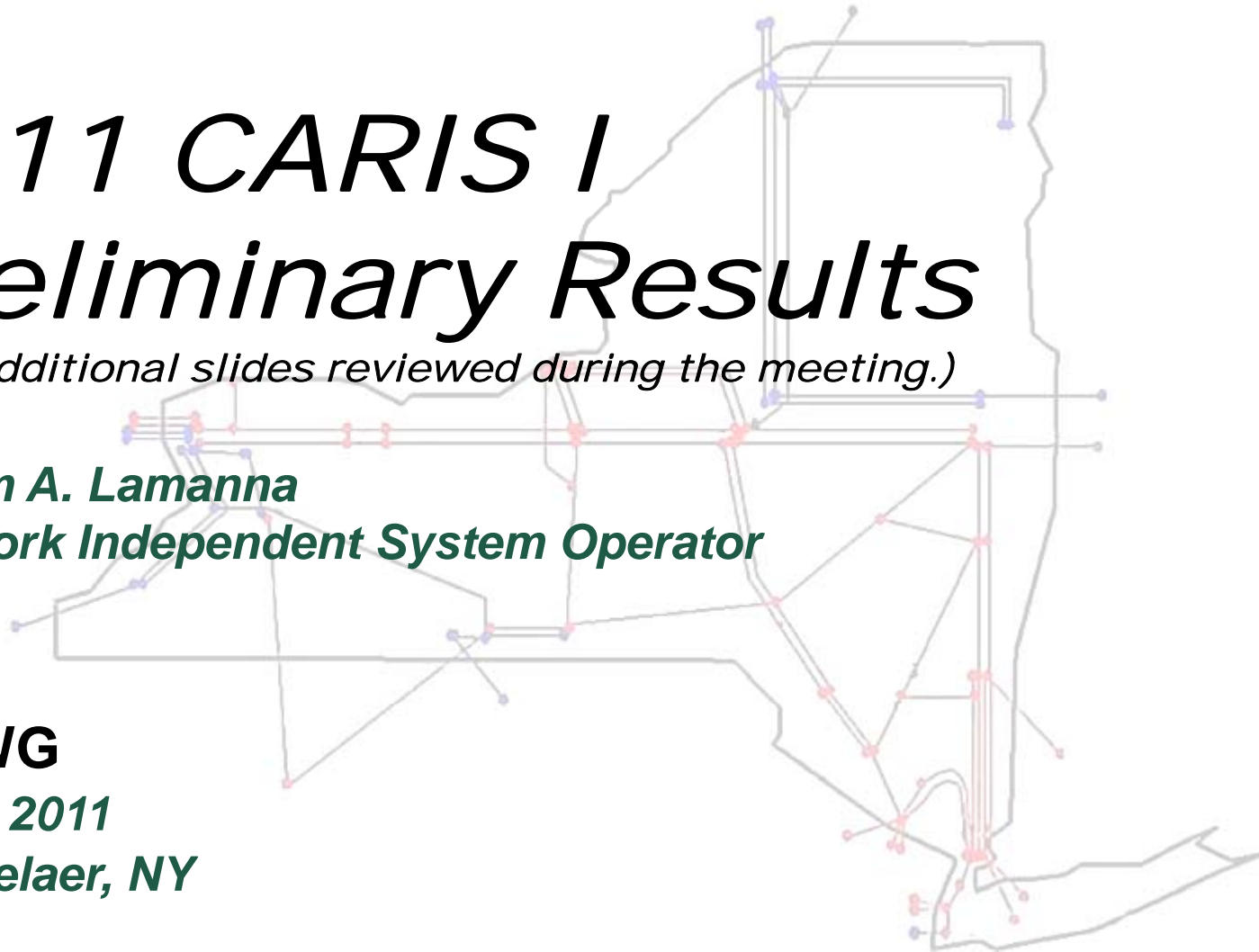


# *2011 CARIS I Preliminary Results*

*(with additional slides reviewed during the meeting.)*

***William A. Lamanna***  
***New York Independent System Operator***

**ESPWG**  
***July 7, 2011***  
***Rensselaer, NY***

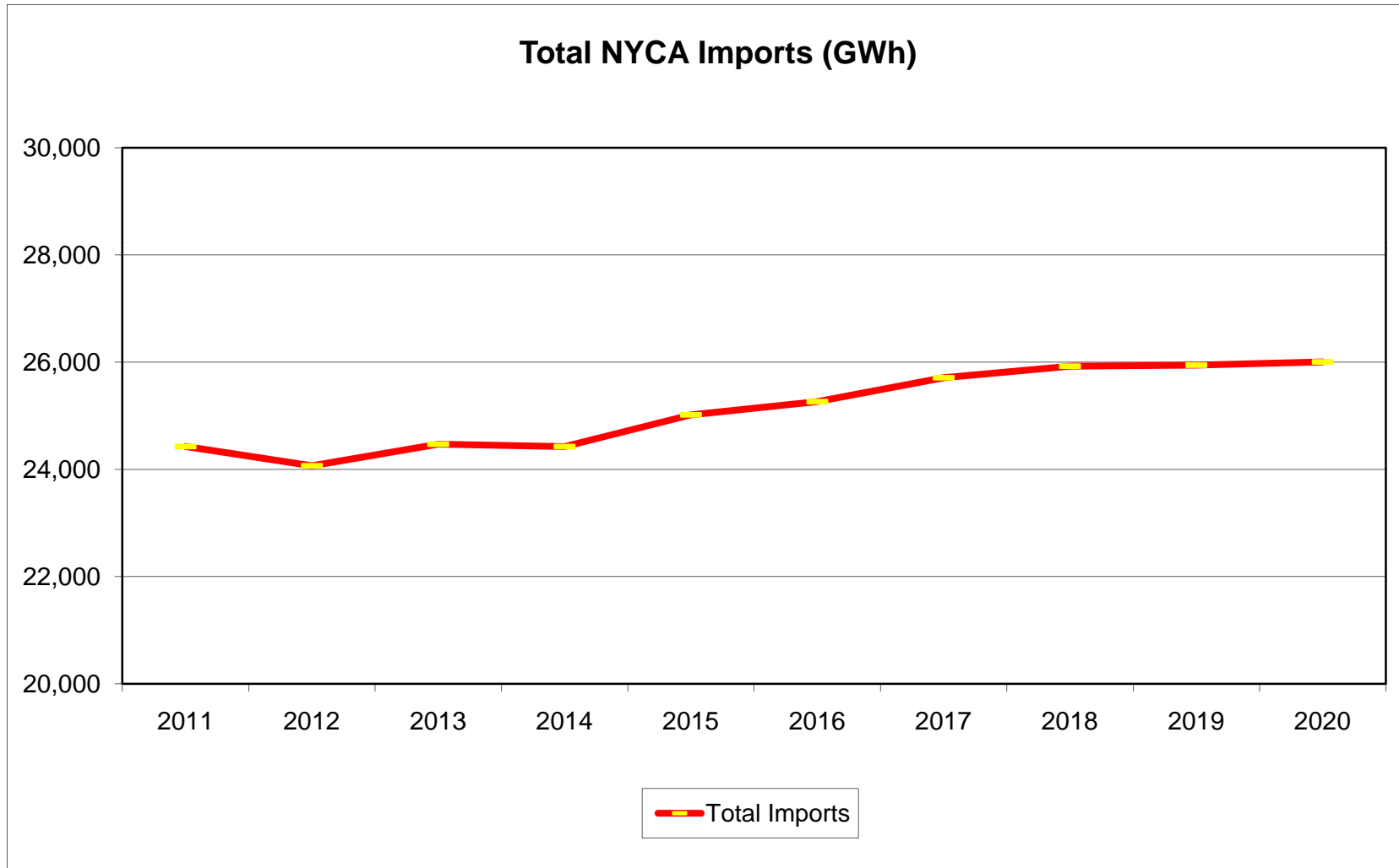


