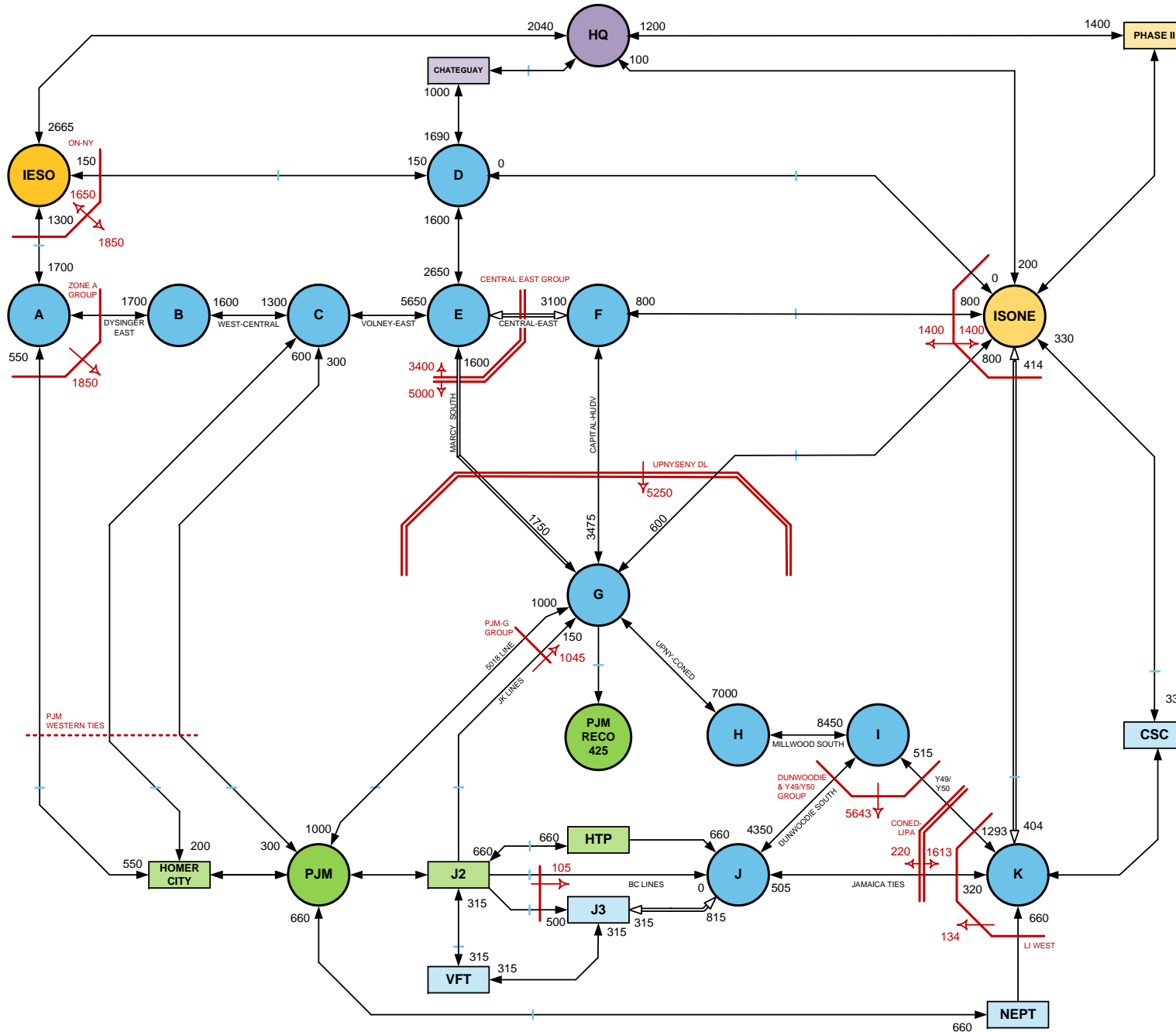


Draft Topology for 2020 RNA Base Case: Study Year 2021



Notes

1. PJM to NY emergency assistance (EA) assumption for calculating the PJM-NY Western ties, PJM-G Group, and ABC Line Group flow distribution limit: 1500MW
2. NYCA EA simultaneous import limit: 3,500 MW
3. External areas representation based upon information received from the NPCC CP-8 WG

