NEW YORK INDEPENDENT SYSTEM OPERATOR
10 Krey Boulevard ♦ Rensselaer, NY 12144

By Electronic Delivery to secretary@dps.ny.gov

November 5, 2013

Hon. Kathleen S. Burgess
Secretary to the Commission
New York State Public Service Commission
Agency Building 3
Albany, NY 12223-1350

Subject: Submission for Filing, 12-E-0577
Proceeding on the Motion of the Commission to Examine Repowering Alternatives to Utility Transmission Reinforcements

Dear Ms. Burgess:

Attached for filing in the above-listed matter is a document containing analysis performed by the New York Independent System Operator at the direction of New York DPS staff, including material presented at the Technical Conference in this matter on October 31, 2013.

Should you have any questions, please contact me by phone at (518) 356-7537 or by email at csharp@nyiso.com.

Very truly yours,
/s/ Christopher R. Sharp
Christopher R. Sharp
Compliance Attorney

Report on NYSDPS-Requested Analyses

Zach Smith
Director, Transmission Planning
Timothy Duffy
Manager, Economic Planning

New York State Department of Public Service Technical Conference
Case 12-E-0577
October 31, 2013

Background

- **In September - October 2013, the New York State Department of Public Service (DPS) requested that NYISO staff perform a series of analyses to study the impact of various generation and transmission scenarios in Western NY on power transfers, production costs and other economic metrics.**
- **Assumptions and scenarios analyzed in this analysis were formulated and provided by DPS staff.**
- **The results of these analyses were filed publicly by the NYISO in Case 12-E-0577 on October 25, 2013.**
- **Results are provided for informational purposes only. The NYISO has taken no position on the transmission and repowering alternatives being reviewed in this proceeding.**

DPS Specific Request (#1)

- **Transfer Analysis (2018)**
  - ***Assess how much generation is needed during summer peak conditions at Dunkirk to mitigate 230 kV overloads in Western NY with Niagara/Lewiston at maximum output (2,681 MW) and IESO imports at various levels (1,500 MW, 1,200 MW, and 1,000 MW).***
  - ***Assess how much IESO imports can be accommodated during summer peak conditions with the existing Dunkirk units having been replaced with a 479 MW natural gas-fired combined-cycle unit (connected to the 230 kV system) and all Huntley units out-of-service.***

NYISO Analyses

- **Transfer Analysis**
  - ***Performed using TARA software.***
  - ***Developed the results using the 2013 Area Transmission Review (ATR) 2018 50-50 load forecast case.***
  - ***Contingencies and monitored facilities on the Bulk Power Transmission Facilities (BPTF), only.***

Transfer Analysis Results

- **Cases 1, 2 and 3**
  - ***Niagara output and Ontario Import levels fixed***
  - ***Dunkirk and Huntley output optimized***
- **Case 4**
  - ***Niagara and Dunkirk output fixed***
  - ***Huntley units out-of-service***
  - ***Ontario import limit calculated***

SEE CHART ON FOLLOWING SLIDE…

Transfer Analysis Results

	Dunkirk	Huntley	Niagara	Ontario Import
Case 1	*See Note*	*See Note*	*2681*	*1500*
Case 2	727	236	2681	1200
Case 3	614	297	2681	1000
Case 4	479	0	2681	225

Notes: System cannot support 1500 MW of Ontario imports, even with Dunkirk and Huntley units operating.
Blue-shaded cells are model outputs.