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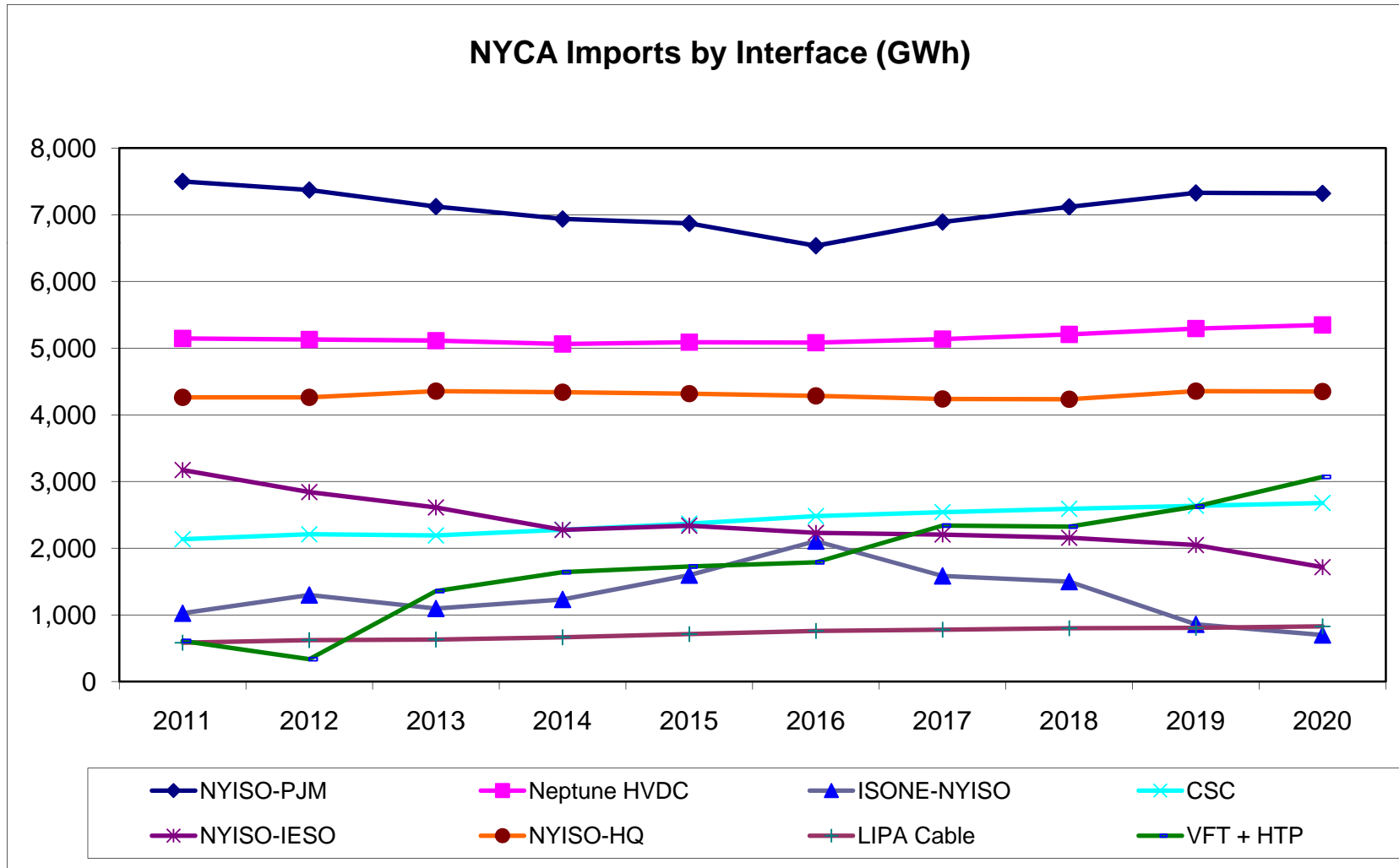
## *Preliminary Results of 2011 -2020 Base Cases*

- ◆ **Imports by Interface and for NYCA Total**
- ◆ **Generation by NYCA Zone and NYCA total**
- ◆ **Congestion – Total and by major interfaces**
- ◆ **Production Costs for NYCA and External Areas**