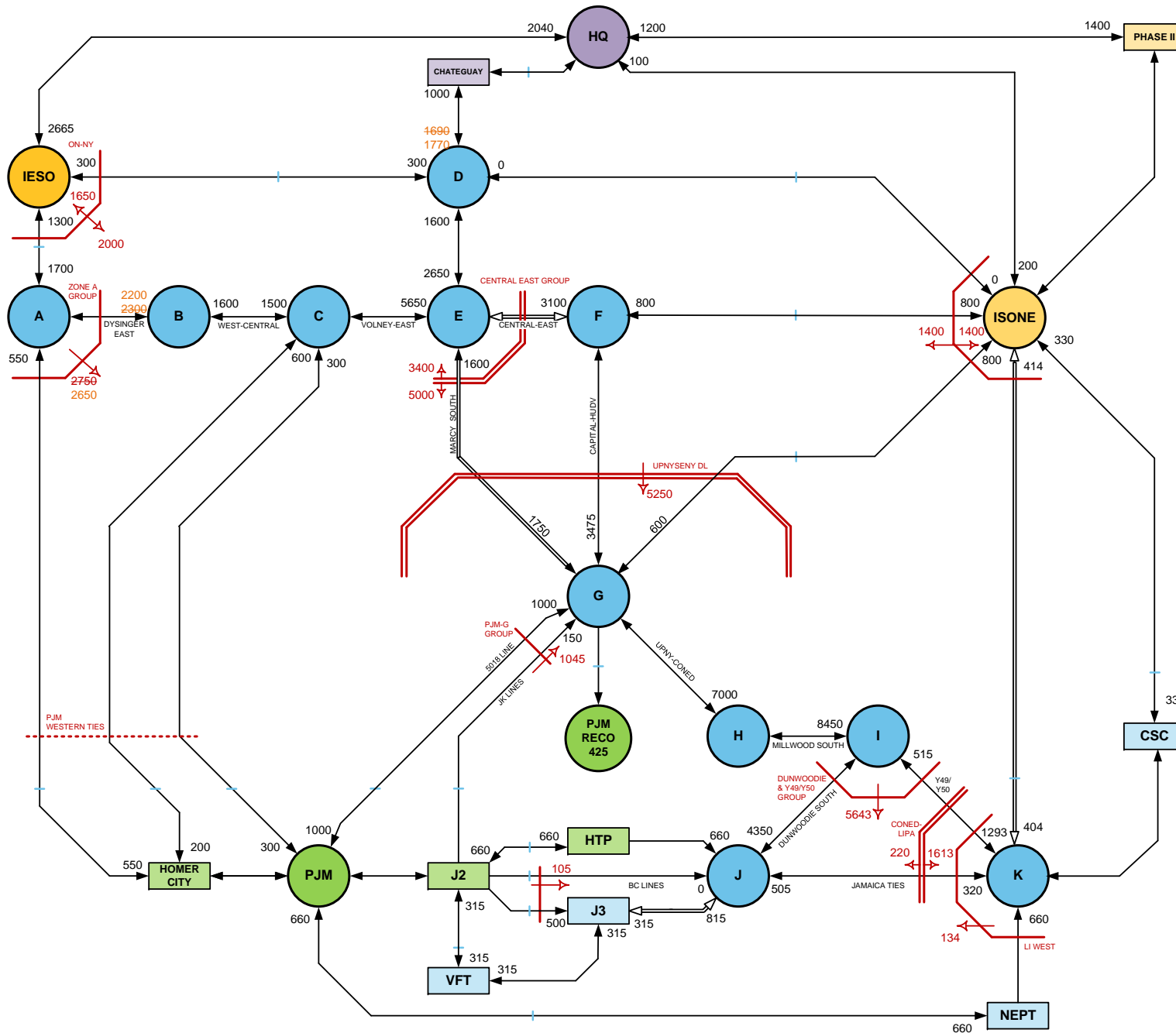
Legend

- Interface
 - Unidirectional Interface
 - Interface w/ Dynamic Ratings
 - Interface Group
 - Interface Group w/ Dynamic Ratings
 - Monitoring Interface Group
 - NYCA EA Interface Group Marker
 - "Dummy Bubble" i.e. no load
- NOTE: An interface is considered to not have a MW limitation if no number is specified