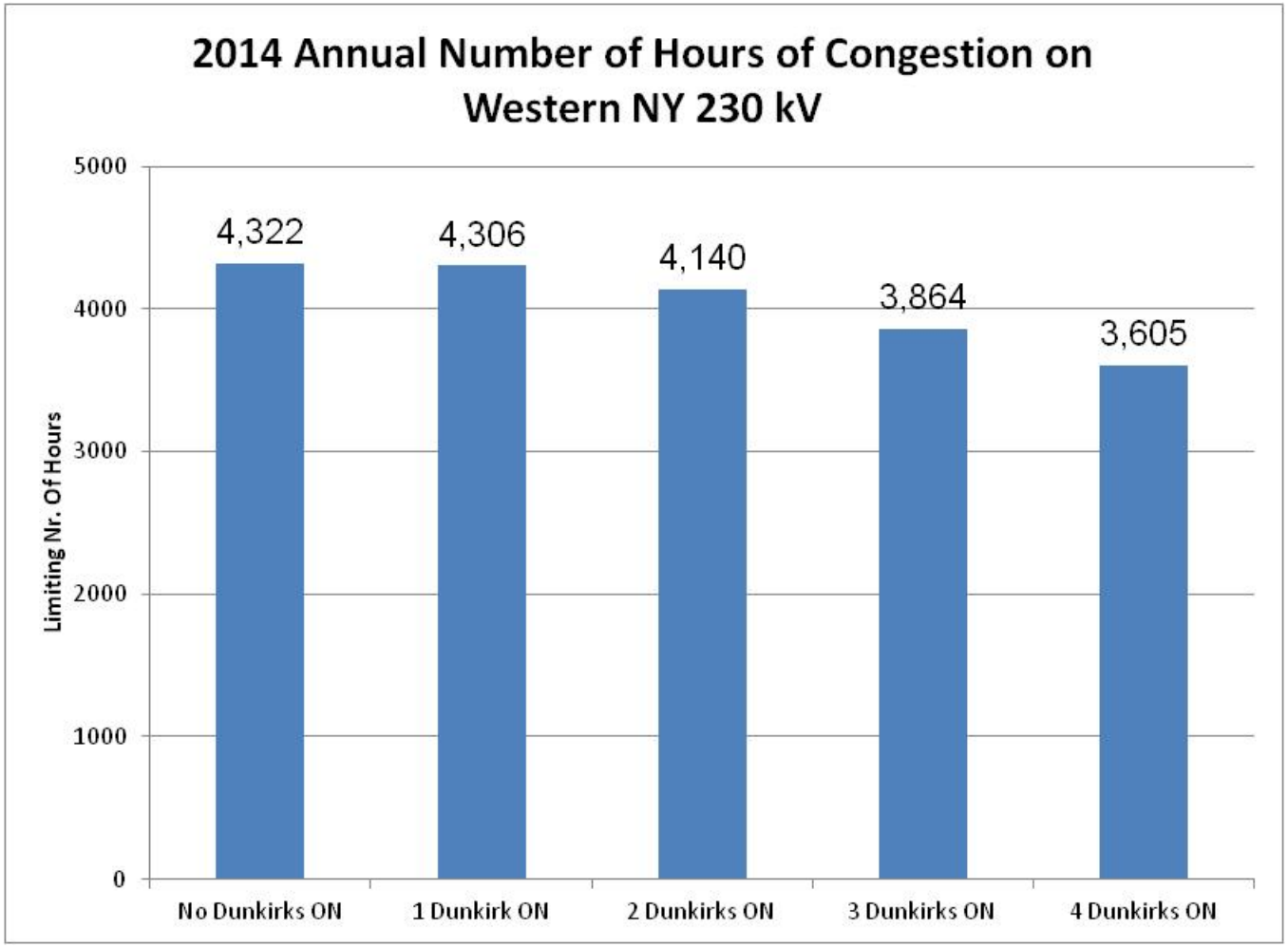
DPS Specific Request (#2)

- **Congestion Analysis (2014)**
  - ***Assess to what extent Niagara output/Ontario imports would be constrained***
  - ***Assess how one or more Dunkirk units in operation would impact those constraints***
- **Analysis Performed**
  - ***Identified the quantity of hours in which the key western contingencies are limiting***
  - ***Projected the aggregate energy being delivered by Niagara and IESO imports (over the Niagara ties) into the NYCA***
- **Cases Run *(units in-service, modeled as must-run, dispatched between minimum and maximum operating limits)***
  - ***Dunkirk 2***
  - ***Dunkirk 1 and 2***
  - ***Dunkirk 1,2 and 4***
  - ***Dunkirk 1,2,3 and 4***

