Draft – For discussion purposes



New York Control Area (NYCA) Installed Reserve Margin (IRM)

Cost Comparison of "Tan 45" and Free-Flowing Equivalent (FFE) IRM Anchoring Methods

Presented to the NYISO Business Issues Committee (BIC)

September 13, 2006



NYCA "As-Found" System compared to 18% IRM Capacity Obligation



NYCA Installed Capacity = 40,947 MW

NYCA Installed Excess Capacity = 1,659 MW

Reliability Criteria drives the IRM ... and LCRs are directly linked to the IRM

- In transmission-constrained systems, resource adequacy criteria are maintained through combined use of *Minimum* Locational Capacity Requirements (LCRs) and system-wide Installed Reserve Margin (IRM) requirements. Currently, two LCRs are established within the New York Control Area (NYCA) — for New York City (NYC) and Long Island (LI).
- In the NYCA, many IRM and LCR combinations exist that equally satisfy resource adequacy criteria and deliver a Loss of Load Expectation (LOLE) of 0.1 day/year.
- The selection of an IRM and corresponding LCRs from several IRM-LCR "point pairs" is heavily influenced by qualitative assessments and engineering judgment.



Currently, there is an 18% Installed Reserve Margin (IRM) to meet the 0.1 LOLE requirement for NYCA...

An 18% IRM reflects Minimum LCRs of 80% for NYC and 99% for LI...

... and the NYSRC Executive Committee (EC) approves the IRM.

...and the NYISO Operating Committee (OC) approves the LCRs.

The "Unified Method"

The "Unified Method" was developed by the NYSRC Installed Capacity Subcommittee (ICS) to synchronize the IRM with corresponding LCRs to establish minimum requirements to meet 0.1 LOLE. Because the "As Found" NYCA is less than 0.1 LOLE (more reliable), "excess" capacity needs to be removed from NYCA – under the Unified Method.

Excess capacity is removed in the following manner;

- Initially, a predetermined amount of capacity is removed from "capacity rich" Zones (Zones A, C, and D) that provides for a specific IRM level.
- In order to drive the NYCA to 0.1 LOLE, capacity is then "shifted" out of Zones J and K and into Zones A, C, and D.
- Because capacity from Zones J and K isn't removed from the NYCA but moved to Zones A, C and D, the IRM level does not change.



In conjunction with the Unified Method, the ICS strives to develop an "IRM anchor" to consistently select a targeted IRM from the range of IRM-LCR "point pairs", all of which meet 0.1 days per year reliability criteria.

The latest approved such anchor is the "Tan 45 IRM Anchor". The FFE is a competing IRM anchoring method. Going forward, the final determination of the IRM anchoring method remains an open question...



Applying the Unified Method... the 2006 IRM Study

Using the EC-approved 18% IRM with LCRs of 80% (NYC) and 99% (LI) — and applying the Unified Method, provides the following data for the 2006-07 IRM Study:

NYCA Zone	<u>Actual Installed</u> <u>Capacity (MW)</u>	<u>Load (MW)</u>
A = West	5,155	2,771
B = Genessee	1,017	1,914
C = Central	6,680	3,080
D = North	1,512	1,155
E = Mohawk ∨alley	1,022	1,496
F = Capital	3,924	2,193
G = Hudson Valley	3,423	2,242
H = Millwood	2,070	618
I = Dunwoodie	13	1,802
J = New York City	10,364	11,630
K = Long Island	5,767	5,348
NYCA Totals	40,947	34,249
NYCA Coincident Peak		33,295
NYCA Installed Reserve Margin (IRM)		18.0%
NYCA Installed Capacity Obligation		39,288
Total NYCA Actual Installed Capacity		40,947
Difference between NYCA Actual Capa Obligation	1,659	
Zone J Locational Capacity Requirement		80.0%
Zone J Locational Capacity Obligation		9,304
Zone K Locational Capacity Requirement		99.0%
Zone K Locational Capacity Obligation		5,295
Total Locational Capacity Obligation		14,599
Total Actual Installed Capacity in Zones J	and K	16,131
Difference between Zones J and K Act Obligation	1,532	

Unified Method @ 18% IRM

STEP1

The initial step in the Unified Method removes 1,659 MW from "capacity rich" Upstate Zones A, C and D. However, the NYCA LOLE is below (more reliable) than 0.1.

<u>STEP 2</u>

For Downstate Zones J and K The difference between actual installed capacity and locational obligation is 1,532 MW. This amount was shifted from J and K back to Upstate Zones A, C and D ... until 0.1 LOLE is achieved.

