourages gaming opportunities that would otherwise
19 arise. Moreover, it prevents harm to transmission owners and other
20 interconnection customers whose requests are being processed concurrently with
21 the customer who is switching status.

22

23 **Q. Why is it important to have an incentive for interconnection customers to**
24 **make careful decisions and provide candid information regarding their**
25 **desired deliverability status at the outset?**

1 A. Without a strong incentive to provide an accurate assessment regarding
2 deliverability status at the outset, the integrity of the Phase I study would be
3 seriously undermined. One of the fundamental elements of the GIPR design
4 process is a Phase I study that provides, to the greatest extent possible, an accurate
5 picture of the network upgrades, both Reliability and Delivery, that will be
6 necessary in order to accommodate the interconnection requests in a particular
7 study group. If participants have no confidence that most of the customers in a
8 particular study group that initially elect Full Capacity deliverability will maintain
9 that deliverability status throughout the interconnection process, then there can
10 naturally be little confidence in the accuracy of the Phase I study insofar as it
11 represents a preliminary identification of what network upgrades will ultimately
12 be necessary.

13

14 The Phase I study results provide both customers and transmission providers with
15 critical information that is necessary for making informed business and
16 engineering decisions, and in particular, for assessing ongoing project viability.
17 Without a reasonable expectation of accuracy as to the Phase I study, participants
18 will be forced to make important decisions with little or no solid information to
19 rely on, which will certainly result in increased costs, both to individual
20 interconnection customers and to the grid as a whole. This loss of efficiency will
21 undermine the fundamental rationale for implementing GIPR in the first place,
22 which was to provide an interconnection process that encouraged better decision-

1 making at earlier stages so as to avoid, as much as possible, changes later in the
2 process when they are more costly both in terms of time and money.

3

4 **Q. But wouldn't the desire for an accurate Phase I study create an incentive for**
5 **customers to be as accurate and candid as possible regarding their**
6 **deliverability status from the beginning of the process?**

7 A. Yes and no. While in the *aggregate* there would be an incentive for customers to
8 make accurate and candid deliverability elections at the outset, in the context of
9 an individual customer, the incentive is only for *other* interconnection customers
10 to be candid as to their desired deliverability. Stated another way, as long as most
11 of the other customers in a particular study group make their initial deliverability
12 election based on a good-faith assessment of what they actually expect to achieve,
13 the individual customer has no incentive to do so itself, and in fact could possibly
14 derive an advantage vis-à-vis other customers by stating an initial, generally more
15 costly, Full Capacity deliverability status, when in fact, it actually intends from
16 the outset to ultimately switch to Energy-Only deliverability.

17

18 In effect, this would promote an environment in which the ISO's interconnection
19 process is akin to a high-stakes poker game. Under these circumstances,
20 customers would be often be best served by working directly against each other's
21 interests and gaming opportunities would abound. For instance, because of the
22 fact that network upgrades are often "lumpy" in nature, a customer might elect
23 Full Capacity deliverability status and then switch to Energy-Only, with the

1 knowledge or expectation that at least one other customer in the study group will
2 remain as Full Capacity, thereby gaining the benefits of Full Capacity status while
3 unfairly pushing the costs of the Delivery Network Upgrades on to other
4 interconnection customers and/or the transmission owner. I do not believe this is
5 a good model for conducting the interconnection process. Rather, the
6 interconnection process should be as transparent as possible, so that all
7 participants have sufficient information in order to make well-informed and
8 rational decisions. Ultimately, this encourages the best grid design in terms of
9 integrating both generation and transmission assets, which results in the lowest
10 costs to end-use consumers.

11

12 For these reasons, I believe that it is important to have tangible financial costs and
13 risks connected with an individual interconnection customer's choices on
14 deliverability.

15

16 **Q. Are there any other adverse effects to allowing interconnection customers to**
17 **switch their deliverability status without consequence?**

18 A. Yes. Even in the absence of explicit gaming behavior, removing the incentive to
19 realistically identify deliverability status at the outset has the potential to increase
20 costs to other interconnection customers in the queue by requiring those
21 customers to post more security than otherwise would be necessary. I can
22 illustrate this concept by way of an example. Consider a hypothetical study group
23 consisting of five projects, all of which elect Full Capacity deliverability at the

1 outset. The Phase I study estimates \$100M in Delivery Network Upgrades for the
2 entire group (allocating \$20M to each customer). Assume that four of the five
3 projects decide to switch to Energy-Only after the completion of the Phase I
4 study. One project remains at Full Capacity and posts 15 percent of its \$20
5 million cost responsibility for the Delivery Network Upgrades, or \$3 million. In
6 the Phase II study, it is determined that this project alone does not require any
7 Delivery upgrades because there is enough capacity to accommodate its Full
8 Capacity status in light of the fact that all the other projects in the group switched
9 to Energy-Only. In effect, the project that remained at Full Capacity had to put up
10 more security than would have been necessary if the other projects had elected
11 Energy-Only deliverability status at the outset, resulting in increased costs to that
12 customer of maintaining the security as well as an increase in the amount forfeited
13 if the customer was to withdraw.

14 **The Existing Costs and Risks for Interconnection Customers Who Switch**
15 **Deliverability Status Are Appropriate and Reasonable**
16

17 **Q. Can you please explain how the costs to customers that switch their**
18 **deliverability status and remain in the queue are limited?**

19 A. For an interconnection customer that switches from Full Capacity to Energy-Only
20 and remains in the interconnection process through at least the date on which the
21 second posting of financial security is due (180 days after publication of the Phase
22 II study), the only cost that such a customer might incur as a result of having to
23 make their initial posting based on the costs of both Reliability and Delivery
24 Network Upgrades, as opposed to only Reliability upgrades, is the cost of money

1 associated with maintaining a larger letter of credit or other financial security,
2 based on any difference between the amount of Reliability and Delivery upgrade
3 costs assigned to that customer. Although this cost will certainly vary from
4 customer to customer, I do not believe that it would be excessive for a reasonably
5 creditworthy entity.