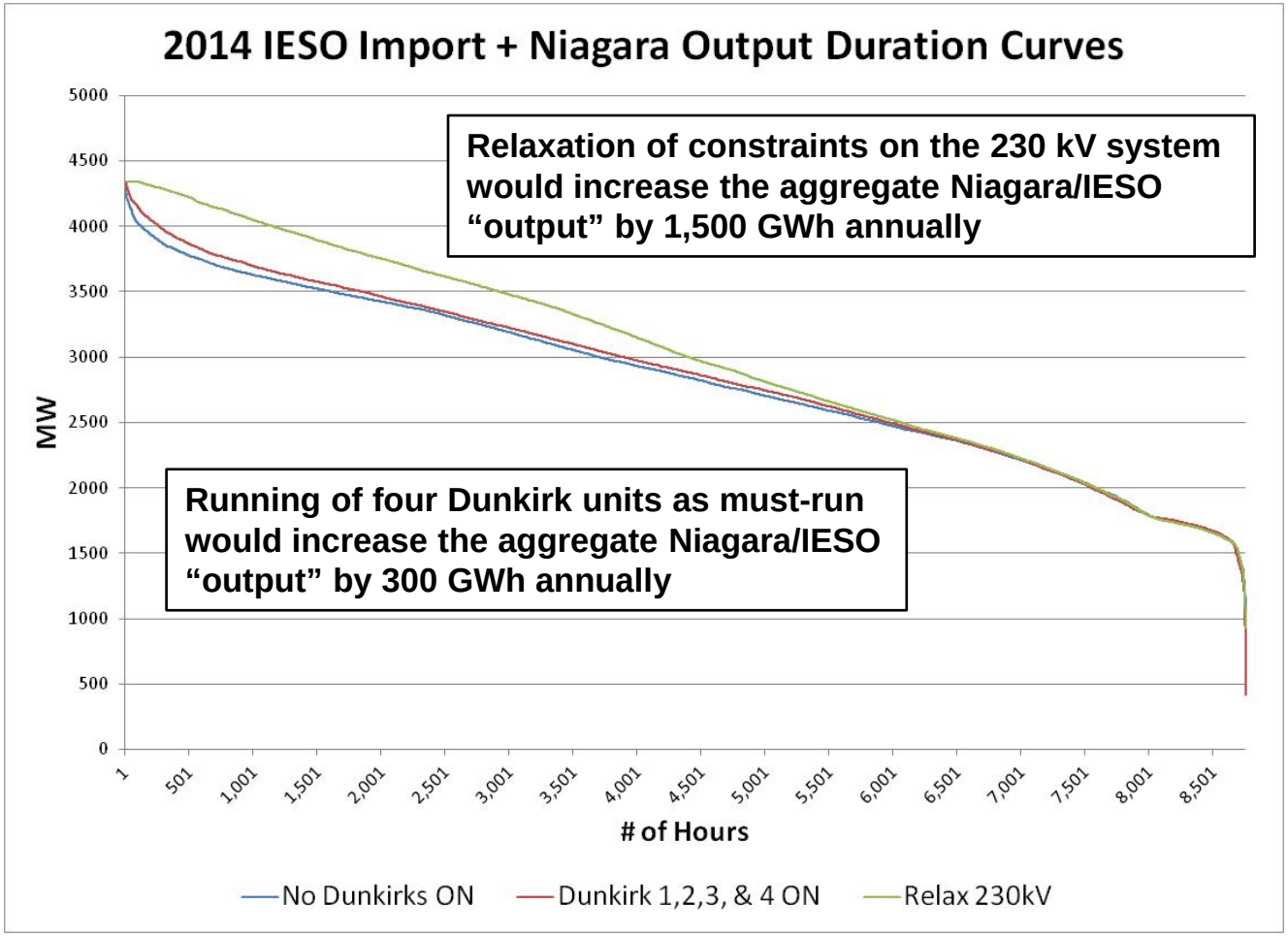
NYISO Analyses

- **Congestion Analysis**
  - ***Performed using GE-MAPS production cost simulation software.***
  - ***Utilized 2013 CARIS Phase 1 database as base case.***