RESULT:

At an 18% IRM with associated LCRs, the NYCA LOLE is maintained with essentially all installed capacity in Upstate Zones A-I intact ... and 1,532 MW of capacity from Zones J and K removed from the NYCA.

Minimum Locational Capacity Requirements (LCRs)



Total Downstate Locational Capacity Obligation = 14,599 MW

Total Downstate Installed Capacity = 16,131 MW

Total Excess Downstate Installed Capacity = 1,532 MW

From a reliability perspective, why should the constrained zones not account for all actual installed capacity?

Total Rest of State (ROS) Capacity Obligation = 24,690 MW

IRM / LCR Relationship (From the February 2006 Revised IRM Study)

All IRM-LCR "point pairs" along the curves below meet 0.1 LOLE. The circled values reflect 16.5% and 18% IRMs with their respective LCRs:



What is the "Tan 45" Anchoring Method?



The current 18% IRM requirement was determined as the point equal to the intersection between the IRM vs. LCR curve and a tangent with an inclination of -45 degrees (the "TAN 45 IRM" approach).

The anchor points on each curve below were selected by applying tangents of 45 degrees ("Tan 45") analysis at the bend (or "knee") of the curve. In theory, curve points on either side of the "Tan 45" point may create disproportionate changes in LCR and ICR. (Small changes in LCR can introduce larger changes in IRM Requirements and vice versa.)

Proponents of this method cite Tan 45 as establishing a stable anchor point for accurate determination of IRM and LCR and to avoid volatile market signals.



What is the Free-Flowing Equivalent?



- The Free-Flowing case is accomplished by increasing the NYCA interface limits and interface groupings that may exist containing these interfaces to 99,999 MW (effectively infinite) and finding the IRM without internal NYCA constraints.
- The <u>Free-Flowing Equivalent</u> is simply the point on the IRM-LCR curve that approximates the Free-Flow case by utilizing the current Unified Methodology. The FFE recognizes transmission constraints up to the point where such constraints essentially do not bind. The basic steps are:
 - Adjust "perfect" capacity from zones west of Total East interface from capacity-rich zones until desired % IRM study point is reached
 - o Find the "initial target capacity" for a specific locality... remove capacity from locality... add to capacity-rich zones... repeat iterations until LOLE \rightarrow 0.1.
 - o Determine capacity "multiplier" for each locality... find "final adjusted capacities"...
 - o Determine Minimum LCRs.
- Proponents of FFE argue that this method properly considers reliability of the physical system and avoids consequences of forcing excess capacity upon regions outside the constrained zones. In addition to sending the proper locational capacity pricing signals, FFE would improve reliability by minimizing the amount of imported capacity that must be delivered across voltage-based interface limits.

It's important to note that the FFE method fully recognizes existing transmission constraints and utilizes transmission capacity up to their limits.



As IRM increases, the value of Upstate capacity assistance decreases...

- In a free-flowing transmission system, 1 MW of capacity located anywhere on the system could reliably serve 1 MW of load anywhere on the system.
- At the current 18% IRM and LCR levels, it takes on average 30% more capacity from Upstate Zones A-I to reliably serve 1 MW of Load in Downstate Zones J & K.



Whenever there is a need for capacity in Zones J and K, the capacity assistance from Zones A-I may be disproportionately large.

As the curve approaches 1MW on both the x and y-axes, the result reflects a more free-flowing system – a one-for-one MW capacity relationship.

Thus, <u>any</u> point that exists beyond the 1.00 MW Upstate capacity (on y-axis) and the 16.5% FFE IRM (on x-axis) represents "**Excess Required Upstate Capacity**"

