

ICAP Load Forecast Process Improvements

<u>NYISO ICAP Forecast / Requirements</u>				
	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>
Forecast NYCA Peak	30,130	30,620	30,475 ¹⁾	31,430
Actual NYCA Peak	28,138	30,982	30,664	
W/N NYCA Peak	30,200	30,780	31,000	
NYCA IRM	18.00%	18.00%	18.00%	18.00%
Effective IRM to TDs	18.31%	17.46%	17.81%	19.60%

1) After reduction of 435 MW for RECO load going to PJM.



ICAP Load Forecast Process Improvements

- The Current Process
 - *How it works*
 - *Problems experienced*

- Ways to Improve It
 - *Suggestions – What to do*
 - *Schedule – When to do it*
 - *Resources – Who will do it*

- Next Meeting

ICAP Load Forecast Process Improvements

■ Current Process – How it works, the current schedule

Appendix A

Load Forecast/ICAP Reporting Timeline

Event	Schedule
ISO posts NYCA and TD Economic Outlooks for the 2001 Capability Year	8-Dec
a. TOs provide TD peak load forecasts; and	15-Jan
b. LSE peak load coincident with TD peak to ISO and LSEs	15-Jan
ISO releases preliminary TD peak load forecasts to Market Participants	22-Jan
NYSRC sets Installed Reserve Margin for the NYCA for Capability Year	31-Jan
Peak load forecast comment period	23-Jan 24-Jan
Peak load forecast dispute resolution period	25-Jan 21-Feb
Post NYCA peak load forecast for Capability Period; NYCA ICR determined	22-Feb
TD ICAP requirements posted	23-Feb
TOs provide load shifting information relating to load shifts through 2/28 to ISO and LSEs	5-Mar



ICAP Load Forecast Process Improvements

- **Current Process – How it worked, 2002**
 - *Economy.com meeting October 10*
 - **US, NYS and SMA economic overview**
 - **Forecast provides basis for evaluating RLGFs**
 - *LFWG Meeting November 6*
 - **Preliminary NYCA W/N Peak**
 - **2001 LF Process**
 - **Guideline for TO data submissions**
 - **Criteria for RLGf evaluation**
 - **TO Economic Variables**
 - **Data Request**
 - *LFWG Meeting of November 19*
 - **NYCA 2002 W/N Peak of 31,000 MW**
 - **Status reports on data request, development of evaluation criteria**



ICAP Load Forecast Process Improvements

- **Current Process – How it worked, 2002 (cont'd)**
 - *LFWG Meeting December 19*
 - **Status reports on data request, development of evaluation criteria, NYISO forecasting models**
 - *LFWG Meeting of January 8*
 - **Presentation of RLGf evaluation criteria**
 - *January 27 - NYCA 2003 ICAP Preliminary Load Forecast Released*
 - *February 21 – NYCA 2003 TD ICAP Requirements Released*

ICAP Load Forecast Process Improvements

<u>Reconciliation of TD Forecasts</u>		
<u>To NYCA Forecast</u>		
NYCA Peak Forecast	31,430	MW
Sum of TD Forecasts	<u>31,010</u>	MW
Difference	420	MW
Forecast Definitions	<u>200</u>	MW
Total Difference	620	MW
Weather Normalization	220	MW
Losses in NYCA, not TDs	<u>570</u>	MW
	790	MW
Unexplained Difference	(170)	MW



ICAP Load Forecast Process Improvements

■ Conclusions

- *If weather-normalization is performed consistently*
- *If losses are fully accounted for*