Congestion Analysis Results



Congestion Analysis Results

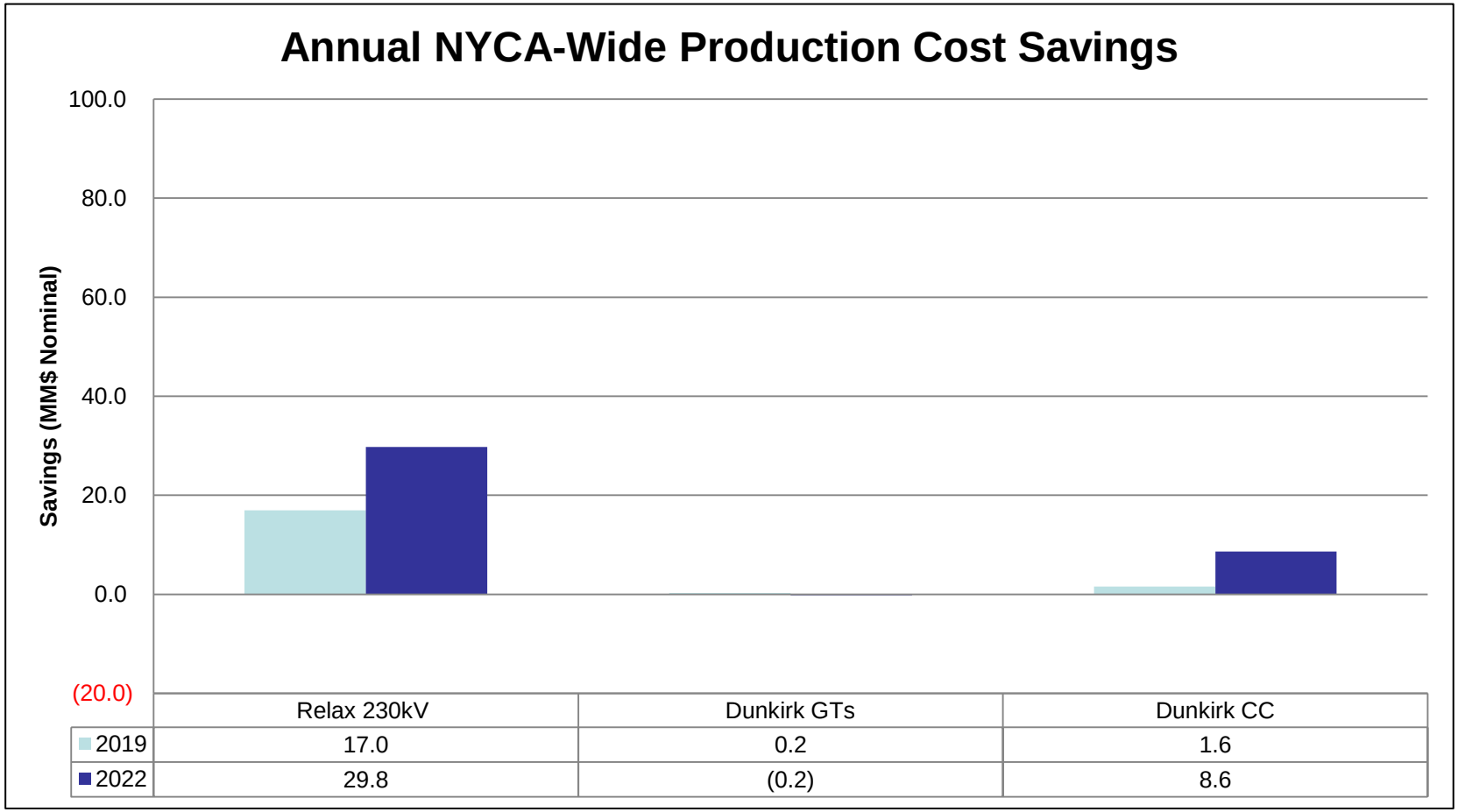


DPS Specific Request (#3)

- **Congestion Analysis (2019 and 2022)**
  - ***Assess the impact on specific economic metrics for certain generation and transmission scenarios***
- **Analysis performed**
  - ***Projected impact on production costs and load payments***
- **Cases run (with and without the Huntley units in-service)**
  - ***Western NY 230kV Constraints Relaxed***
  - ***100 MW Gas Turbines installed @ Dunkirk without Local Transmission Upgrades Installed***
  - ***479 MW Combined Cycle installed @ Dunkirk without Local Transmission Upgrades Installed***

