MOTION BEFORE NYISO MANAGEMENT COMMITTEE
SUPPLEMENTAL CONGESTION REDUCTION PROPOSAL
As Revised and Approved by Business Issues Committee on February 11, 2003

The objective of this proposal is to provide a method to help meet the intent of both the February 7, 2002 MC approved Congestion Reduction proposal and the NYISO Board's decision of April 17, 2002. These specified the "what"; whereas this supplement goes a step further to describe the "how". In this respect, its aim is to offer a simple transparent procedure that is "implementable" with hopefully no significant new software. It needs to fairly accurately (albeit not perfectly) allocate congestion rent shortfall and surpluses to the TOs responsible, as well as assure that TCCs are not unrealistically subscribed thereby generating excessive shortfalls and/or surpluses.

As such, it includes individual proposals to: (I) Allocate Shortfalls and Surpluses to TOs; (II) Change Monthly Reconfiguration Auction Revenue/Cost Allocations to TOs; (III) Fully-Fund a Realistic Set of TCCs; and (IV) Work Towards Potentially Developing a Transmission Facility Dynamic Rating Program.

This proposal was originally reviewed by the Congestion Reduction Task Force (CRTF) on January 29, 2003 and subsequently by the Market Structures Working Group (MSWG) on February 6, 2003; accordingly, it now reflects changes that resulted from discussions within those groups, as well as the final revisions included by BIC.

I. Proposed Allocation of Shortfalls and Surpluses to TOs

Although the desired "end products" are the gross shortfall[1] and gross surplus[2] generated by each TO; these individual values are not currently known. What is known is: (1) Aggregate Net Shortfall[3] generated by all TOs for each hour; (2) transmission facility outages for each TO for each hour; and (3) hourly congestion prices across interfaces. Given what is known, the following offers a "proration" process to compute and allocate gross shortfall and gross surplus for each TO for each hour:

1) Shortfall and surplus allocations to TOs will be cleared each hour. These proposed changes to congestion rent shortfall and surplus allocations will become effective May 1, 2003 and/or made retroactive to that date.

[1] Gross shortfall generated by a TO is shortfall resulting from that TO's transmission facility outages or derates (i.e., partial outages) which create Day-Ahead transmission capabilities less than capability rights sold (during times when congestion occurs across those facilities).

[2] Gross surplus generated by a TO is surplus resulting from that TO's transmission facilities having ratings such that Day-Ahead transmission capabilities are greater than capability rights sold (during times when congestion occurs across those facilities).

[3] Aggregate Net Shortfall = Aggregate Gross Shortfall less Aggregate Gross Surplus.

2) Only inter-zonal transmission interfaces and the facilities materially associated with those interfaces will be used in the allocation process.

3) Shortfall and surplus allocations will first be made to inter-zonal interfaces. These allocations will be trued-up to the hourly aggregate net shortfall as per the "proration" method illustrated in Figure 1 and Table 1.

   The aggregate net shortfall in the example is assumed to be $6,000 for that Day-Ahead hour (i.e., the actual amount computed by SCUC). The Day-Ahead capability for Interface W-X is 100 MW higher than its TCCs et al subject to full-funding. Alternately, the Day-Ahead capability for Interface Y-Z is 300 MW lower. As a first round in the computation, Interface W-X is credited with a $500 surplus, and Interface Y-Z is charged with $6,000 for shortfall (i.e., interface capability change multiplied by congestion price across that interface). This leaves a mismatch between the "Nominal" Net Shortfall (Sum Total of Col. G on Table 1) and the SCUC computed Day-Ahead Net Shortfall (Bottom value in Col. J on Table 1) of an additional $500 in shortfall that is owed.

   This mismatch or "residual" shortfall from unknown outages, etc., is then allocated to each of the three interfaces on the basis of TCCs subject to full-funding weighted by the average TCC price for each interface. Thus the $500 in residual shortfall is allocated as $63, $172, and $266 to Interfaces W-X, X-Y and Y-Z respectively (these don't necessary add to the total due to round-off error). Ultimately, Interface W-X is credited with a $437 surplus, Interface X-Y is charged with a $172 shortfall, and Interface Y-Z is charged with a $6,266 shortfall. These total to and balance with the Aggregate Net Shortfall of $6,000 as computed by SCUC.