Then

*Diversity will return and TD IRM will be less than NYCA
IRM*

ICAP Load Forecast Process Improvements

■ What to do

<u>Suggestion</u>	<u>Source</u>	<u>Benefit</u>
1 ISO Staff to obtain TO, muni, and NYMPA loads quarterly. Track vs. billing system loads and issue comparison report to each TO.	ISO Staff	Ensures that all TOs are reporting loads on a consistent basis, all losses are accounted for, and differences between total NYCA load and the sum of its components are identified.
2 ISO and TOs present weather normalization methodology, derivation of Annual Adjusted Peak Load at LFWG meeting (October?). ISO staff issues summary report.	ISO Staff, MPs	Satisfy MP concerns over adequacy of ISO review, get early agreement on this part of the process. Also provides a forum to exchange ideas.
3 TOs present ICAP forecast methodology for derivation of Regional Load Growth Factors at LFWG meeting (December?). ISO staff issues summary report.	ISO Staff, MPs	Satisfy MP concerns over adequacy of ISO review, get early agreement on this part of the process. Also provides a forum to exchange ideas.
4 Presentation by ISO staff on preliminary EDRP/SCR results (September?) and how MW impacts are calculated.	ISO Staff, MPs	Ensures that TOs know the MW impact of the programs, when the impacts occur, and how they should account for them in their forecasts.
5 Presentation by ISO staff on final EDRP/SCR results (October?).		Ensures that TOs know the MW impact of the programs, when the impacts occur, and how they should account for them in their forecasts.

ICAP Load Forecast Process Improvements

■ What to do (cont'd)

	<u>Suggestion</u>	<u>Source</u>	<u>Benefit</u>
6	FERC NOPR of 7/31/02 calling for multiyear resource reliability forecast and capacity market	ISO Staff	The LFWG has been requested to develop a proposed forecasting framework that will satisfy this multi-year market design.
7	Adopt alternative ICAP load forecasting methodology, either another ISOs or a modification thereof.	ISO Staff, MPs	Eliminate or reduce possibility of TD IRMs > NYCA IRM
8	Redefine Load Forecast / ICAP requirements border	ISO Staff	If load forecast is done and approved in all of its components by February 28, other issues going forward a ICAP market ones.
9	Identification of all EDRP, SCR, TO load reduction programs, EOPs.	MPs	Fair allocation of ICAP responsibilities, more reliable system by not overstating resources, recognition of all available supply options.



ICAP Load Forecast Process Improvements

1. ISO Staff to obtain TO, etc. loads by quarter
 - Staff requested 11/02 – 3/03 load last month and will verify vs. billing system loads – ISO Staff & TOs
2. ISO and TO present weather normalization methodologies...
 - At October LFWG meeting – ISO Staff & TOs
3. TOs present ICAP forecast methodologies...
 - At December LFWG meeting – ISO Staff & TOs
4. Presentation of preliminary EDRP/SCR Results...
 - At September LFWG meeting – ISO Staff
5. Presentation of final EDRP/SCR Results...
 - At October LFWG meeting – ISO Staff



ICAP Load Forecast Process Improvements (cont'd)

6. FERC NOPR for multiyear load forecast and capacity market...
 - Summer / Fall 03 project with October 31 completion
 - Strawman today
 - ISO Staff, MPs, Eventually ISO Governance
7. Alternative ICAP load forecasting methodology...
 - Summer / Fall 03 project with October 31 completion
 - Strawman today
 - ISO Staff, MPs, Eventually ISO Governance
8. Redefine LF / ICAP requirements border
 - Jan – Feb 04 – ISO Staff
9. EDRP/SCR/EOP/TO & Agency load reduction program inventory...
 - June – Sept project
 - ISO Staff, TOs, Agencies



ICAP Load Forecast Process Improvements (cont'd)

- PLEASE Tell me ASAP if you have other suggestions for ICAP LF Improvements



ICAP Load Forecast Process Improvements (cont'd)

- 1, 2, 3, 4, 5 and 8 accounted for
- 6, 7, 9 TBD

ICAP Load Forecast Process Improvements – Acct'd For

Appendix A Load Forecast Reporting Timeline

Weather Normalization, TO and MES shares of NYCA AAPL	2003 - 2004 Schedule
NYISO releases preliminary date and level of 2003 NYCA Annual Adjust Peak Load (AAPL)	1-Oct
NYISO releases preliminary date and level of 2003 AAPL	1-Oct
NYISO releases final EDRP and SCR Total Load MW to TOs	16-Oct
NYISO releases final date and level of 2003 NYCA AAPL	16-Oct
TOs and MESs provide actual Total Load at date and time of NYCA AAPL	21-Oct
TOs provide weather normalization methodologies	23-Oct
TOs and MESs provide Actual Adjusted Total Load (AATL) at date and time of NYCA AAPL	31-Oct
NYISO releases preliminary TO and MES shares of NYCA AAPL	5-Nov
TO and MES AATL comment period begins	6-Nov
TO and MES AATL comment period ends	7-Nov
TO and MES AATL dispute resolution period begins	10-Nov
TO and MES AATL dispute resolution period ends	10-Dec
NYISO releases final TO and MES shares of NYCA AAPL	12-Dec
TOs release LSE Total Load coincident with NYCA AAPL to LSEs	19-Dec