Congestion Analysis Results

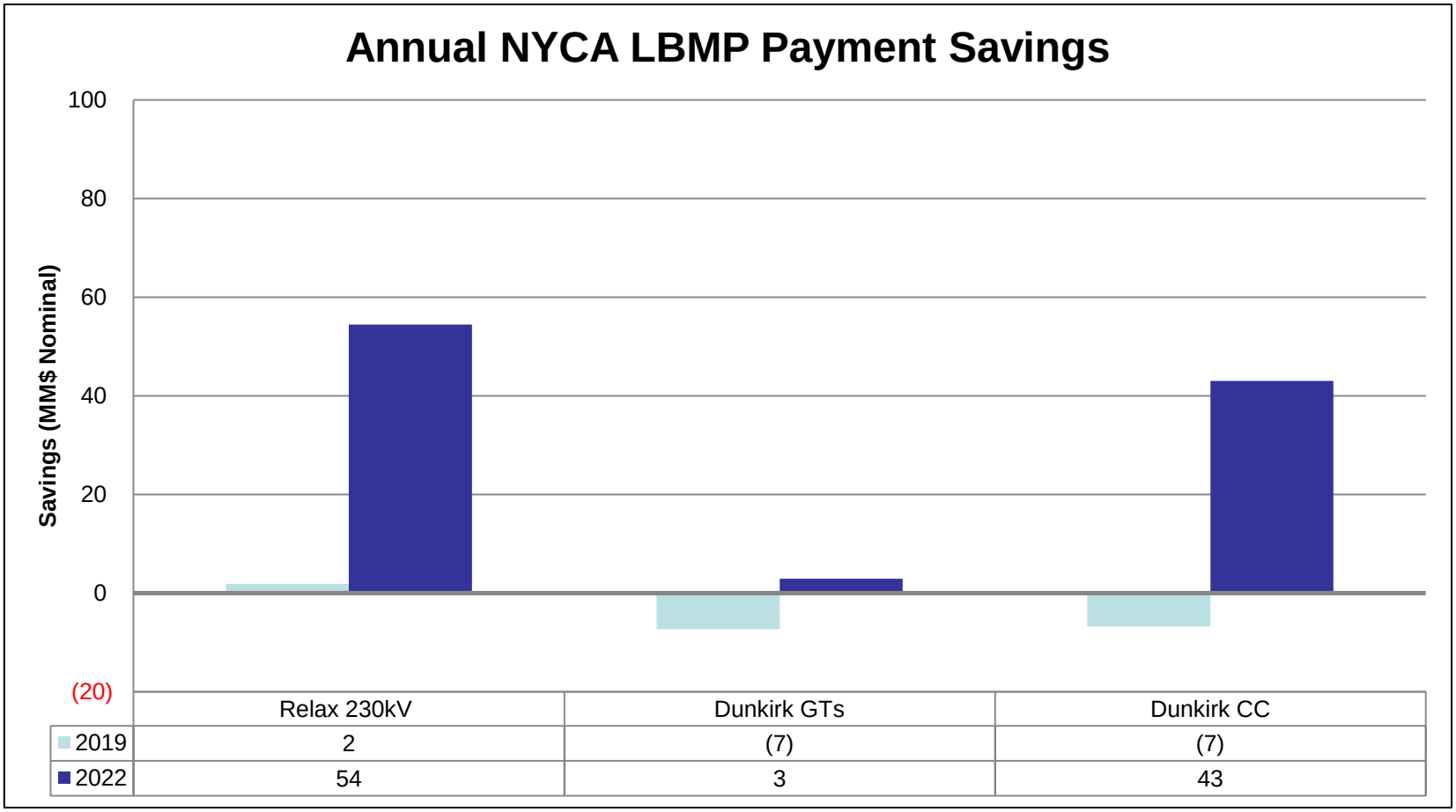
Huntley In-Service



	Relax 230kV	Dunkirk GTs	Dunkirk CC
2019	17.0	0.2	1.6
2022	29.8	(0.2)	8.6

Congestion Analysis Results

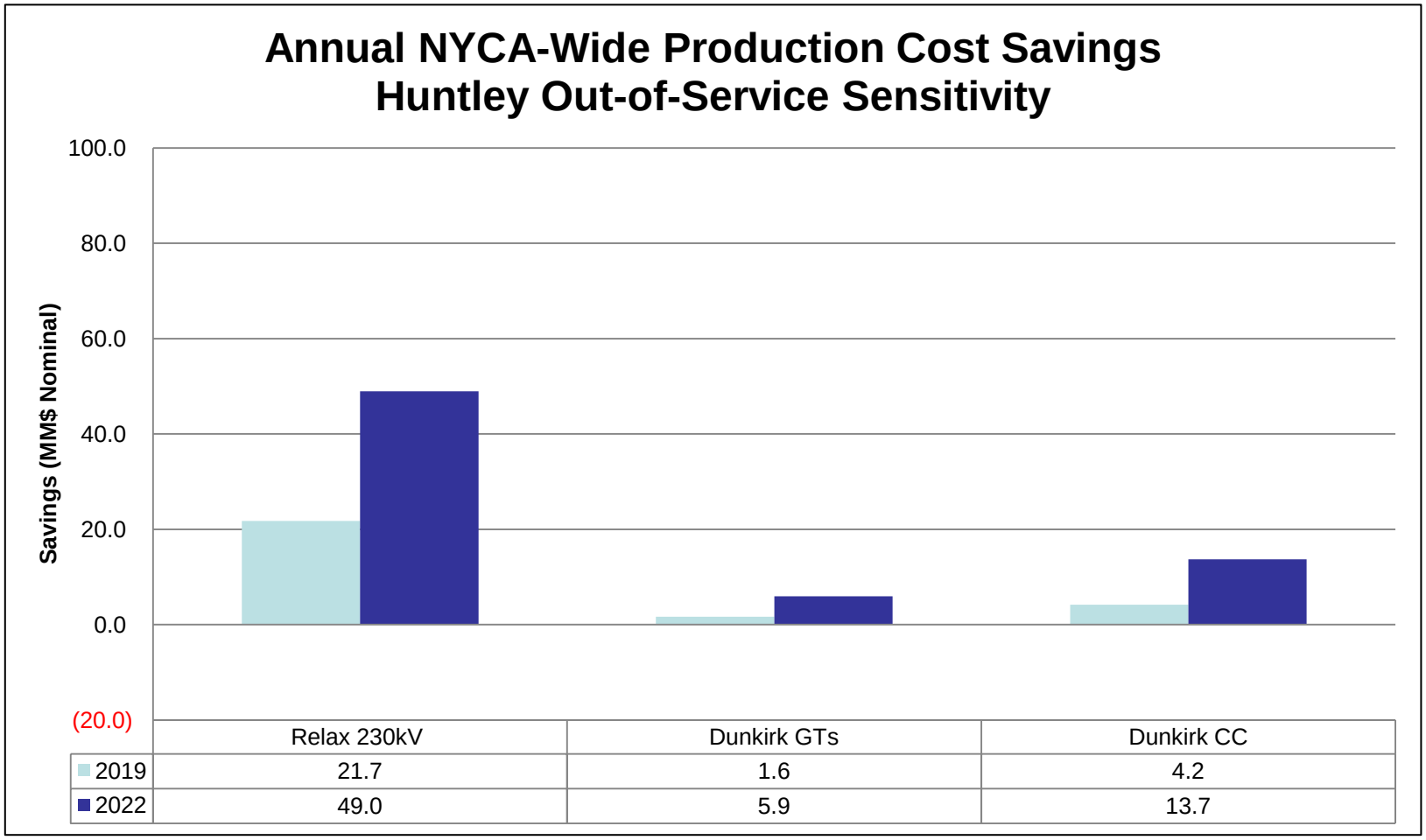
Huntley In-Service



	Relax 230kV	Dunkirk GTs	Dunkirk CC