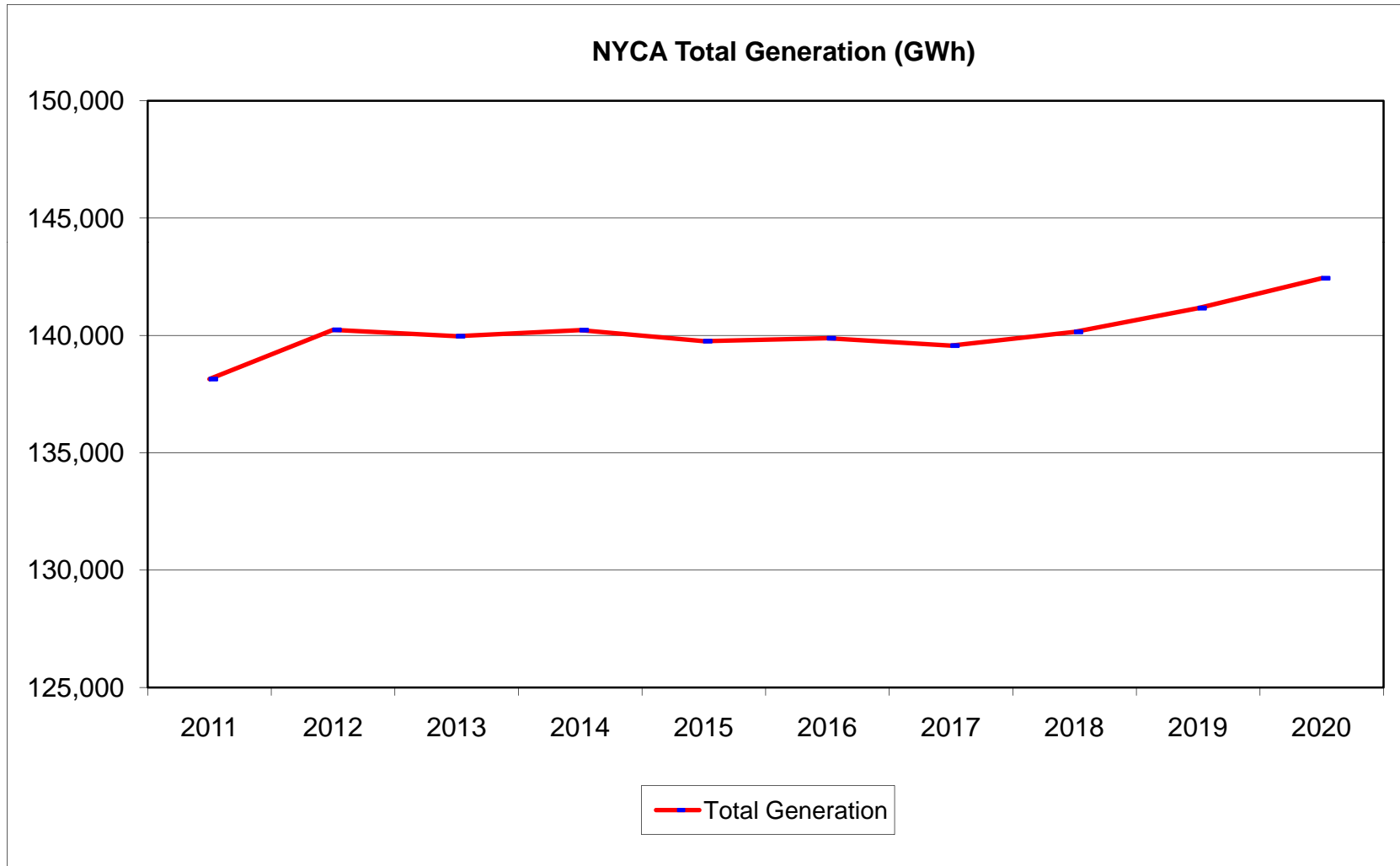
# TOTAL NYCA IMPORTS



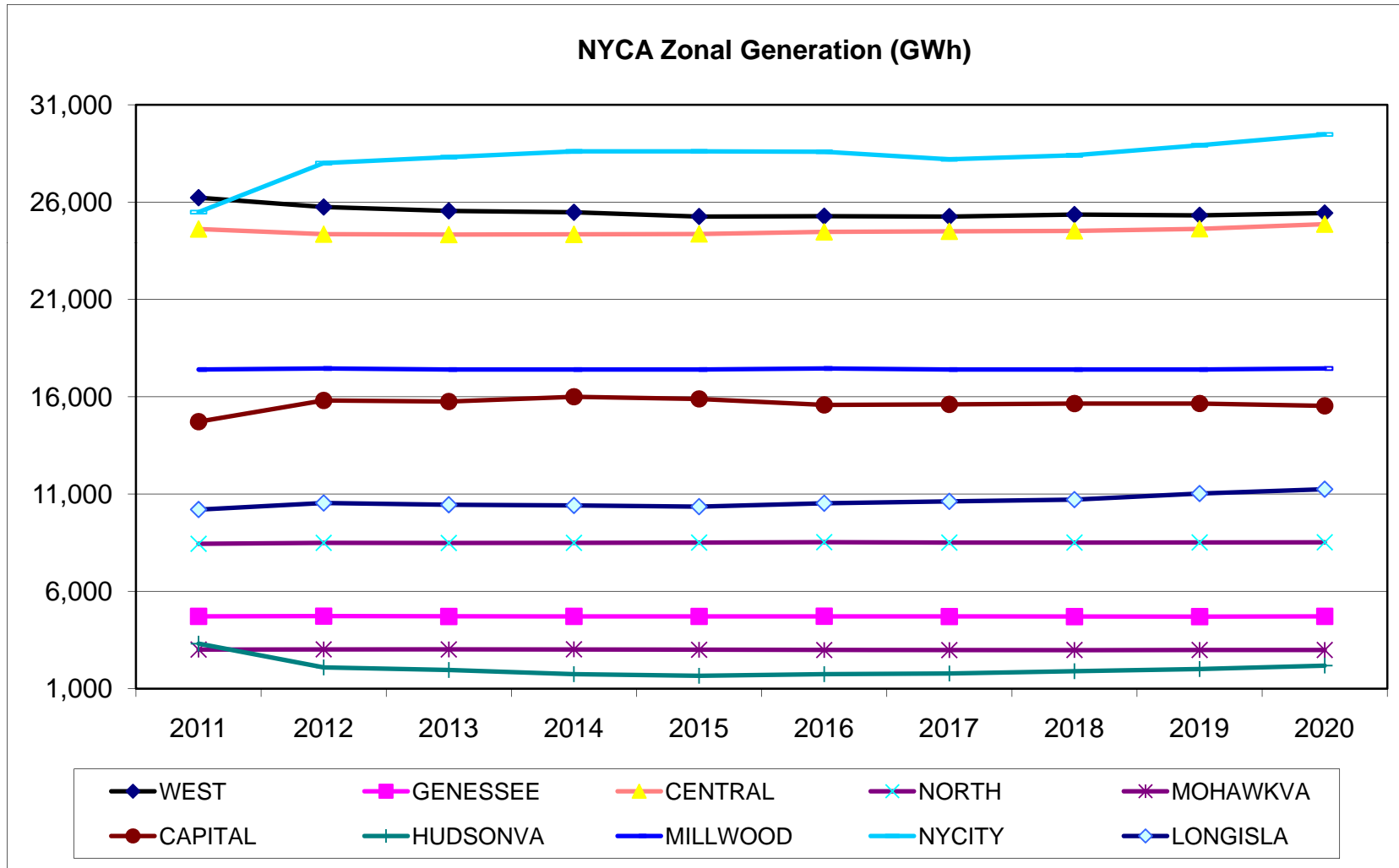
# IMPORTS BY INTERFACE



