

## ICAP Load Forecast Process

### Regional Load Growth Factors Acceptance Criteria

1. RLGFs should be within 5 year range of AAPL growth
2. Same relationship to economic growth in forecast as in history
3. ISO projections of TD RLGf

TD RLFG forecast should be consistent with 2 of three

May need to combine 1. and 2. under certain circumstances

# Central Hudson

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<b>2004</b>	Correlation of W/N Peak and:	
Employment	186.58	194.31	198.66	203.92	206.06	209.02	<b>210.76</b>	Employment	0.7789
Output	10.74	11.21	11.47	11.62	12.21	12.61	<b>13.04</b>	Output	0.9057
Households	179.39	182.68	185.75	187.32	189.11	190.51	<b>191.86</b>	Households	0.7880
Population	497.35	502.74	507.46	511.73	516.77	520.58	<b>523.6</b>	Population	0.8532
Income	12602	12901	13593	14060	14163	14417	<b>14816</b>	Income	0.7567

## Growth

Employment	1.0414	1.0224	1.0265	1.0105	1.0144	<b>1.0083</b>
Output	1.0438	1.0232	1.0131	1.0508	1.0328	<b>1.0341</b>
Households	1.0183	1.0168	1.0085	1.0096	1.0074	<b>1.0071</b>
Population	1.0108	1.0094	1.0084	1.0098	1.0074	<b>1.0058</b>
Income	1.0237	1.0536	1.0344	1.0073	1.0179	<b>1.0277</b>

W/N Peaks	952	970	968	985	1020	1118
W/N Peak Growth	<b>1.019</b>	<b>0.998</b>	<b>1.018</b>	<b>1.036</b>	<b>1.096</b>	
	1.01891		1.01756	1.03553		

## Peak Growth divided by:

Employment Growth	0.978	0.976	0.991	1.025	1.081
Output Growth	0.976	0.975	1.004	0.985	1.061
Households Growth	1.001	0.981	1.009	1.026	1.088
Population Growth	1.008	0.989	1.009	1.025	1.088
Income Growth	0.995	0.947	0.984	1.028	1.077

## Composite indicator

	1.0320	1.0183	1.0156	1.0247	1.0186	1.0167
Peak Growth/CI	<b>0.9873</b>	<b>0.9800</b>	1.0019	<b>1.0106</b>	<b>1.0761</b>	

Peak Growth Rate Range	<b>1.0038</b>		<b>1.0186</b>	<b>1.0275</b>
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# Consolidated Edison

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	Correlation of W/N Peak and:	
Employment	3928.77	4031.22	4143.77	4115.29	3997.1	3952.59	<b>3984.43</b>	Employment	-0.0245
Output	437.5	459.62	505.04	513.39	514.91	525.23	<b>541.77</b>	Output	0.9096
Households	3282.81	3322.9	3365.8	3383.47	3392.05	3399.09	<b>3410.28</b>	Households	0.9322
Population	8782.28	8876.62	8951.11	8997.68	9024.33	9044.35	<b>9062.46</b>	Population	0.9515
Income	299118	309500	329432	332995	326997	325229	<b>333650</b>	Income	0.7436

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Growth							
Employment		1.0261	1.0279	0.9931	0.9713	0.9889	<b>1.0081</b>
Output		1.0506	1.0988	1.0165	1.0030	1.0200	<b>1.0315</b>
Households		1.0122	1.0129	1.0052	1.0025	1.0021	<b>1.0033</b>
Population		1.0107	1.0084	1.0052	1.0030	1.0022	<b>1.0020</b>
Income		1.0347	1.0644	1.0108	0.9820	0.9946	<b>1.0259</b>

W/N Peaks	11450	11650	11825	12225	12400	12600		
W/N Peak Growth		1.0175	1.0150	1.0338	1.0143	1.0161		
		1.0175	1.0150			1.0161	1.0150	1.0175

**Peak Growth divided by:**

Employment Growth	0.9916	0.9875	1.0410	1.0443	1.0276
Output Growth	0.9685	0.9237	1.0170	1.0113	0.9962
Households Growth	1.0052	1.0021	1.0284	1.0117	1.0140
Population Growth	1.0067	1.0066	1.0285	1.0113	1.0139
Income Growth	0.9833	0.9536	1.0228	1.0329	1.0217

**Composite indicator**

	1.0315	1.0560	1.0108	0.9970	1.0063	<b>1.0191</b>
Peak Growth/CI	0.9864	0.9612	1.0228	1.0174	1.0098	

<b>Peak Growth Rate Range</b>	<b>1.0053</b>		<b>1.0368</b>	<b>1.0291</b>		1.0053	1.0368
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# LIPA