4) Based upon the results of the shortfall/surplus allocations by interface in Step #3, subsequent allocations will then be assigned to individual transmission facilities (and the associated Transmission Owners) based on their impact to an interface's capability (as determined by the NYISO) in a similar "proration" method as illustrated in Figure 2 and Table 2.

   In this example, Interface Y-Z (which was allocated a "Nominal" shortfall of $6,000 and an additional "mismatch" in shortfall of $266 in the previous example) consists of five parallel transmission lines and two capacitor banks that add capability to the Interface. Line 103 (owned by TO "B") is derated by 5%; while Line 107 and Cap Bank #1 (both owned by TO "C") are out-of-service.

   As a result (based on the prorated allocation of lost capability due to facility outages), in terms of the "Nominal" shortfall computed, TO "A" is assigned no shortfall; TO "B" is assigned a shortfall of $545; and TO "C" is assigned a shortfall of $5,455. Additionally, (based on a proration of the capability contributed by each facility) TO "A" is assigned $27 for its share of mismatch shortfall; TO "B" is assigned $159; and TO "C" is assigned $80. These total shortfall allocations ($27 for TO "A";

$705 for TO “B”; and $5,534 for TO “C”) balance with the total assigned net shortfall of $6,266 for the interface.

5) In some cases, different series elements on the same transmission facility will be assigned to different TOs. In these situations, the “root cause” facility outage and the associated TO will be charged with the overall outage. For example, if one TO owns a line connected to a breaker owned by another TO, then:
   a) An outage required for line maintenance (or a fault on the line) will be charged to the TO that owns the line.
   b) An outage required for breaker maintenance (or a fault in the breaker) will be charged to the TO that owns the breaker.
   c) An outage for maintenance on the breaker and line both (the way it should be done – and the way this method will encourage) will be shared by the two TOs.

6) Claims that a facility uprating resulted in a surplus being generated when the interface associated with that facility generated a net shortfall may be difficult to verify. This would be a claim that a small plus still improved the end result even if the overall outcome was a negative.

   So, in order to allow simultaneous shortfall charges and surplus credits to different facilities on the same interface, a protocol will need to be developed to distinguish facility uprates that truly increase an interface’s capability versus uprates that have no actual impact on that interface’s capability.

   Once such a protocol has been developed, a surplus would be credited to an uprated facility when its interface is allocated a net shortfall **if** the ISO can verify that the uprate contributed to an increase in transfer capability over the interface, relative to the capability that would have existed without the uprate. Conversely, a shortfall would be charged to a derated/out-of-service facility when its interface is allocated a net surplus **if** the ISO can verify that the derate contributed to a reduction in transfer capability over the interface, relative to the capability that would have existed without the derate.

7) The originally approved Congestion Reduction Proposal included a proposal to create optional individual Congestion Rent Reserve Funds for each TO in order to smooth out TSC/NTAC charges. This feature is deemed no longer necessary.

8) Tariff language shall be written with sufficient specificity to implement this proposal; but also with sufficient latitude to allow other similar methods to be implemented in its place without the need for another Tariff filing. In this respect, the NYISO will conduct a comparative analysis of the LECG proposal (made to the Congestion Reduction Task Force on January 29, 2003) with this proposal; and will evaluate the accuracy of the proposed method to the LECG proposal. The NYISO will also evaluate the allocation of TCC revenues and shortfalls and congestion surpluses and shortfalls generated within a zone to the TOs within that zone. The NYISO will

present the analysis at a CRTF meeting and determine which proposal will serve as a long-term solution.

Comments:

The proposed process offers the following advantages:

1) Its approach is inherently **fair**:
   a) Derated facilities are charged with a proportional level of shortfall while uprated facilities can simultaneously[4] be credited with a surplus.
   b) Facilities supporting higher amounts of capability are more responsible for shortfalls (or surpluses) caused by their outages/derates (or uprates) than facilities supporting smaller amounts (all other things being equal).
   c) Facilities that impact interfaces with higher congestion prices[5] are more responsible for shortfalls (or surpluses) caused by their outages/derates (or uprates) than facilities impacting interfaces with lower congestion prices (all other things being equal).