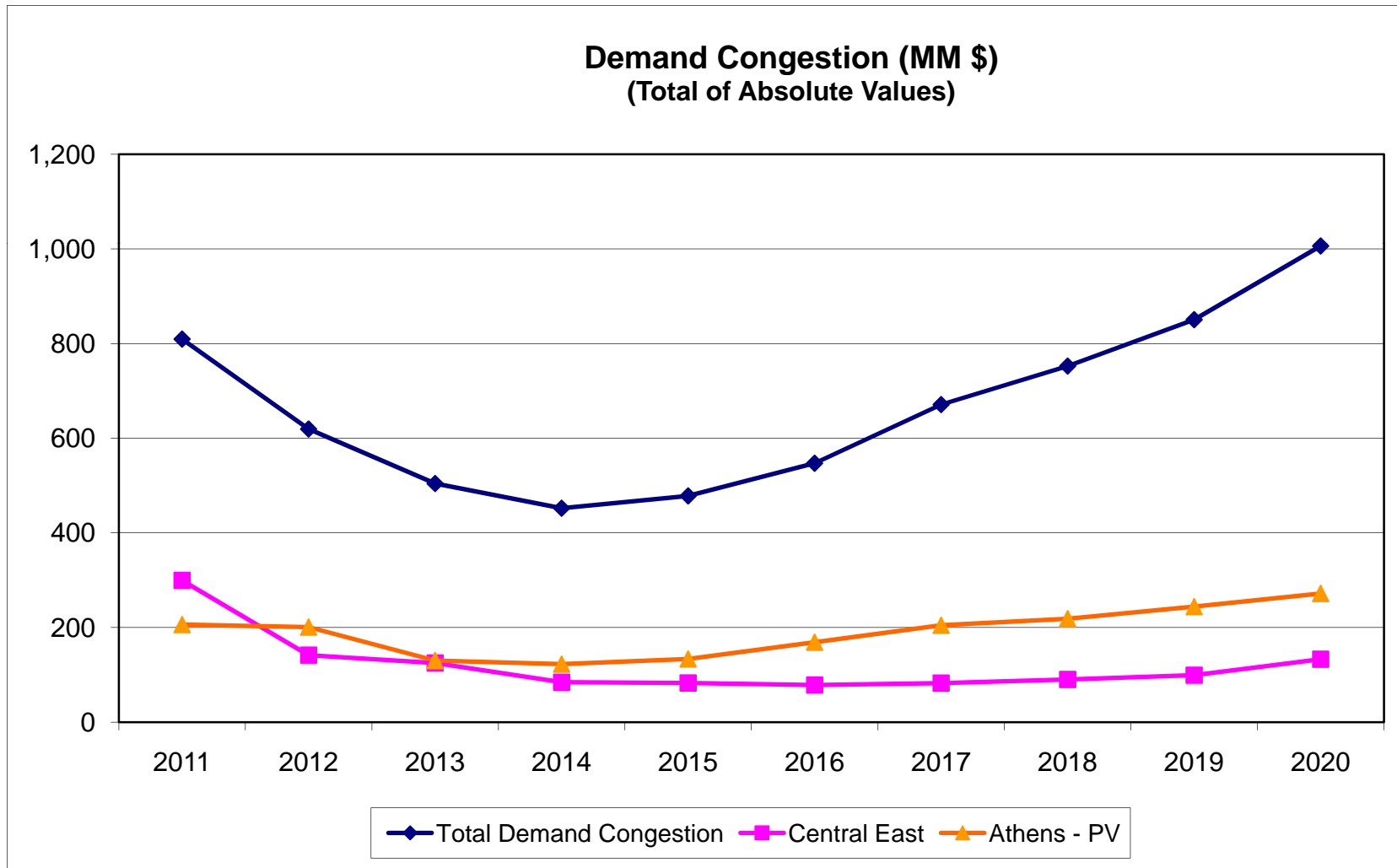
# NYCA TOTAL GENERATION



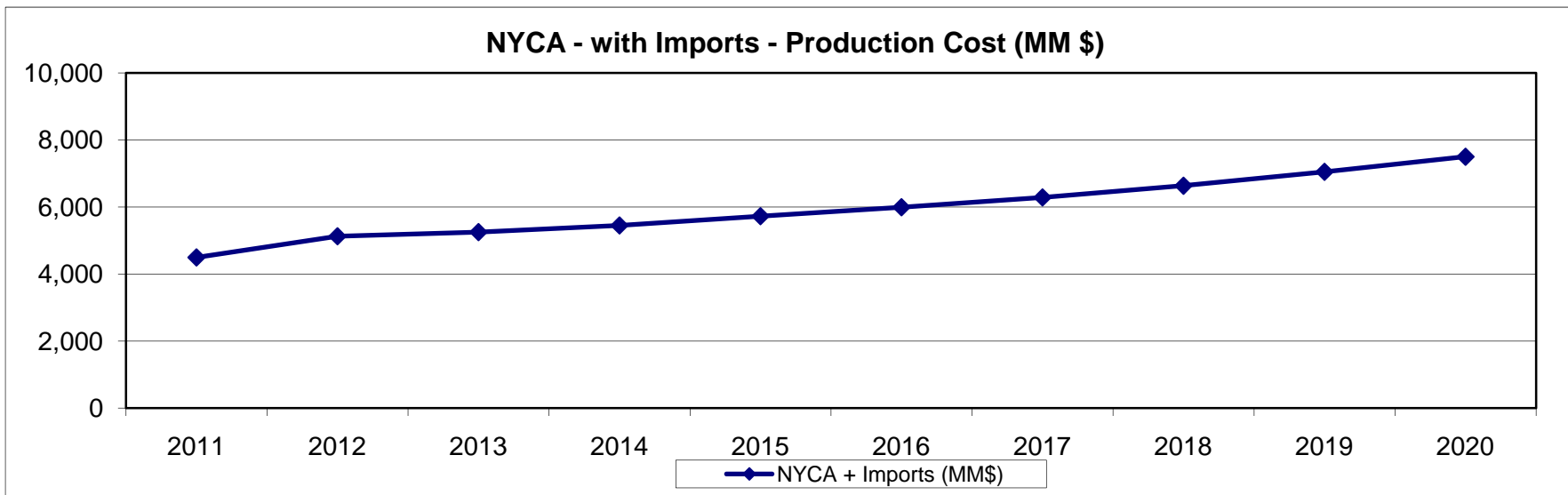
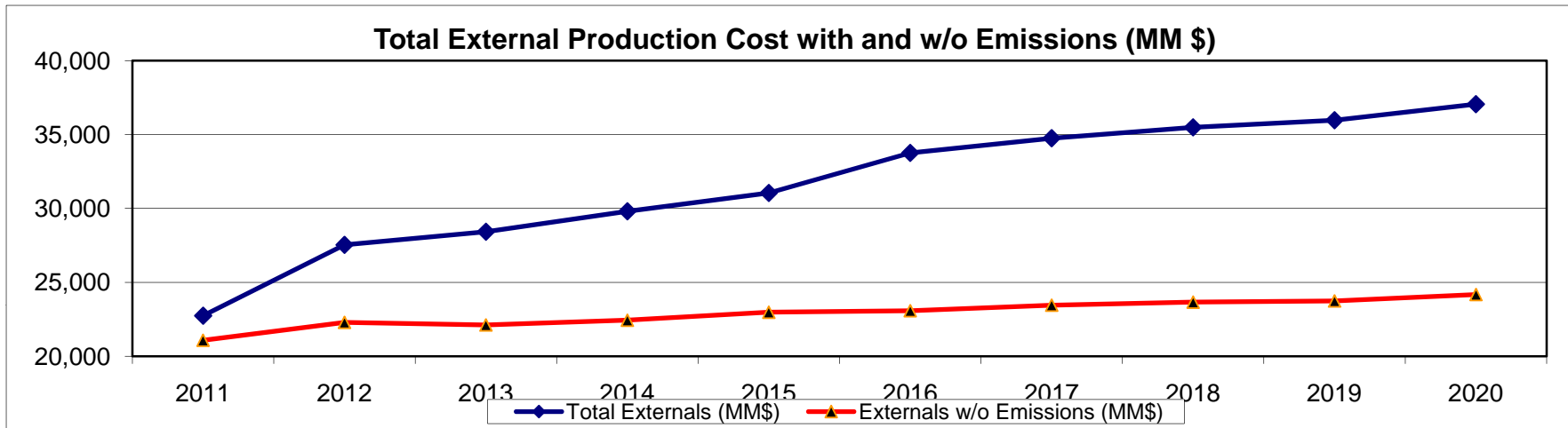
# NYCA ZONAL GENERATION



# DEMAND CONGESTION



# PRODUCTION COST





# Central – East Interface

The following data was presented at the June 22 ESPWG meeting.