For Stakeholders Discussions Only

May 22, 2020 ESPWG/TPAS

Draft Topology for 2020 RNA Base Case: Study Years 2022-2023



For Stakeholders Discussions Only

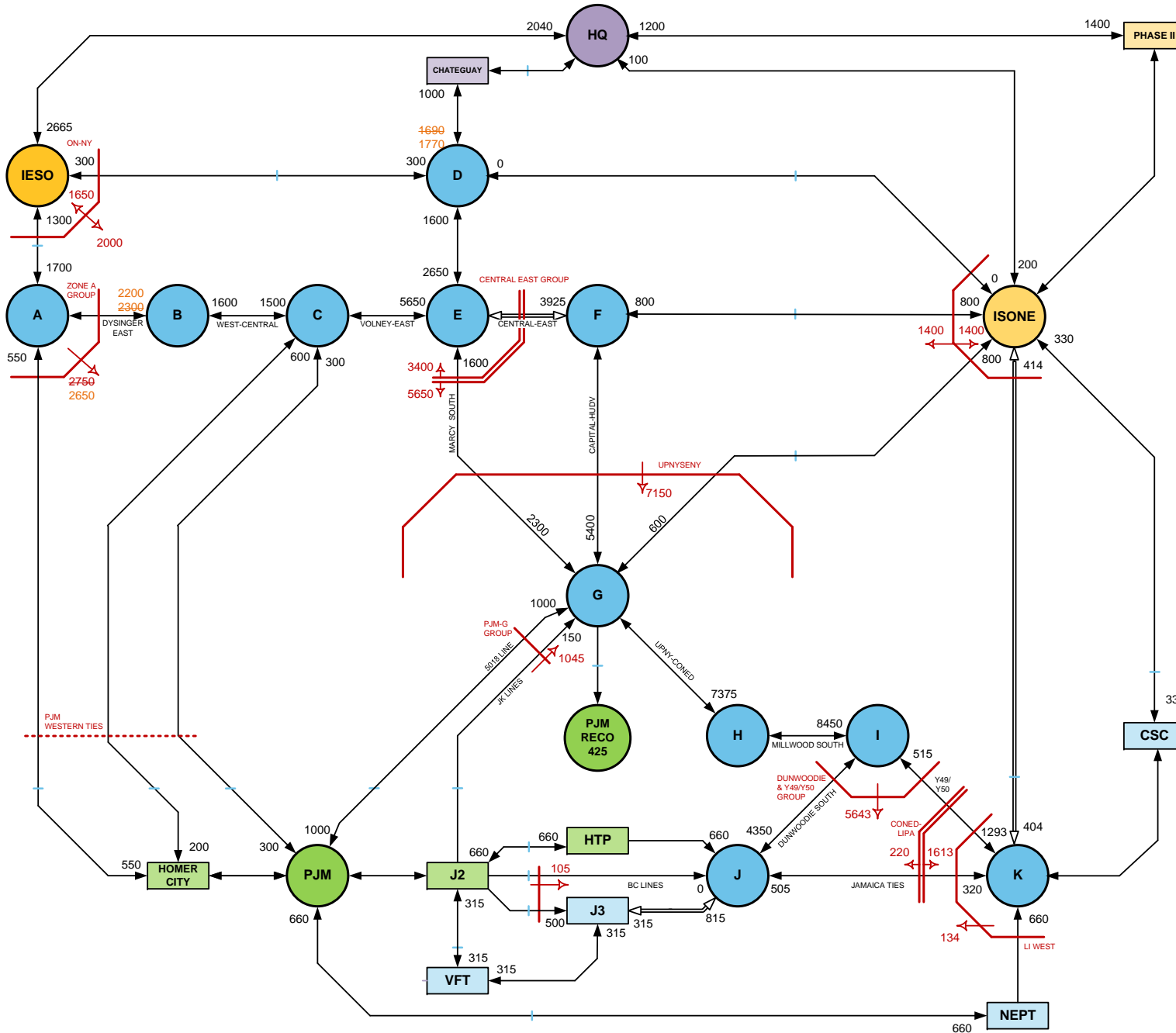
Notes

1. PJM to NY emergency assistance (EA) assumption for calculating the PJM-NY Western ties, PJM-G Group, and ABC Line Group flow distribution limit: 1500MW
2. NYCA EA simultaneous import limit: 3,500 MW
3. External areas representation based upon information received from the NPCC CP-8 WG

Legend

- Interface
 - Unidirectional Interface
 - Interface w/ Dynamic Ratings
 - Interface Group
 - Interface Group w/ Dynamic Ratings
 - Monitoring Interface Group
 - NYCA EA Interface Group Marker
 - "Dummy Bubble" i.e. no load
- NOTE: An interface is considered to not have a MW limitation if no number is specified

Draft Topology for 2020 RNA Base Case: Study Years 2024-2030



Notes

1. PJM to NY emergency assistance (EA) assumption for calculating the PJM-NY Western ties, PJM-G Group, and ABC Line Group flow distribution limit: 1500MW
2. NYCA EA simultaneous import limit: 3,500 MW
3. External areas representation based upon information received from the NPCC CP-8 WG

Legend

- Interface
 - Unidirectional Interface
 - Interface w/ Dynamic Ratings
 - Interface Group
 - Interface Group w/ Dynamic Ratings
 - Monitoring Interface Group
 - NYCA EA Interface Group Marker
 - “Dummy Bubble” i.e. no load
- NOTE: An interface is considered to not have a MW limitation if no number is specified

For Stakeholders Discussions Only

Draft Topology for 2020 RNA Base Case: Study Years 2021-2023 Dynamic Limits and Groupings Information

| Interface Group | Limit | Flow Equation |
|-----------------|-------|----------------------------|
| LI_WEST | 134 | (K to I&J) - 0.13*(K_NEPT) |