ICAP Load Forecast Process Improvements – Acct'd For

Appendix B

Load Forecast Reporting Timeline

Regional Load Growth Factors	2003 - 2004 Schedule
Economic Outlook Conference for TOs and all Market Participants	15-Oct
NYISO posts NYCA and TD Economic Outlooks for the 2004 Capability Year	5-Nov
TOs provide RLGf Forecasts	16-Jan
TOs provide RLGf Forecast Methodologies	16-Jan
NYISO releases preliminary TD RLGfs to Market Participants	23-Jan
NYISO releases preliminary NYCA 2004 Peak Forecast	23-Jan
RLGf forecast comment period begins	23-Jan
RLGf forecast comment period ends	27-Jan
RLGf forecast dispute resolution period begins	28-Jan
RLGf forecast dispute resolution period ends	20-Feb
NYSRC sets Installed Reserve Margin for the NYCA for 2004 Capability Year	30-Jan
NYISO releases NYCA peak load forecast for 2004 Capability	25-Feb
NYISO releases final NYCA TD ICAP Requirements	25-Feb
TOs provide load shifting information relating to load shifts through 2/28 to NYISO and LSEs	5-Mar

ICAP Load Forecast Process Improvements – New Methodology Strawman

Share of NYCA AAPL Strawman Hypothetical 2004 Example

<div style="border: 1px solid black; padding: 2px;"> NYCA Peak Day: 17-Jul NYCA Peak Hour: HB 4:00:00 PM </div>		Actual Adjusted		Final Adjusted		
	<u>Native Load</u> ¹	<u>Shares</u>	<u>Native Load</u> ²	<u>Shares</u>	<u>Native Load</u> ³	<u>Shares</u>
TO 1	13,700	44.07%	13,930	44.29%	14,169	45.05%
TO 2	8,530	27.44%	8,640	27.47%	8,788	27.94%
TO 3	4,470	14.38%	4,420	14.05%	4,496	14.29%
TO 4	3,650	11.74%	3,660	11.64%	3,723	11.84%
MES 1	180	0.58%	183	0.58%	186	0.59%
MES 2	90	0.29%	87	0.28%	88	0.28%
Transmission Losses	400	1.29%	400	1.27%	-	0.00%
Unaccounted Load	<u>70</u>	<u>0.23%</u>	<u>130</u>	<u>0.41%</u>	<u>-</u>	<u>0.00%</u>
NYCA Peak	31,090	100.00%	31,450	100.00%	31,450	100.00%

Native Load - TO or MES actual integrated hourly load including all losses except Transmission losses.

Actual Adjusted Native Load - Total Load adjusted to reflect:

- (i) Load relief measures such as voltage reduction and Load Shedding
- (ii) reduction provided by Interruptible Load Resources
- (iii) reduction provided by NYISO Emergency Demand Response Program and Special Case Resources
- (iv) Station Power that is not being self-supplied
- (v) Normalized design weather conditions

Final Adjusted Native Load - AATL plus the allocated portion of Unaccounted Load and the allocated portion of Transmission Losses



ICAP Load Forecast Process Improvements – New Methodology Strawman

- Can use highest “non-EDRP/SCR” day instead of AAPL day
- Use TO peak growth rates applied to TO load at time of NYCA peak
- TO load:
 - Matched to billing system load
 - EOPs, EDRP/SCR added back in
 - Weather-normalized



ICAP Load Forecast Process Improvements – New Methodology Strawman

- Advantages

1. All load accounted for
2. Weather-normalization applied to same day

- Disadvantages

1. (May) Require Tariff Change



ICAP Load Forecast Process Improvements

■ Conclusions

- *If weather-normalization is performed consistently*
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IRM*