6
7 Moreover, at the conclusion of Phase I, prior to the initial security posting
8 deadline, a customer always has the option of withdrawing from the current queue
9 cluster and placing a new interconnection request in the next request window.
10 Although a customer making this choice would have to place an additional study
11 deposit with the ISO for this new request, the second request could reflect the
12 customer's revised choice of Energy-Only deliverability status and the customer
13 would not be required to make an initial security posting that included any
14 Delivery Network Upgrade costs in the subsequent queue cluster. Accordingly,
15 the customer can weigh the option of providing another \$250,000 study deposit
16 and the timeline for interconnection through a subsequent queue cluster against
17 the cost of remaining in its original queue cluster and carrying a higher initial
18 security deposit for the time period between the initial and second postings of
19 security.

20
21 Also, the cost of maintaining the higher amount of security will only be incurred
22 for a limited duration – specifically, the time period between the initial and
23 second postings of security. This is the case because an interconnection

1 customer's financial security obligation for network upgrades at the time of the
2 second security posting is revised based on the *lesser of* its assigned cost
3 responsibility in the Phase I or Phase II studies. An interconnection customer that
4 switches its deliverability status to Energy-Only must do so prior to the Phase II
5 study. Therefore, the Phase II study will account for the lower deliverability level
6 and any resulting change in the necessary network upgrades for the study group,
7 and assign costs to the interconnection customer going forward based only on
8 Reliability Network Upgrades.

9

10 It is also important to keep in mind that an interconnection customer's initial
11 posting of security, regardless of whether it elects Full Capacity or Energy-Only
12 deliverability status, is set according to the formula that I discussed above, which
13 limits the required security to the *least of* 15 percent of the total cost responsibility
14 assigned to the customer for network upgrades, \$20,000 per megawatt of output,
15 or \$7.5 million. This formula acts to substantially limit the total amount of
16 security that an interconnection customer must provide as part of its initial
17 posting, and therefore limits the cost that an interconnection customer would incur
18 even in maintaining a higher level of credit between the first and second posting
19 dates. Moreover, the "least of" feature of the financial posting requirement was
20 implemented in a 2009 amendment to the LGIP, and serves to reduce the financial
21 carrying costs for customers switching status as compared to what their second
22 posting requirement would have been under the original GIPR process, which the
23 Commission accepted as just and reasonable in September 2008.

1

2 **Q. What about costs to interconnection customers that switch their**
3 **deliverability status and then subsequently withdraw prior to the date for the**
4 **second posting of security?**

5 A. Such customers would, under the LGIP, forfeit at least some of the security that
6 they provided in their initial posting. However, assuming that the customer
7 withdraws for one of the reasons set forth in Section 9.4.2 of the LGIP, the
8 amount subject to liquidation is only half of the amount posted, which itself
9 constitutes a small percentage of the overall cost responsibility assigned to a
10 customer for network upgrades based on the Phase I study. Moreover, the
11 amount subject to forfeit is capped at a maximum of \$10,000 per MW of the
12 facility's approved capacity at the time of withdrawal. These limits, which were
13 adopted as part of the ISO's amendment to its LGIP which was filed in September
14 of this year, place at risk a much smaller portion of an interconnection customer's
15 posted security than was the case in the original GIPR security provisions, which
16 the Commission approved as just and reasonable in September 2008.

17

18 **Q. Do you believe that it is reasonable for interconnection customers who switch**
19 **their deliverability status to bear these levels of costs and risks?**

20 A. I do. Given the importance of maintaining appropriate incentives encouraging
21 realistic and accurate customer choices regarding deliverability discussed above, I
22 believe that requiring interconnection customers who switch their deliverability
23 status to bear the limited costs and risks that I just identified strikes a reasonable

1 balance between promoting a transparent, efficient and cost-effective
2 interconnection process and not excessively penalizing customers for changing
3 their deliverability status. Therefore, I believe the Commission should find the
4 ISO's existing tariff provisions to be just and reasonable.

5

6 However, if the Commission does not agree that the costs and risks inherent in the
7 ISO's current LGIP provisions are appropriate for customers that switch their
8 deliverability status from Full Capacity to Energy-Only, I would recommend that
9 the Commission find that an additional limitation on the amount of security at risk
10 for forfeiture mitigates any lack of justness and reasonableness in the ISO's
11 current interconnection security provisions. Specifically, if an interconnection
12 customer was to switch its deliverability status and then subsequently withdraw
13 for one of the reasons set forth in LGIP Section 9.4.2, it would forfeit a portion of
14 its security no greater than its total cost responsibility for Reliability Network
15 Upgrades as assigned in the Phase I study. This additional limitation would
16 prevent a situation from occurring in which an interconnection customer who
17 changed its deliverability status and then subsequently withdrew for reasons
18 beyond its control would be required to forfeit more than the total amount of its
19 cost responsibility for Reliability Network Upgrades. However, it will still leave
20 in place what I believe to be sufficient costs and risks associated with changing
21 deliverability status, such that interconnection customers will still be encouraged
22 to make careful and candid choices regarding their deliverability status at the time
23 they submit their interconnection requests.

1

2 **Conclusion**

3 **Q. Does this conclude your testimony?**

4 **A. Yes.**

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceeding, 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 Washington, D.C. this 17th day of December, 2009.

/s/ Daniel Klein
Daniel Klein