Central East Voltage Limits, Oswego Complex Units

| Depends On: | 9MILP1, 9MILP2, FPNUC1, STHIND, OS05, OS06 | | | |
|-----------------|--|------|---------|------|
| Units Available | E_to_F | | E_to_FG | |
| | Fwd | Rev | Fwd | Rev |
| 6 | 3100 | 1999 | 5000 | 3400 |
| 5 | 3050 | 1999 | 4925 | 3400 |
| 4 | 2990 | 1999 | 4840 | 3400 |
| 3 | 2885 | 1999 | 4685 | 3400 |
| 2 | 2770 | 1999 | 4510 | 3400 |
| Otherwise | 2645 | 1999 | 4310 | 3400 |

Staten Island Import Limits, AK and Linden CoGen Units

| Unit Availability | | | | J_to_J3 | |
|-------------------|------|---------|---------|---------|-----|
| AK02 | AK03 | LINCOG1 | LINCOG2 | Fwd | Rev |
| A | A | A | A | 315 | 200 |
| U | A | A | A | 315 | 500 |
| A | U | A | A | 315 | 700 |
| A | A | U | A | 315 | 500 |
| A | A | A | U | 315 | 500 |
| Otherwise | | | | 315 | 815 |

| Depends On: | NPRTS1-4 | |
|-----------------|--------------|--------------|
| Units Available | LI_NE | |
| | Norwalk to K | K to Norwalk |
| 4 | 260 | 414 |
| Otherwise | 404 | 414 |

| Depends On: | Barrett1 and 2 | |
|-----------------|----------------|---------|
| Units Available | ConEd-LIPA | |
| | IJ to K | K to IJ |
| 2 | 1613 | 220 |
| 1 | 1613 | 200 |
| 0 | 1613 | 130 |

Voltage Limited Interfaces

Central East MARS
Central East Group
UPNY-ConEd

| PJM-NY JOA Flow Distribution (Jan 31, 2017 filing) | RECO Load Deliveries | PJM-NY Emergency Assistance |
|--|----------------------|-----------------------------|
| PJM-NY Western Ties | 20% | 46% |
| 5018 Line | 80% | 32% |
| JK Lines | 0% | 15% |
| A Line | 0% | 7% |
| BC Lines | 0% | 0% |

| US DL Limit (MW) | Units Available | | |
|------------------|----------------------|---------|--------|
| | CPV | Cricket | Athens |
| 5250 | 2 | 3 | 3 |
| 5100 | 2 | 3 | 2 |
| 5350 | 1 | 3 | 3 |
| 5200 | 2 | 2 | 3 |
| 5150 | 2 | 1 | 3 |
| 5250 | 1 | 1 | 3 |
| 5100 | 2 | 0 | 3 |
| 5350 | All Other Conditions | | |

| E_TO_G DL Limit (MW) | Units Available |
|----------------------|-----------------|
| | CPV |
| 1750 | 2 |
| 2000 | 1 |
| 2250 | 0 |

For Stakeholders Discussions Only

Draft Topology for 2020 RNA Base Case: Study Years 2024-2030 Dynamic Limits and Groupings Information

| Interface Group | Limit | Flow Equation |
|-----------------|-------|---|
| LI_WEST | 134 | $(K \text{ to } I\&J) - 0.13*(K_NEPT)$ |

Central East Voltage Limits, Oswego Complex Units

| Depends On: | 9MILP1, 9MILP2, FPNUC1, STHIND, OS05, OS06 | | | |
|-----------------|--|------|---------|------|
| Units Available | E_to_F | | E_to_FG | |
| | Fwd | Rev | Fwd | Rev |
| 6 | 3925 | 1999 | 5650 | 3400 |
| 5 | 3875 | 1999 | 5575 | 3400 |
| 4 | 3815 | 1999 | 5490 | 3400 |
| 3 | 3710 | 1999 | 5335 | 3400 |
| 2 | 3595 | 1999 | 5160 | 3400 |
| Otherwise | 3470 | 1999 | 4960 | 3400 |

Staten Island Import Limits, AK and Linden CoGen Units

| Unit Availability | | | | J_to_J3 | |
|-------------------|------|---------|---------|---------|-----|
| AK02 | AK03 | LINCOG1 | LINCOG2 | Fwd | Rev |
| A | A | A | A | 315 | 200 |
| U | A | A | A | 315 | 500 |
| A | U | A | A | 315 | 700 |
| A | A | U | A | 315 | 500 |
| A | A | A | U | 315 | 500 |
| Otherwise | | | | 315 | 815 |

| Depends On: | NPRTS1-4 | |
|-----------------|--------------|--------------|
| Units Available | LI_NE | |
| | Norwalk to K | K to Norwalk |
| 4 | 260 | 414 |
| Otherwise | 404 | 414 |

| Depends On: | Barrett1 and 2 | |
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Voltage Limited Interfaces

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