2) Its approach **helps reduce shortfall** by:
   a) Focusing responsibility for outages and more closely aligning cause with effect. Thus; it provides a stronger more equitable incentive for TOs to reduce congestion caused by outages. In doing so, it also corrects existing market rules that misdirect penalties and weaken incentives for TOs to reduce congestion.
   b) Placing more emphasis on TOs for the need to assure that their TCC capabilities sold realistically reflect their actual physical capability.

3) Its approach is relatively **simple** and straight-forward (albeit possibly tedious) that should not require significant new (resource intensive) software. Also, although it will essentially meet the same intent, it will no longer require assignment of Counter-Flow TCCs (as was included in the original MC approved proposal).

4) Its approach is relatively **intuitive**, which will much easier allow for "sanity checks". For example, if the Total Computed "Nominal" Surplus (Shortfall)[6] differs widely from the Aggregate Net Shortfall computed by SCUC (multiplied, obviously, by -1), a more detailed investigation of system conditions would be warranted.

5) Its approach **accommodates** derates (partial outages) as well as full outages and uprates; and it accommodates simultaneous derates, outages, and uprates on various facilities. Also, it not only accommodates transmission facilities that directly carry flow across an interface (e.g., a line), but also facilities that indirectly add

[4] This proposal only calls for charging shortfalls and crediting surpluses to different facilities on different interfaces simultaneously; not – at least until a protocol is further developed – on the same interface simultaneously.
[5] Congestion Price = Sink LMP – Source LMP.
[6] Total Computed "Nominal" Surplus (Shortfall) = Sum Total of Col. G on Table 1.

capability to the interface (e.g., a cap bank or a line not on the interface that still impacts that interface).

6) Its approach is relatively **transparent**: the relevant information is readily available on the NYISO OASIS (i.e., Hourly Aggregate Net Shortfall, Day-Ahead Zonal LMPs, and Day-Ahead scheduled transmission facility outages) or from TCC auction results. This will provide a tool to allow TOs to more accurately estimate the potential impact of various outages on congestion shortfall, and subsequently improve outage scheduling to reduce congestion.

7) Its approach is **versatile**; it can be adapted for use in developing procedures to: (a) make Monthly Reconfiguration Auction revenue allocations consistent (Proposal II below); (b) fully-fund a more realistic set of TCCs (Proposal III below); and (c) allow dynamic rating of transmission facilities (Proposal IV below).

Figure 1: Zones and Inter-Zonal Transmission Interfaces

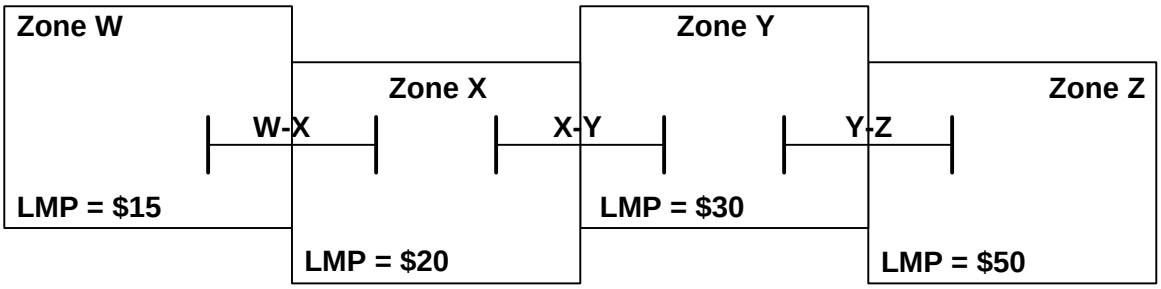

Table 1: Cost Allocation of Surpluses (Shortfalls) by Transmission Interfaces									
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Interface	TCCs et al Subject to Full-Funding (MW)	Avg TCC Price x TCCs et al Subject to Full-Funding ($-MW)	Day-Ahead Interface Capability (MW)	Day-Ahead Capability in Excess of TCCs (MW)	Congestion Price = Sink LMP minus Source LMP ($/MWh)	Computed "Nominal" Surplus (Shortfall) Allocation ($)	Allocated Share of Surplus (Shortfall) Mismatch (%)	Allocated Share of Surplus (Shortfall) Mismatch ($)	Total Surplus (Shortfall) Allocation ($)
W to X	2,000	$8,000	2,100	100	$5	$500	12.5%	($63)	$438
X to Y	2,000	$22,000	2,000	0	$10	$0	34.4%	($172)	($172)
Y to Z	2,000	$34,000	1,700	(300)	$20	($6,000)	53.1%	($266)	($6,266)
					Total	**($5,500)**	**100.0%**	**($500)**	**($6,000)**

Notes:

Surplus cost allocations are Positive; shortfall cost allocations are Negative.