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	Correlation of W/N Peak and:	
Employment	1147.74	1189.66	1217.38	1218.8	1211.67	1214.67	1227.03	Employment	0.7657
Output	80.98	84.44	88.36	87.4	90.54	92.15	<b>94.52</b>	Output	0.9435
Households	896.99	909.47	919.96	927.08	933.51	937.93	942.74	Households	0.9795
Population	2716.61	2740.19	2763.77	2785.33	2805.38	2818.43	<b>2826.35</b>	Population	0.9940
Income	98052	100011	105335	105561	104652	105249	<b>107809</b>	Income	0.8385

Growth										
Employment		1.0365	1.0233	1.0012	0.9941	1.0025	<b>1.0102</b>			
Output		1.0427	1.0464	0.9891	1.0359	1.0178	<b>1.0257</b>			
Households		1.0139	1.0115	1.0077	1.0069	1.0047	<b>1.0051</b>			
Population		1.0087	1.0086	1.0078	1.0072	1.0047	<b>1.0028</b>			
Income		1.0200	1.0532	1.0021	0.9914	1.0057	<b>1.0243</b>			

W/N Peaks	4205	4275	4455	4616	4738	4835			
W/N Peak Growth		<b>1.0166</b>	<b>1.0421</b>	<b>1.0361</b>	<b>1.0264</b>	<b>1.0205</b>			
		1.0166		1.0361	1.0264			1.0166	1.0361

Peak Growth divided by:									
Employment Growth		0.9808	1.0184	1.0349	1.0325	1.0180			
Output Growth		0.9750	0.9959	1.0475	0.9908	1.0026			
Households Growth		1.0027	1.0302	1.0282	1.0194	1.0157			
Population Growth		1.0079	1.0332	1.0281	1.0191	1.0157			
Income Growth		0.9967	0.9894	1.0339	1.0353	1.0147			

<u>Composite indicator</u>									
		1.0237	1.0349	0.9997	1.0122	1.0094	<b>1.0171</b>		
Peak Growth/CI		<b>0.9931</b>	1.0069	<b>1.0364</b>	<b>1.0141</b>	<b>1.0109</b>			

<b>Peak Growth Rate Range</b>		<b>1.0241</b>		<b>1.0314</b>	<b>1.0282</b>			1.0241	1.0314
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# NYSEG

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	Correlation of W/N Peak and:	
Employment	465.89	479.04	490.72	510.25	515.83	518.3	<b>525.28</b>	Employment	0.9377
Output	22.66	23	23.69	24.36	25.54	26.62	<b>27.66</b>	Output	0.9471
Households	427.26	431.53	435.57	436.98	438.36	438.68	<b>439.28</b>	Households	0.8715
Population	1135.71	1137.15	1139.12	1142.82	1146.79	1147.66	<b>1148.34</b>	Population	0.9363
Income	26167.6	26815.9	28197.7	28746.7	29193.1	29663.3	<b>30449.7</b>	Income	0.9398

## Growth

Employment	1.0282	1.0244	1.0398	1.0109	1.0048	<b>1.0135</b>
Output	1.0150	1.0300	1.0283	1.0484	1.0423	<b>1.0391</b>
Households	1.0100	1.0094	1.0032	1.0032	1.0007	<b>1.0014</b>
Population	1.0013	1.0017	1.0032	1.0035	1.0008	<b>1.0006</b>
Income	1.0248	1.0515	1.0195	1.0155	1.0161	<b>1.0265</b>

W/N Peaks                    2515    2516    2528    2547    2543    **2563**

W/N Peak Growth            **1.0004**    1.0048    **1.0075**    0.9984    **1.0079**  
    1.0004    1.0048    1.0075

1.0004    1.0075

## Peak Growth divided by:

Employment Growth            0.9729    0.9809    0.9690    0.9876    1.0031  
 Output Growth                0.9856    0.9755    0.9798    0.9523    0.9670  
 Households Growth            0.9905    0.9955    1.0043    0.9953    1.0071  
 Population Growth            0.9991    1.0030    1.0043    0.9950    1.0071  
 Income Growth                0.9762    0.9555    0.9883    0.9832    0.9919

## Composite indicator

Peak Growth/CI                1.0226    1.0353    1.0292    1.0250    1.0211    1.0264  
    0.9782    **0.9705**    0.9790    0.9740    **0.9870**

**Peak Growth Rate Range**            **1.0041**                    **1.0048**    **0.9997**                    0.9997    1.0048

# O & R

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	Correlation of W/N Peak and:	
Employment	99.62	104.54	106.12	105.77	105.67	105.53	106.52	Employment	0.6856
Output	6.99	7.16	7.18	7.07	7.25	7.42	7.6	Output	0.8251
Households	89.92	91.49	92.98	93.66	94.31	94.52	94.89	Households	0.9552
Population	282.47	285.55	287.75	289.79	291.87	292.49	293.15	Population	0.9830
Income	9600	9879	10260	10091	10265	10306	10566	Income	0.8697