		NYCA Installed Capacity (ICAP)	Free-Flowing	TAN 45 IRM				
		Calculations	lculations					
А	Input	IRM	%	<u>16.50%</u>	<u>18.00%</u>			
		New York Control Area (NYCA)						
В	Input	NYCA - Statewide Peak Load	MW	33,295	33,295			
C	B * (1 + A)	NYCA - Required Total ICAP Obligation	MW ICAP	38,789	39,288			
		New York City (NYC)						
D	Input	NYC - Peak Load	MW	11,630	11,630			
E	D * (1 + A)	NYC - Required Total ICAP Obligation	MW	13,549	13,723			
F	Input	NYC - Locational Capacity Requirement	% LCR	89.1%	79.7%			
G	E*F	NYC - Locational ICAP Obligation	MW ICAP	10,362	9,269			
Н	E-G	NYC - External ICAP Required in Locality	MW	3,187	4,454			
		Long Island (LI)						
I	Input	LI - Peak Load	MW	5,348	5,348			
J	I * (1 + A)	LI - Required Total ICAP Obligation	MW	6,230	6,311			
K	Input	LI - Locational Capacity Requirement	% LCR	107.8%	99.1%			
L	J*K	LI - Locational ICAP Obligation	MW	5,765	5,300			
M	J-L	LI - External ICAP Required in Locality	MW	465	1,011			
N	G + L	Total Downstate Locational ICAP Obligation	MW	16,127	14,569			
0	A N	Incremental Change to Total Downstate	AMM/	0	1 558			
	4 1	Locational ICAP Obligation (from FFE)		v	-1,550			
		Rest of State (ROS) or Upstate						
P	C - N	ROS - ICAP Obligation (by NYCA difference)	MW	22,661	24,719			
Q	H + M	ROS - ICAP Procured by Downstate LSEs	MW	3,652	5,465			
R	P-Q	ROS - ICAP Remaining for Upstate LSEs	MW	19,009	19,254			
S	ΔR	ROS - Required Excess Capacity ("Subsidy")	MW	0	245			
т	AP	Incremental Change on Upstate Cap	AMW	0	2.058			
.		Obligation		, i i i i i i i i i i i i i i i i i i i	2,000			
U	T ÷ 0	Ratio: x.xx MW Upstate per 1 MW Downstate		1.00	1.32			

Current NY Demand Curves based on Tan 45 @ 18% IRM...

Prices indicated reflect actual Winter 2005-06 and Summer 2006 Capacity Auction results combining the Six-month Strip, Monthly and Spot Auction (through July 2006).



Projected NY Demand Curves based on FFE @ 16.5% IRM...

The Demand Curves were adjusted (on MW basis) with prices forecasted clearing prices based upon the actual percentages of capacity that cleared. Dashed lines represent actual 2005-2006 Capacity Auction results.