2019	2	(7)	(7)
2022	54	3	43

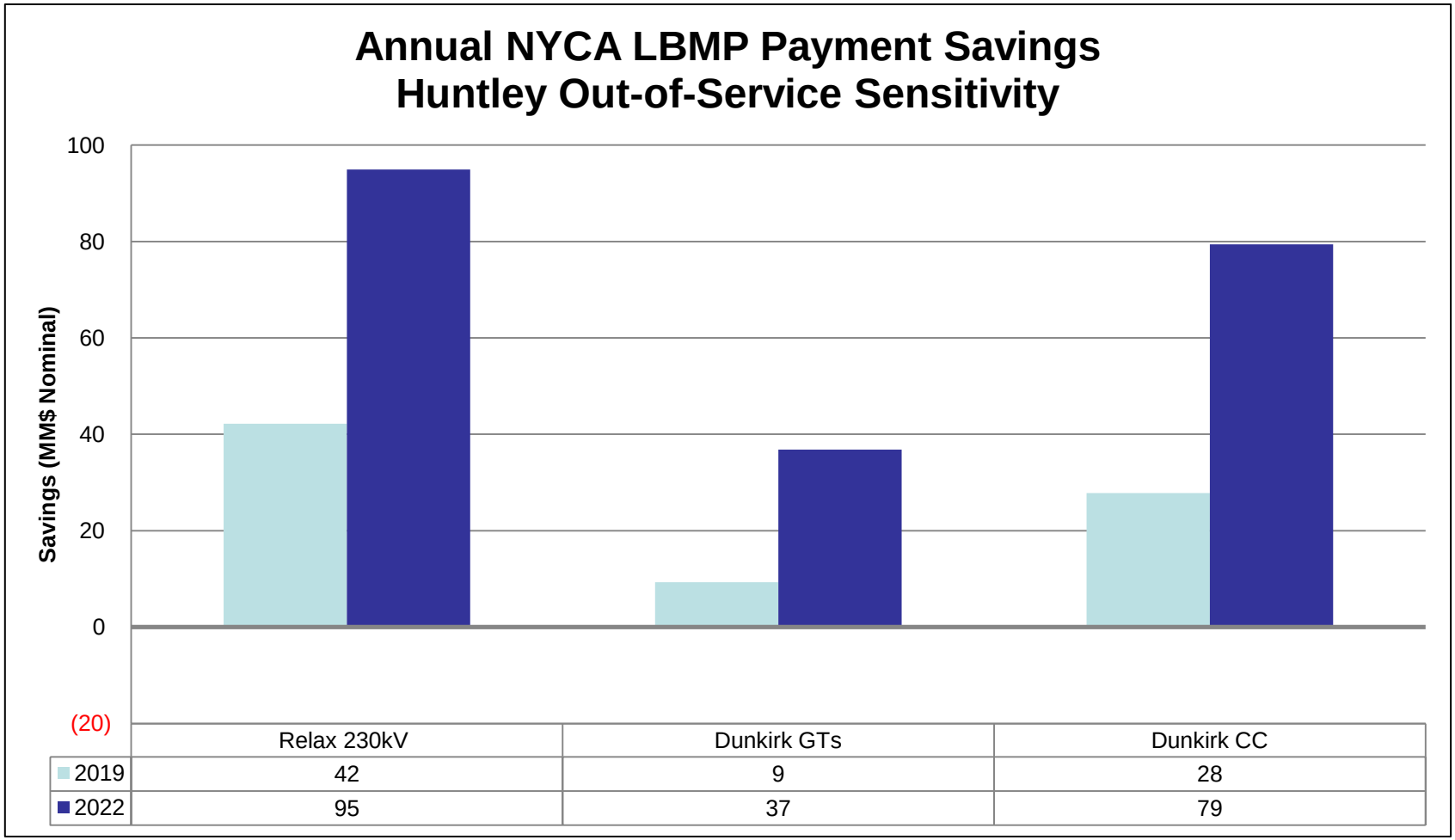
Congestion Analysis Results

Huntley Out-of-Service



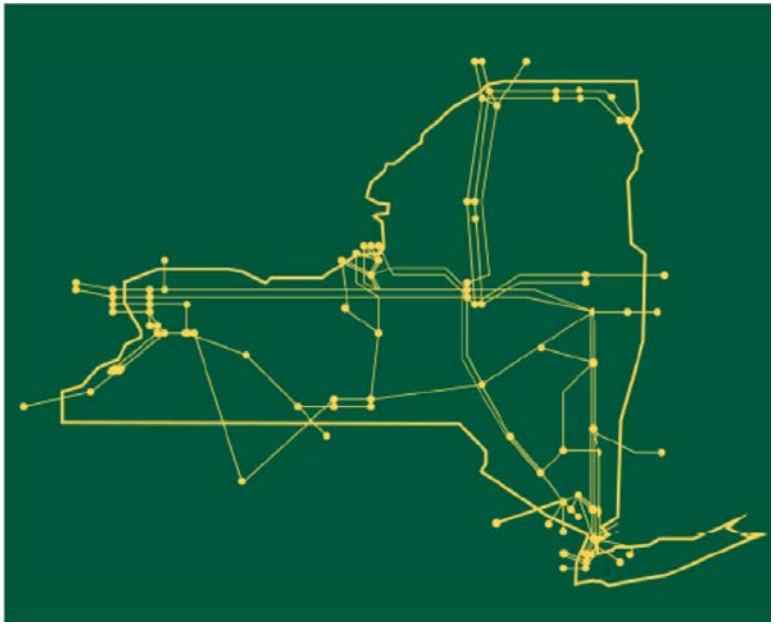
Congestion Analysis Results

Huntley Out-of-Service



	Relax 230kV	Dunkirk GTs	Dunkirk CC
2019	42	9	28
2022	95	37	79

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



www.nyiso.com

APPENDICES

Additional material requested during October 31, 2013 Technical Conference pertaining to NYPSC CASE 12-E-0577 - Proceeding on Motion of the Commission to Examine Repowering Alternatives to Utility Transmission Reinforcements