The aggregate net shortfall for this one hour in the Day-Ahead Market (i.e., as computed by SCUC) is assumed to be $6,000 (i.e., Gross Total Shortfall exceeds Gross Total Surplus by $6,000) – this translates to an entry of minus $6,000 for the Total of (Col. I).

Col. A = Inter-Zonal Interface.

Col. B = Total TCCs et al in effect as of the last six-month auction that are subject to Full-Funding.

Col. C = Col. B x Avg TCC Price for each interface where this avg price = $4, $11, and $17 for W-X, X-Y and Y-Z respectively such that the sum total of Col. D = $64,000

Col. D = Day-Ahead capability for the interface used in SCUC.

Col. E = (Col. D) – (Col. B)

Col. F = Zonal LMP in Sink Zone minus Zonal LMP in Source Zone.

Col. G = (Col. E) x (Col. F).

Sum Total of Col. I = Mismatch between SCUC calculated and "Nominal" computed amount = sum total of Col. J less sum total of Col. G = $500 Mismatch in Shortfall

Col. H = (Col. C) / (Sum Total of Col. C).

Col. I = (Col. H) x (Mismatch in Surplus or Shortfall = Sum Total of Col. I).

Col. J = (Col. G) + (Col. I). 030209KN.XLS

Figure 2: Transmission Facilities Associated with Interface Y-Z

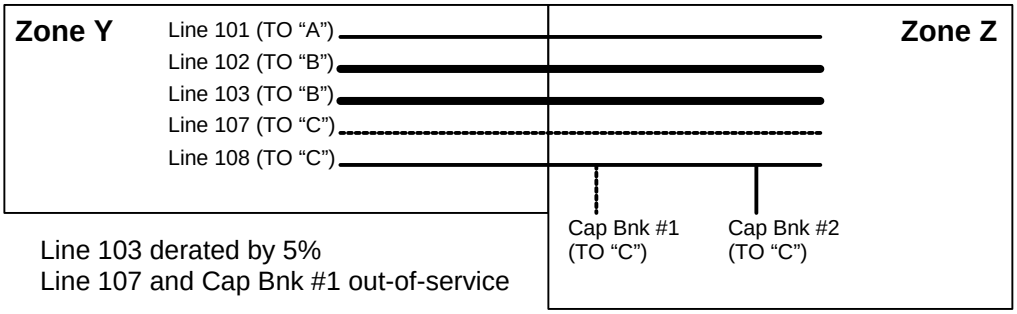

Table 2: Cost Allocation of Surpluses (Shortfalls) by Transmission Facility and TO

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Trans-mission Facility	TO	Capability Impact (if out) on Interface in Auction (MW)	Portion in Service in SCUC (%)	Uprate (Derate) Capability Impact on Interface in SCUC (MW)	Allocated Share of "Nominal" Interface Surplus (Shortfall) (%)	Allocated Share of "Nominal" Interface Surplus (Shortfall) ($)	Allocated Share of Interface's Surplus (Shortfall) Mismatch (%)	Allocated Share of Interface's Surplus (Shortfall) Mismatch ($)	Allocated Surplus (Shortfall) Allocation ($)
Line 101	A	300	100%	0	0.0%	$0	10.0%	($27)	($27)
Line 102	B	900	100%	0	0.0%	$0	30.0%	($80)	($80)
Line 103	B	900	95%	(45)	9.1%	($545)	30.0%	($80)	($625)
Line 107	C	400	100%	0	0.0%	$0	13.3%	($35)	($35)
Line 108	C	400	0%	(400)	80.8%	($4,848)	13.3%	($35)	($4,884)
Cap Bnk 1	C	50	0%	(50)	10.1%	($606)	1.7%	($4)	($610)
Cap Bnk 2	C	50	100%	0	0.0%	$0	1.7%	($4)	($4)
Total of Above		3,000	--	(495)	100.0%	($6,000)	100.0%	($266)	($6,266)
Total Interface Y-Z		**2,000**	--	**(300)**	--	**($6,000)**	--	**($266)**	**($6,266)**
					Total Allocated to TO "A"	**$0**	--	**($27)**	**($27)**
					Total Allocated to TO "B"	**($545)**	--	**($159)**	**($705)**
					Total Allocated to TO "C"	**($5,455)**	--	**($80)**	**($5,534)**