NYCA Capacity Cost Analysis		WINTER 2005-2006		SUMMER 2006		<u>TOTAL 2005-2006</u>	
		<u>16.50%</u>	<u>18.00%</u>	<u>16.50%</u>	<u>18.00%</u>	<u>16.50%</u>	18.00%
		<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor	<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor	<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor
ICAP Obligation Basis							
Desk Lead New York Central Area (NYCA)	100/	24.022	24.000	20.005	22.005		
Peak Load - New York Control Area (NYCA)	IVIVY	31,902	31,962	33,290	33,290		
Peak Load Long John (1)	IVIV V	F 221	5 024	F 240	5.249		
Feak Load - Long Island (Li)	1919 9	0,201	0,201	0,340	0,340		
LCR - New York City (NYC)	LCR%	89.1%	79.7%	89.1%	79.7%		
LCR - Long Island (LD	LCR%	107.8%	99.1%	107.8%	99.1%		
		101.070		1011070	00.170		
ICAP - New York Control Area (NYCA)	MVV ICAP	37.236	37.715	38.789	39,288		
ICAP - New York City (NYC)	MVV ICAP	10,067	9,005	10,362	9,269		
ICAP - Long Island (LI)	MVV ICAP	5,639	5,184	5,765	5,300		
ICAP - Downstate NY	MVV ICAP	15,706	14,188	16,127	14.569		
ICAP - Rest of State (ROS)	MVV ICAP	21,530	23,527	22,661	24,719		
UCAP Obligation Basis							
EFORd - New York Control Area (NYCA)	EFORd%	5.18%	5.18%	5 43%	5.43%		
EFORd - New York City (NYC)	EFORd%	5.19%	5,19%	5.42%	5.42%		
EFORd - Long Island (LI)	EFORd%	4.17%	4.17%	3.48%	3.48%		
, , , , , , , , , , , , , , , , ,							
UCAP - New York Control Area (NYCA)	MVV UCAP	35,307	35,762	36,682	37,155	35,995	36,458
UCAP - Locational New York City (NYC)	MW UCAP	9,544	8,537	9,801	8,767	9,672	8,652
UCAP - Locational Long Island (LI)	MW UCAP	5,404	4,968	5,565	5,115	5,484	5,042
UCAP - Locational Downstate NY	MVV UCAP	14,948	13,505	15,365	13,882	15,157	13,694
UCAP - Rest of State (ROS)	MVV UCAP	20,359	22,257	21,317	23,273	20,838	22,765
100% Equilibrium LICAP - Statew	vide Racic	6 months	6 months	6 months	6 months	12 months	12 months
		<u>0 monans</u>	<u>o monais</u>	<u>0 monans</u>	<u>0 1101013</u>	<u>12 montais</u>	121101013
UCAP Price - New York Control Area (NYCA)	\$.KVV-month	\$7.16	\$7.26	\$7.40	\$7.50	\$10.02	\$12.27
UCAP Price - Locational New York City (NYC)	\$ KW-month	\$10.41	\$14.08	\$10.90 \$14.70	\$15.10	\$10.09	\$14.93
OCAP Price - Locational Long Island (Li)	\$.KVV-IIIOIILI1	\$14.40	\$13.28	\$14.78	\$10.U8	\$14.03	φ15.4U
100% UCAP Cost - Locational NYC	\$	\$939.916.217	\$752,056,341	\$996 729 250	\$797 514 224	\$1,936,645,466	\$1 549 570 566
100% UCAP Cost - Locational LI	\$	\$468,888,159	\$396 258 921	\$493 674 109	\$417 205 609	\$962 562 268	\$813 464 530
100% UCAP Cost - Locational Downstate	\$	\$1.408.804.376	\$1.148.315.262	\$1,490,403,359	\$1,214,719,833	\$2,899,207,735	\$2,363,035,096
100% UCAP Cost - Rest of State (ROS)	\$	\$875,063,814	\$968,943,345	\$946,714,469	\$1.046.860.924	\$1,821,778,283	\$2,015,804,269
100% UCAP - New York Control Area (NYCA)	\$	\$2,283,868,190	\$2,117,258,607	\$2,437,117,828	\$2,261,580,757	\$4,720,986,018	\$4,378,839,365
New York City (NYC)		¢107.050.070		¢100.045.005		#107.074.004	
Long John (1)) c	\$187,858,876 \$73,630,330		\$199,215,025 \$76,460,500		\$387,074,901 \$140,007,700	
Long Island (LI)	¢	\$72,029,238 \$260,400,114		\$70,408,000 \$075,000,500		\$149,097,738 \$596,179,690	
Poet of State (POS)		Φ200,468,114 (\$03,970,591)		⊕270,003,020 (\$100,146,455)		(\$104 075 008)	
Total NY Statewide (NYCA)	*	\$166,609,583		\$175 537 071		\$342 146 653	
rotariti statemae (micry	*	\$100,003,000		\$110,001,071		φ042, 140,000	