DPS Specific Request (#2)

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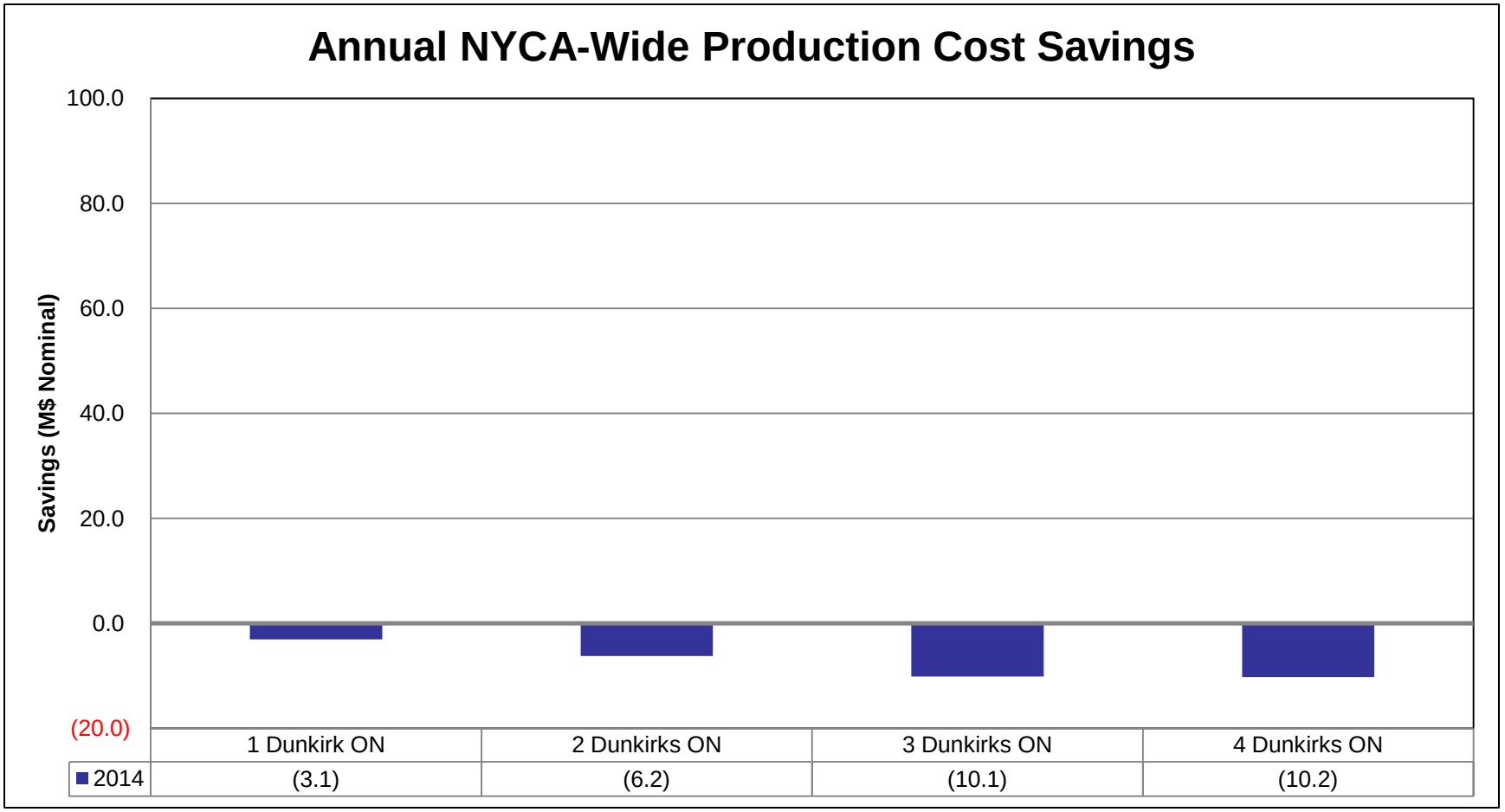
Congestion Analysis Results

Huntley In-Service



Congestion Analysis Results

Huntley In-Service