- ◆ **Statistical Comparison of Day Ahead Central East VC and MAPs limit**

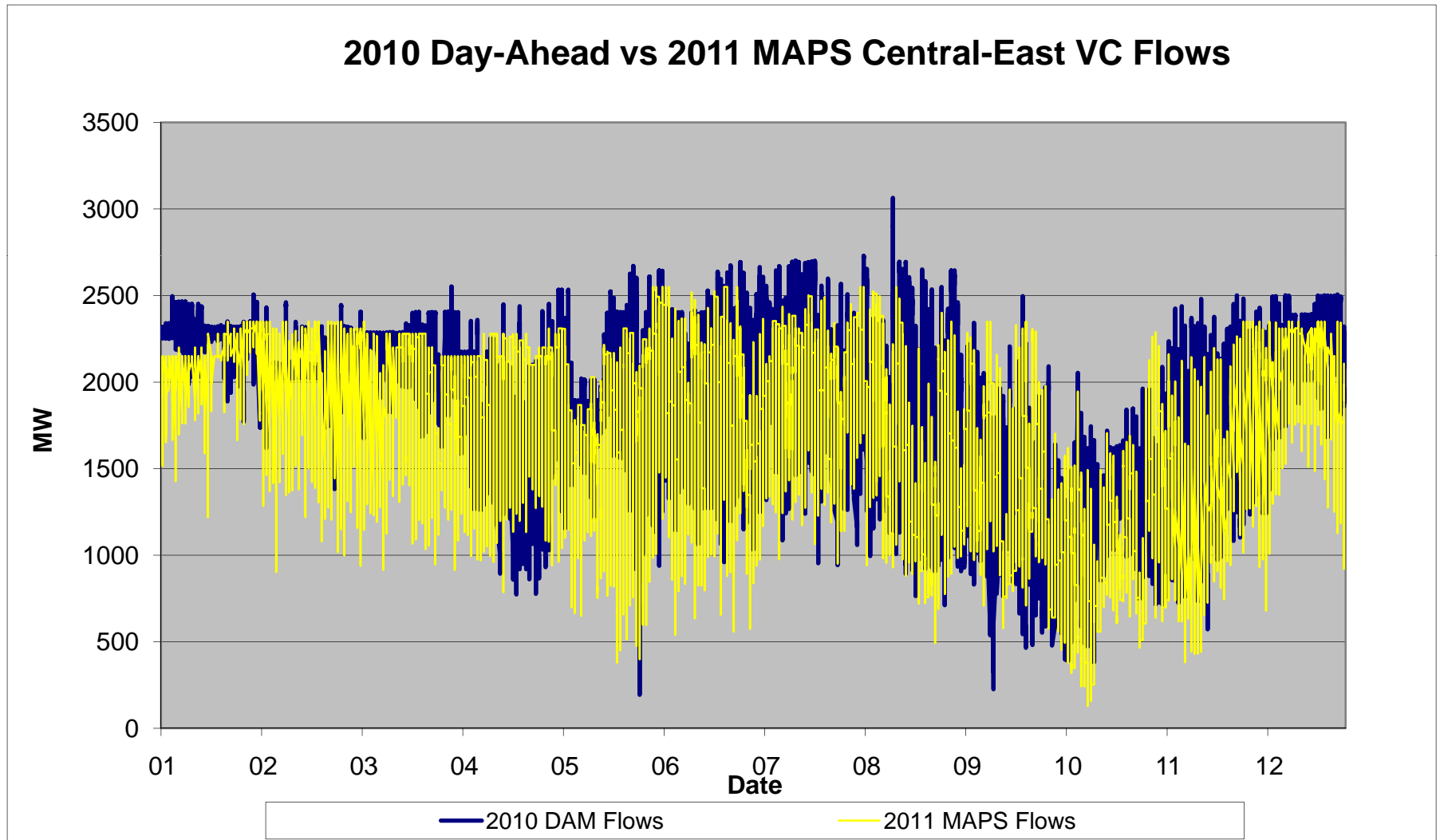
|                   | CEVC Limit - Variation | MAPS CE |
|-------------------|------------------------|---------|
| Avg               | 2,306                  |         |
| Median            | 2,340                  |         |
| Std Dev           | 263.35                 |         |
| Avg when Limiting | 2,192                  | 2,108   |

Per ESPWG request, Central East VC flow data has been compiled below.

- ◆ **Statistical Comparison of Day Ahead and latest MAPs Central-East VC flows & limits**

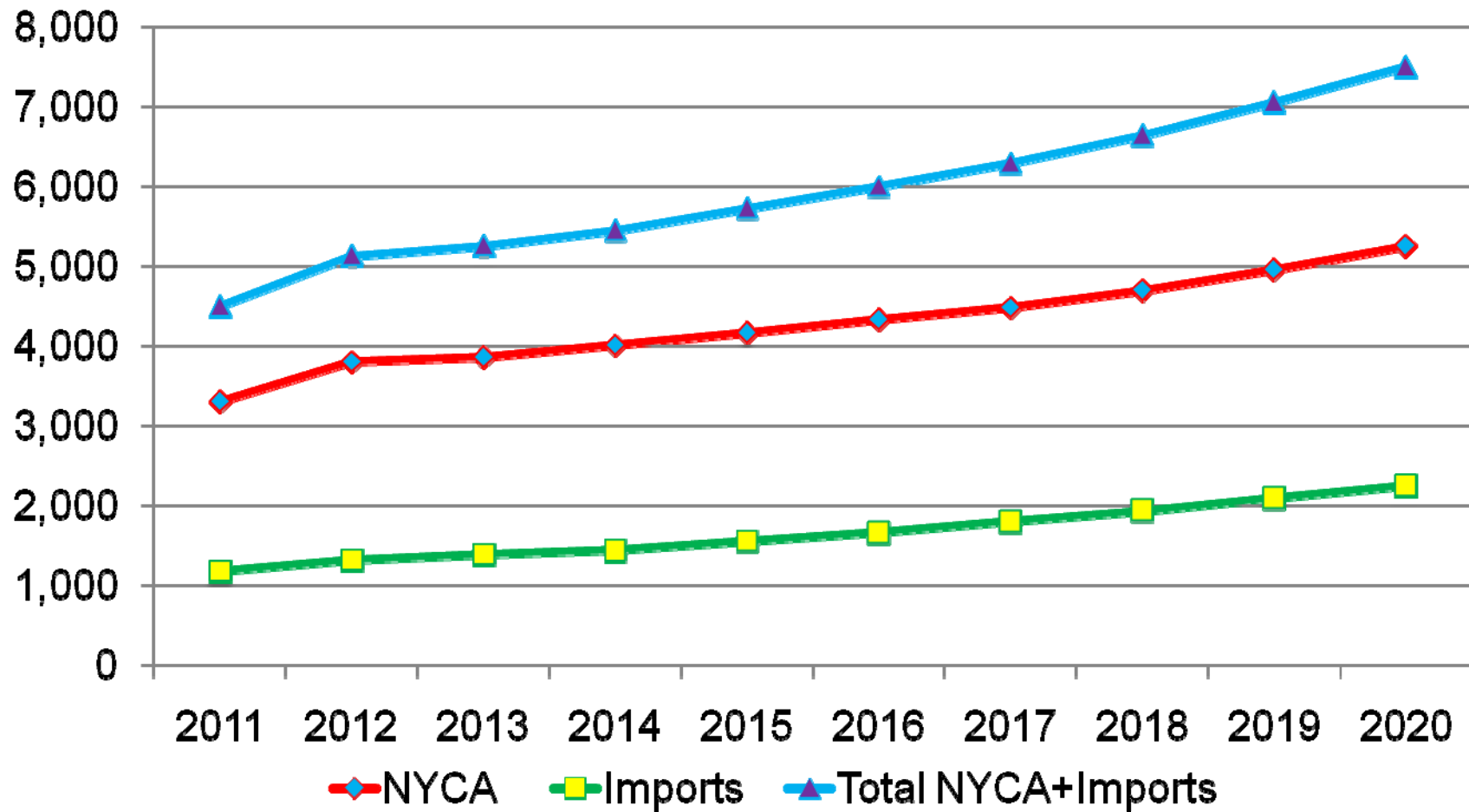
| Central-East VC <u>Flow</u> Statistics | Day-Ahead | MAPS  |
|--|-----------|-------|
| Average                                | 1,894     | 1,736 |
| Median                                 | 2,013     | 1,872 |
| Standard Deviation                     | 495       | 504   |
| Average when Limiting                  | 2,192     | 2,220 |