NYCA Capacity Cost Analysis		WINTER 2005-2006		SUMMER 2006		TOTAL 2005-2006	
		16.50%	18.00%	16.50%	18.00%	16.50%	18.00%
		<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor	<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor	<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor
		<u>6 months</u>	<u>6 months</u>	<u>6 months</u>	<u>6 months</u>	12 months	<u>12 months</u>
<u>NEW YORK CITY (NYC) @ 100% UCAP</u>							
NYC - Total ICAP Obligation	MVV	13,162	13,332	13,549	13,723		
NYC - Total UCAP Obligation	M/V	12,480	12,641	12,813	12,978		
NYC - Minimum Locational UCAP	MW	9,544	8,537	9,801	8,767		
NYC - External UCAP Balance Required	MVV	2,936	4,104	3,013	4,211		
NYC - Locational LICAP Price	\$ k/A/-month	\$16.41	¢1/ 69	\$16.05	¢15.16		
POS - External LICAP Price (NVCA Basis)	\$ KACmonth	\$7.18	\$14.00	\$7.40	\$10.10 \$7.50		
	Quer Prince and		ψ1.20	φ1.40	ψ1.00		
NYC - Minimum Locational UCAP Cost	\$	\$939,916,217	\$752,056,341	\$996,729,250	\$797,514,224	\$1,936,645,466	\$1,549,570,566
NYC - External UCAP Cost (Balance from Upstate)	\$	\$126,207,352	\$178,663,293	\$133,789,590	\$189,443,802	\$259,996,942	\$368,107,095
NYC - Total UCAP Costs	\$	\$1,066,123,569	\$930,719,634	\$1,130,518,839	\$986,958,026	\$2,196,642,408	\$1,917,677,660
NYC - Total UCAP Cost (Savings) with FFE		\$135,403,935		\$143,560,813		\$278,964,748	
LONG ISLAND (LI) @ 100% UCAP		6 months	6 months	6 months	6 months	12 months	12 months
LL- Total ICAP Obligation	MA		6 173	6 230	8311		
LI - Total LICAP Obligation	MA	5.840	5 015	6.014	6.001		
LI - Notal COAL Congation	MA	5,040	4 968	5 565	5 115		
11- Evternal IICAP Balance Required	MA	436	9,300	449	976		
		400	541		510		
LI - Locational UCAP Price	\$.kVV-month	\$14.46	\$13.29	\$14.79	\$13.59		
ROS - External UCAP Price (NYCA Basis)	\$.KVV-month	\$7.16	\$7.26	\$7.40	\$7.50		
LI - Minimum Locational UCAP Cost	\$	\$468.888.159	\$396,258,921	\$493.674.109	\$417.205.609	\$962.562.268	\$813,464,530
LI - External UCAP Cost (Balance from Upstate)	\$	\$18,745,158	\$41.246.562	\$19,944,171	\$43,884,849	\$38.689.329	\$85,131,411
LI - Total UCAP Costs	\$	\$487,633,318	\$437,505,483	\$513.618.280	\$461.090.458	\$1.001.251.597	\$898,595,941
LI - Total UCAP Cost (Savings) with FFE		\$50,127,835		\$52,527,821		\$102,655,656	
REST OF STATE (ROS) @ 100% UCAP		6 months	6 months	6 months	6 months	12 months	12 months
POS Linetate Tatal ICAP Obligation	66A/						
ROS - Unstate Total LICAP Obligation	MA	20.359	22.257	21.317	23.223		
ROS - Total Linetate LICAP Required by Downstate	MA	3 377	5.051	3.462	5 197		
POS - Remaining LICAP for Linstate Obligation	MA	16 097	17 205	17.956	19,096		
ROS - Excess Upstate UCAP Requirement	MW	-219	11,200	-230	10,000		
ROS - Upstate UCAP Price	\$.kvv-month	\$7.16	\$7.26	\$7.40	\$7.50		
POS - Unstate UCAP Obligation Cost	\$	\$730 111 30/	\$7/0 033 /01	¢702 080 700	\$913 537 773	¢1 523 002 013	\$1.582.585.784
DOS Unstate Tatel IICAD Cast (Savinge) with FEE	•	(\$48,000,487)	φr+0,000,401	(\$2,000,100 (\$20 EE4 EC4)	ψ010,002,210	(\$20,472,754)	Evenes UCAD Cent
ROS - Opstate Total UCAP Cost (Savings) with FFE		(\$18,922,187)		(\$20,551,564)		(\$39,473,751)	Excess UCAP Cost
NYCA Total @ 100% UCAP		<u>6 months</u>	<u>6 months</u>	<u>6 months</u>	<u>6 months</u>	<u>12 months</u>	<u>12 months</u>
NYCA - Total ICAP Obligation	M/V	37.236	37.715	38.789	39.288		
NYCA - Total UCAP Obligation	MVV	35,307	35,762	36,682	37,155		
NYCA - TOTAL 2005-06 100% UCAP Costs	\$	\$2,283,868,190	\$2,117,258,607	\$2,437,117,828	\$2,261,580,757	\$4,720,986,018	\$4,378,839,365
NYCA - TOTAL 2005-06 UCAP COSTS (SAVINGS) with FFE		\$166,609,583		\$1/5,537,071		\$342,146,653	