Growth							
Employment		1.0494	1.0151	0.9967	0.9991	0.9987	1.0094
Output		1.0243	1.0028	0.9847	1.0255	1.0234	1.0243
Households		1.0175	1.0163	1.0073	1.0069	1.0022	1.0039
Population		1.0109	1.0077	1.0071	1.0072	1.0021	1.0023
Income		1.0290	1.0385	0.9836	1.0172	1.0040	1.0252

W/N Peaks	1250	1280	1325	1355	1410	1435
W/N Peak Growth		1.0240	1.0352	1.0226	1.0406	1.0177
		1.0240	1.0352	1.0226		

1.0226 1.0352

**Peak Growth divided by:**

Employment Growth	0.9758	1.0197	1.0260	1.0416	1.0191
Output Growth	0.9997	1.0323	1.0386	1.0148	0.9944
Households Growth	1.0064	1.0186	1.0152	1.0334	1.0155
Population Growth	1.0130	1.0272	1.0154	1.0332	1.0156
Income Growth	0.9951	0.9967	1.0397	1.0230	1.0136

Composite indicator

	1.0209	1.0162	0.9925	1.0161	1.0093	<b>1.0165</b>
Peak Growth/CI	1.0030	1.0186	1.0303	1.0241	1.0083	

Peak Growth Rate Range		<b>1.0354</b>		<b>1.0410</b>	<b>1.0250</b>		1.0250	1.0410
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# RG & E

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>Correlation of W/N Peak and:</u>	
Employment	539.51	548.12	553.23	549.78	534.07	525.18	527.26	Employment	-0.5915
Output	33.15	33.2	33.84	32.99	33.71	34.01	34.72	Output	0.4327
Households	414.75	417.78	420.32	420.76	421.87	423.35	425.62	Households	0.8445
Population	1096.2	1096.73	1098.87	1100	1103.17	1106.94	1110.31	Population	0.8846
Income	28755	28975	29528	29983	29451	29465	30091	Income	0.6661

<u>Growth</u>								
Employment		1.0160	1.0093	0.9938	0.9714	0.9834	1.0040	
Output		1.0015	1.0193	0.9749	1.0218	1.0089	1.0209	
Households		1.0073	1.0061	1.0010	1.0026	1.0035	1.0054	
Population		1.0005	1.0020	1.0010	1.0029	1.0034	1.0030	
Income		1.0077	1.0191	1.0154	0.9823	1.0005	1.0212	

W/N Peaks                    1403      1392      1430      1512      1556      1541

W/N Peak Growth            0.9926    1.0270    1.0575    1.0291    0.9904

0.9926    1.0291

**Peak Growth divided by:**

Employment Growth            0.9770    1.0175    1.0641    1.0594    1.0071

Output Growth                0.9911    1.0076    1.0847    1.0071    0.9816

Households Growth            0.9854    1.0208    1.0564    1.0264    0.9869

Population Growth            0.9921    1.0250    1.0564    1.0261    0.9870

Income Growth                0.9850    1.0078    1.0414    1.0477    0.9899

Composite indicator

Peak Growth/CI              1.0031    1.0115    1.0002    1.0001    1.0036    **1.0130**

                                     0.9895    1.0153    1.0573    1.0290    0.9868

Peak Growth Rate Range      **1.0024**    **1.0286**                    **1.0424**                    1.0024    1.0424