# Central-East Interface (cont.)



# Production Costs

## Production Costs (MM\$)



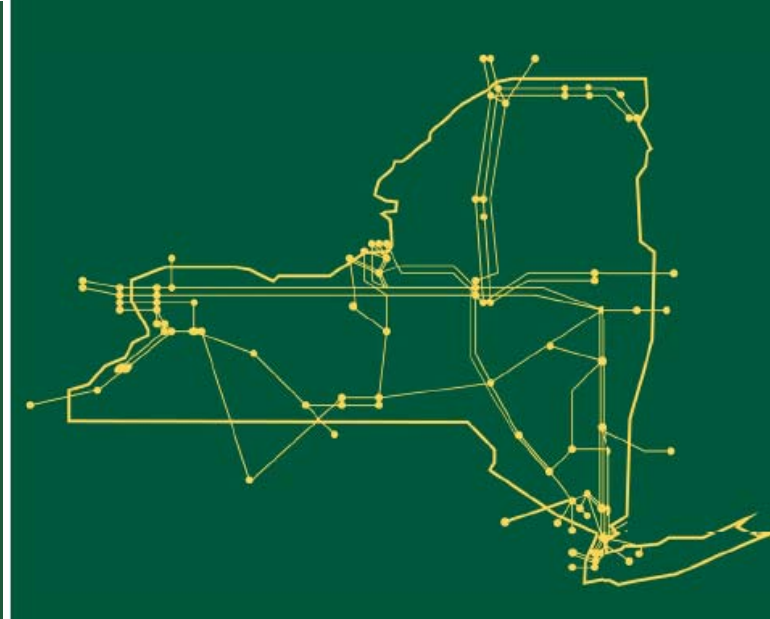
# Present Value of Congestion

|                                 | Assumed Discount Rate <b>7.361%</b> |         |          |         |         |        |        |        |        |        |        |        |        |
|---------------------------------|-------------------------------------|---------|----------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
|                                 | Mid-Year                            |         |          |         |         |        |        |        |        |        |        |        |        |
|                                 | Year -5                             | Year -4 | Year -3  | Year -2 | Year -1 | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 |
| Congestion                      | 2006                                | 2007    | 2008     | 2009    | 2010    | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   |
| CENTRAL EAST                    | 195.00                              | 572.00  | 1,199.00 | 435.00  | 491.00  | 299.55 | 141.63 | 124.93 | 84.31  | 82.79  | 78.32  | 82.53  | 90.13  |
| PLSNTVLY 345 LEEDS 345 1        | 452.00                              | 435.00  | 667.00   | 149.00  | 232.00  | 206.25 | 200.89 | 130.20 | 122.68 | 133.52 | 169.00 | 204.67 | 218.62 |
| DUNWODIE 345 SHORE_RD 345 1     | 492.00                              | 260.00  | 187.00   | 118.00  | 155.00  | 12.15  | 15.37  | 19.12  | 22.17  | 25.09  | 28.85  | 30.59  | 30.99  |
| MOTTHAVN 345 RAINEY 345 (1 & 2) | 0.00                                | 43.00   | 272.00   | 50.00   | 30.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   |
| GREENWD 138 VERNON 138 1        | 69.00                               | 52.00   | 65.00    | 68.00   | 97.00   | 1.13   | 1.19   | 1.45   | 1.85   | 1.70   | 1.72   | 1.75   | 1.67   |
| RAINEY 138 VERNON 138 1         | 21.00                               | 19.00   | 81.00    | 20.00   | 32.00   | 2.54   | 2.41   | 2.39   | 2.47   | 2.65   | 3.00   | 3.23   | 3.47   |
| WEST CENTRAL                    | (2.00)                              | (51.00) | (55.00)  | (1.00)  | (0.00)  | (3.35) | (0.91) | (0.63) | (0.15) | (0.28) | (0.26) | (0.21) | (0.43) |
| E179THST 138 HELLTP_W 138 1     | (10.00)                             | (12.00) | (34.00)  | (13.00) | (20.00) | 0.96   | 1.08   | 1.15   | 1.35   | 1.49   | 1.56   | 1.54   | 1.43   |
| FRKILLS_WILOWBK1_138            | (17.00)                             | (9.00)  | (21.00)  | (7.00)  | (15.00) | 17.32  | 18.01  | 17.05  | 18.02  | 19.06  | 20.56  | 22.35  | 24.71  |
| GOTHLSS_GOWANUSS_345            | 0.00                                | 0.00    | (1.00)   | 0.00    | 0.00    | 14.24  | 16.32  | 14.41  | 14.76  | 16.45  | 17.84  | 20.67  | 23.55  |
| GOTHN_GOWANN_345                | 0.00                                | 0.00    | 0.00     | 0.00    | 0.00    | 5.59   | 3.84   | 2.29   | 2.22   | 2.43   | 2.98   | 3.07   | 3.10   |
| LEEDS3_N.SCOT99_345             | 26.00                               | 11.00   | 90.00    | 44.00   | 33.00   | 1.43   | 0.80   | 0.01   | 0.00   | 0.02   | 0.20   | 0.00   | 0.01   |
| TWR:FRSHK_GOTLSN_345_3          |                                     |         |          |         |         | 1.02   | 0.77   | 1.65   | 1.53   | 1.50   | 1.26   | 2.57   | 2.75   |
| FRKILS_FRKILLR2_138             |                                     |         |          |         |         | 0.91   | 0.99   | 1.05   | 1.57   | 1.52   | 1.50   | 1.57   | 1.36   |
| OSWEGO_VOLNEY_345               |                                     |         |          |         |         | 0.56   | 1.42   | 1.44   | 1.83   | 2.29   | 2.58   | 2.21   | 2.14   |
|                                 |                                     |         |          |         |         |        |        |        |        |        |        |        |        |
|                                 |                                     |         |          |         |         |        |        |        |        |        |        |        |        |
| Present Value                   |                                     |         |          |         |         |        |        |        |        |        |        |        |        |
| CENTRAL EAST                    | 268.44                              | 733.43  | 1,431.98 | 483.90  | 508.75  | 289.10 | 127.32 | 104.61 | 65.75  | 60.14  | 52.99  | 52.01  | 52.91  |