			WINTER 2005-2006		SUMMER 2006		TOTAL 2005-2006	
NYCA Capacity Cost Analysis		<u>16.50%</u>	18.00%	<u>16.50%</u>	18.00%	<u>16.50%</u>	18.00%	
Auc	tion Basis UCAP Procurement		<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor	<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor	<u>Free-Flowing</u> Equivalent (FFE)	TAN 45 IRM Anchor
			6 months	6 months	6 months	6 months	12 months	12 months
NEW	VORK CITY (NYC) @ UCAP AUCT	ION						
	VC Tatal UCAD Obligation		10.400	10.041	10.010	10.070		
N N	IVC - Minimum Locational LICAR	MA	0.544	12,041	12,013	12,970		
15		1919 1	0,044	0,007	3,001	0,707		
N	YC - UCAP Auction Procurement Percentage	%	110.68%	110.68%	103.19%	103.19%		
N	IYC - Locational UCAP Procured at Auction	MVV	10.564	9,449	10,114	9.047		
N	YC - Locational UCAP Auction Price	\$.KVV-month	\$17.32	\$5.97	\$23.96	\$12.47		
N	IYC - Locational UCAP Cost	\$	\$1,097,716,585	\$338,308,235	\$1,453,830,054	\$677,039,659		
N	IYC - External UCAP Balance Required	MVV	1,917	3,192	2,700	3,932		
N	YC - External UCAP Auction Price (NYCA Basis)	\$.kVV-month	\$0.00	\$0.83	\$1.55	\$2.44		
N	IYC - External UCAP Cost (NYCA Basis)	\$	\$0	\$15,857,032	\$25,079,973	\$57,507,543		
h	IVO_TateLUCAD Austian Cost		¢1 007 710 505	<i>ФОЕИ 105 ОС7</i>	¢1.470.010.000	#704 547 000	# 0 670 000 010	Φ1 000 710 400
N	VC Total UCAP Auction Cost		\$1,097,710,080 \$742,551,249	\$304,100,207	\$1,478,910,028 \$744,363,936	\$734,047,202	\$2,570,020,013 \$1 487 914 143	\$1,066,712,469
	The Total OCAL Auction Cost (Savings) with TTE		\$740,001,010		\$744,502,820		\$1,407,314,145	
	G ISLAND (LI) @ UCAP AUCTION							
		N807	5.040	E 015	8.014	0.001		
L	L Minimum Locational LICAP	MAN	5,040	2,815	0,014	5,081		
	- Minimum Eddanonar OCAP	1919 9	0,404	4,300	0,000	0,110		
L	I - UCAP Auction Procurement Percentage	%	107.88%	107.88%	108 74%	108 74%		
L	I - Locational UCAP Procured at Auction	M/V	5.830	5.359	6.051	5.563		
L	I - Locational UCAP Auction Price	\$.kVV-month	\$15.12	\$7.47	\$14.82	\$6.99		
L	I - Locational UCAP Cost	\$	\$528,968,838	\$240,245,641	\$537,898,147	\$233,395,257		
L	I - External UCAP Balance Required	MVV	10	556	0	529		
L	I - External UCAP Auction Price (NYCA Basis)	\$.kVV-month	\$0.00	\$0.83	\$1.55	\$2.44		
L	I - External UCAP Cost (NYCA Basis)	\$	\$0	\$2,761,061	\$0	\$7,730,581		
	NO. Table 100 B. Averling Or at		# 500,000,000	#040.000.700	# 507,000,447	#044 405 000	A4 000 000 005	#404 400 544
IN IN	IVC - Total UCAP Auction Cost		\$528,968,838	\$243,006,702	\$537,898,147	\$241,125,838	\$1,000,800,985	\$484,132,541
N	TC Total UCAP Auction Cost (Savings) with FFE		\$200,962,136		\$296,772,309		\$082,734,440	
RES	T OF STATE (ROS) @ UCAP AUCTI	0N						
		MAX	20.250	20.257	01 017	22.22		
R	OS - Total OCAP Obligation	1919.9	20,308	22,207	21,017	23,273		
Б	OS - UCAP Auction Procurement Percentage	%	110.63%	110.63%	108,10%	108,10%		
Б	OS - Unstate UCAP Procured at Auction	MVV	22 523	24 623	23 044	25 157		
5	OS - Upstate UCAP Procured by Downstate LSEs	M/V	1.927	3,747	2.700	4 460		
Б	OS - Upstate UCAP Balance Procured by Upstate NY	MVV	20,597	20,875	20,344	20,697		
B	OS - Excess Upstate Required Capacity <subsidy></subsidy>	MW	-278		-353			
F	OS - Upstate UCAP Auction Price	\$.kVV-month	\$0.00	\$0.83	\$1.55	\$2.44		
F	OS - Total UCAP Auction Cost		\$0	\$103,710,548	\$188,989,521	\$302,729,142	\$188,989,521	\$406,439,690
R	OS - Total UCAP Auction Cost (Savings) with FFE		(\$103,710,548)		(\$113,739,622)		(\$217,450,169)	Excess UCAP Cost
<u>IN T C</u>	A TOTAL @ UCAP AUCTION							
N	IYCA - Total UCAP Auction Cost		\$1.626 685 423	\$700,882,517	\$2,205 797 696	\$1,278,402,183	\$3,832,483,119	\$1,979 284 700
N	YCA - Total UCAP Auction Cost (Savings) with FFE		\$925,802,906		\$927,395,513		\$1,853,198,419	