# ICAP Load Forecast Process 2004 Criteria Summary

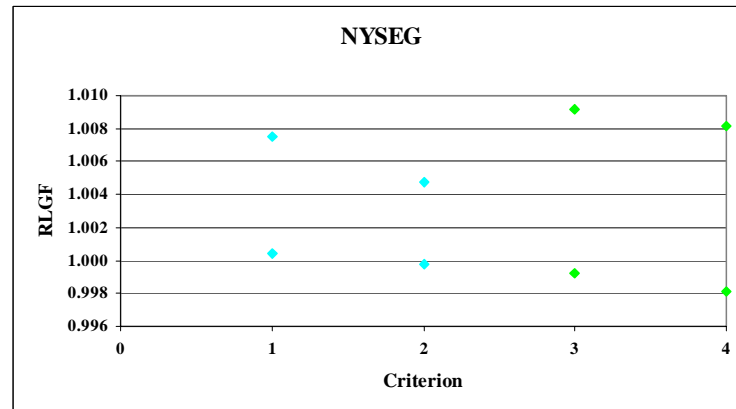
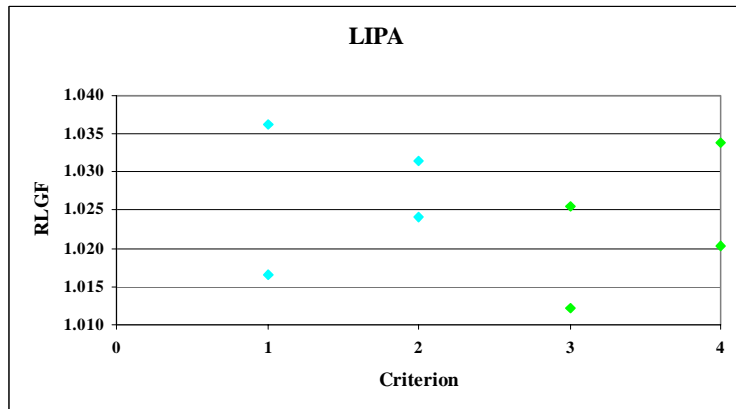
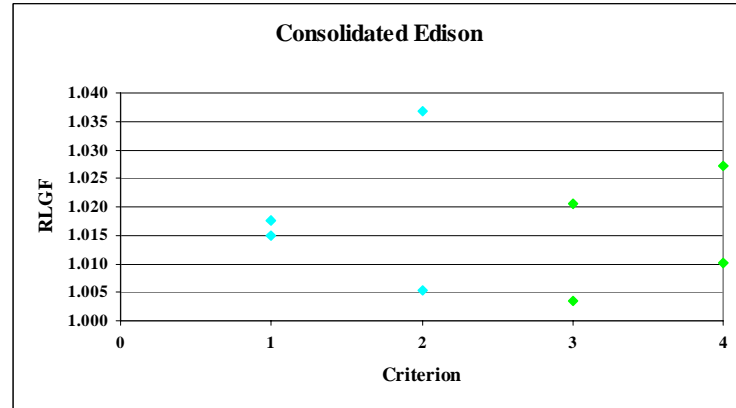
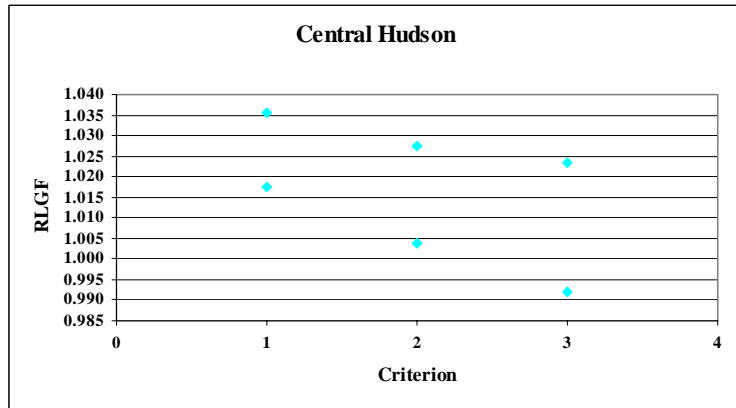
Criteria 1:	Recent Historical Load Growth	
	<u>Minimum</u>	<u>Maximum</u>
Central Hudson	1.0176	1.0355
Consolidated Edison	1.0150	1.0175
LIPA	1.0166	1.0361
NYSEG	1.0004	1.0075
Niagara Mohawk	0.9746	1.0170
NYPA	0.9189	1.0652
O&R	1.0226	1.0352
RG&E	0.9926	1.0291

Criteria 2:	Relationship to Economic Indicators	
	<u>Minimum</u>	<u>Maximum</u>
Central Hudson	1.0038	1.0275
Consolidated Edison	1.0053	1.0368
LIPA	1.0241	1.0314
NYSEG	0.9997	1.0048
Niagara Mohawk	0.9806	1.0116
NYPA		
O&R	1.0250	1.0410
RG&E	1.0024	1.0424

Criteria 3: Projection Performed by the NYISO			
	<u>Predicted</u>	<u>Minimum</u>	<u>Maximum</u>
Central Hudson	1.0129	0.9921	1.0233
Consolidated Edison	1.0121	1.0036	1.0206
LIPA	1.0189	1.0122	1.0256
NYSEG	1.0042	0.9992	1.0092
Niagara Mohawk	0.9940	0.9573	1.0123
NYPA			
O&R	1.0207	1.0064	1.0278
RG&E	1.0129	0.9746	1.0320

Combined 1& 2:		
	<u>Minimum</u>	<u>Maximum</u>
Central Hudson		
Consolidated Edison	1.0101	1.0272
LIPA	1.0204	1.0338
NYSEG	0.9981	1.0081
Niagara Mohawk		
NYPA		
O&R		
RG&E		

# ICAP Load Forecast Process 2004 Criteria Summary



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