Notes:

Col. A: Transmission Facilitiy that has a capability impact on the interface.

Col. B: Designates Transmission Owner responsible (in some cases, different series elements on the same transmission facility will be assigned to different TOs.)

Col. C: The impact (in MW) - as determined by the NYISO - that a transmission facility has on the interface when that facility is out of service.

Col. D: The portion as a % of total that a facility is in service; e.g., 0% = facility completely out of service.

Col. E = (Col. C) x (Col. D - 100%) = Resulting capability impact on interface: Uprate is Positive; Derate is Negative.

Col. F = (Col. E) / (Sum Total of Col. E); if Sum Total of Col. E is zero, Col. F = (Col. C) / (Sum Total of Col. C above).

Col. G = (Col. F) x (Nominal Surplus or Shortfall Allocated to this Interface from Table 1 = Sum Total of Col. G above).

Col. H = (Col. C) / (Sum Total of Col. C)

Col. I = (Col. H) x (Mismatch Surplus or Shortfall Allocated to this Interface from Table 1 = Sum Total of Col. I above)

Col. J = (Col. G) + (Col. I)

Surplus is Positive; Shortfall is Negative 030209KN.XLS

II. Proposed Changes to Monthly Reconfiguration Auction Revenue/Cost Allocations to TOs

In the process of adopting this congestion rent shortfall/surplus cost allocation proposal, other cost allocations such as the Monthly TCC Reconfiguration Auction revenue should be allocated using the same type of "proration" process. This would insure appropriate/ consistent penalties for a TO whose facilities are available at lower ratings in the monthly reconfiguration auction than in previous auctions (making the sale of counter-flow TCCs necessary). Without a parallel cost allocation for the reconfiguration auction, a TO could evade the shortfall costs of its outages simply because the monthly reconfiguration auction continues to allocates those costs differently. Alternately, a parallel cost allocation would insure appropriate compensation for a TO whose upgrades allow additional TCCs to be sold in the monthly reconfiguration auction. This change to the Monthly TCC Reconfiguration Auction cost allocation will become effective May 1, 2003 and/or made retroactive to May 1, 2003.

III. Proposal for Fully-Funding a Realistic Set of TCCs

The intent of TCC "full funding" was that TO's would only sell a realistic set of TCCs that could be physically supported. As alluded to by the NYISO Board's decision, consequential "over-subscribing" of TCCs can result in excessive shortfall being generated.

The NYISO, in consultation with the MP, will develop a method to apply an availability adjustment to TCCs that can be fully-funded in an effort to balance TCCs with the anticipated average transmission capability. This method will be brought back to the BIC for approval to be implemented in time for the fall 2003 auctions.

Such adjustments will not be conducted with the objective of withholding capability that otherwise could have been used to support TCCs in one part of the system in order to generate a surplus, which then would be used to offset shortfalls that occur in other parts of the system that are over-subscribed beyond their anticipated capability. This would neither be equitable nor efficient. Given this proviso, the issue of dealing with grandfathered TCCs, and potential infeasibilities or near-infeasibilities that may result from grandfathered TCCs, will continue to be explored.

IV. Proposal to Work Towards Potentially Developing a Transmission Facility Dynamic Rating Program

The Congestion Reduction Task Force will meet to discuss the feasibility and desirability of developing a Transmission Facility Dynamic Rating Program that would allow a TO to temporarily change transmission facility limits to take advantage of ambient conditions that are more favorable than those assumed in the TCC Auction, thereby allowing the TO to reduce its shortfall and increase its surplus over short

periods. This could provide increased value to the market because a TO would have an incentive to make additional transmission capability available during peak congestion periods by relying on more current information rather than using more conservative static information.