| PLSNTVLY 345 LEEDS 345 1        | 622.23                              | 557.77  | 796.60   | 165.75  | 240.39  | 199.06 | 180.58 | 109.02 | 95.68  | 97.00  | 114.35 | 128.99 | 128.34 |
| DUNWODIE 345 SHORE_RD 345 1     | 677.29                              | 333.38  | 223.34   | 131.27  | 160.60  | 11.72  | 13.82  | 16.01  | 17.29  | 18.23  | 19.52  | 19.28  | 18.19  |
| MOTTHAVN 345 RAINEY 345 (1 & 2) | 0.00                                | 55.14   | 324.85   | 55.62   | 31.08   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   |
| GREENWD 138 VERNON 138 1        | 94.99                               | 66.68   | 77.63    | 75.64   | 100.51  | 1.09   | 1.07   | 1.21   | 1.44   | 1.24   | 1.17   | 1.10   | 0.98   |
| RAINEY 138 VERNON 138 1         | 28.91                               | 24.36   | 96.74    | 22.25   | 33.16   | 2.45   | 2.16   | 2.00   | 1.93   | 1.92   | 2.03   | 2.04   | 2.04   |
| WEST CENTRAL                    | (2.75)                              | (65.39) | (65.69)  | (1.11)  | (0.00)  | (3.23) | (0.81) | (0.53) | (0.12) | (0.20) | (0.17) | (0.13) | (0.25) |
| E179THST 138 HELLTP_W 138 1     | (13.77)                             | (15.39) | (40.61)  | (14.46) | (20.72) | 0.93   | 0.97   | 0.96   | 1.05   | 1.08   | 1.05   | 0.97   | 0.84   |
| FRKILLS_WILOWBK1_138            | (23.40)                             | (11.54) | (25.08)  | (7.79)  | (15.54) | 16.72  | 16.19  | 14.27  | 14.06  | 13.85  | 13.91  | 14.08  | 14.50  |
| GOTHLSS_GOWANUSS_345            | 0.00                                | 0.00    | (1.19)   | 0.00    | 0.00    | 13.74  | 14.67  | 12.07  | 11.51  | 11.95  | 12.07  | 13.02  | 13.82  |
| GOTHN_GOWANN_345                | 0.00                                | 0.00    | 0.00     | 0.00    | 0.00    | 5.39   | 3.46   | 1.92   | 1.73   | 1.76   | 2.02   | 1.93   | 1.82   |
| LEEDS3_N.SCOT99_345             | 35.79                               | 14.10   | 107.49   | 48.95   | 34.19   | 1.38   | 0.72   | 0.01   | 0.00   | 0.02   | 0.14   | 0.00   | 0.01   |
| TWR:FRSHK_GOTLSN_345_3          | 0.00                                | 0.00    | 0.00     | 0.00    | 0.00    | 0.99   | 0.69   | 1.38   | 1.19   | 1.09   | 0.85   | 1.62   | 1.62   |
| FRKILS_FRKILLR2_138             | 0.00                                | 0.00    | 0.00     | 0.00    | 0.00    | 0.88   | 0.89   | 0.88   | 1.22   | 1.10   | 1.01   | 0.99   | 0.80   |
| OSWEGO_VOLNEY_345               | 0.00                                | 0.00    | 0.00     | 0.00    | 0.00    | 0.54   | 1.27   | 1.21   | 1.43   | 1.66   | 1.75   | 1.39   | 1.25   |

# Present Value of Congestion (continued)

|                                 | Present Value of Congestion in \$M |            |            |
|---------------------------------|------------------------------------|------------|------------|
|                                 | Historic                           | Future     | Sum (ABS)  |
| CENTRAL EAST                    | \$3,426.50                         | \$926.76   | \$4,353.26 |
| PLSNTVLY 345 LEEDS 345 1        | \$2,382.73                         | \$1,324.90 | \$3,707.64 |
| DUNWODIE 345 SHORE_RD 345 1     | \$1,525.87                         | \$164.18   | \$1,690.06 |
| MOTTHAVN 345 RAINEY 345 (1 & 2) | \$466.69                           | \$0.00     | \$466.69   |
| GREENWD 138 VERNON 138 1        | \$415.44                           | \$11.28    | \$426.73   |
| RAINEY 138 VERNON 138 1         | \$205.42                           | \$20.37    | \$225.78   |
| WEST CENTRAL                    | (\$134.95)                         | (\$6.13)   | \$141.08   |
| E179THST 138 HELLTP_W 138 1     | (\$104.94)                         | \$9.01     | \$113.95   |
| FRKILLS_WILOWBK1_138            | (\$83.35)                          | \$148.40   | \$231.75   |
| GOTHLSS_GOWANUSS_345            | (\$1.19)                           | \$133.73   | \$134.92   |
| GOTHN_GOWANN_345                | \$0.00                             | \$24.16    | \$24.16    |
| LEEDS3_N.SCOT99_345             | \$240.52                           | \$2.27     | \$242.79   |
| TWR:FRSHK_GOTLSN_345_3          | \$0.00                             | \$12.62    | \$12.62    |
| FRKILLS_FRKILLR2_138            | \$0.00                             | \$9.72     | \$9.72     |
| OSWEGO_VOLNEY_345               | \$0.00                             | \$12.43    | \$12.43    |

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