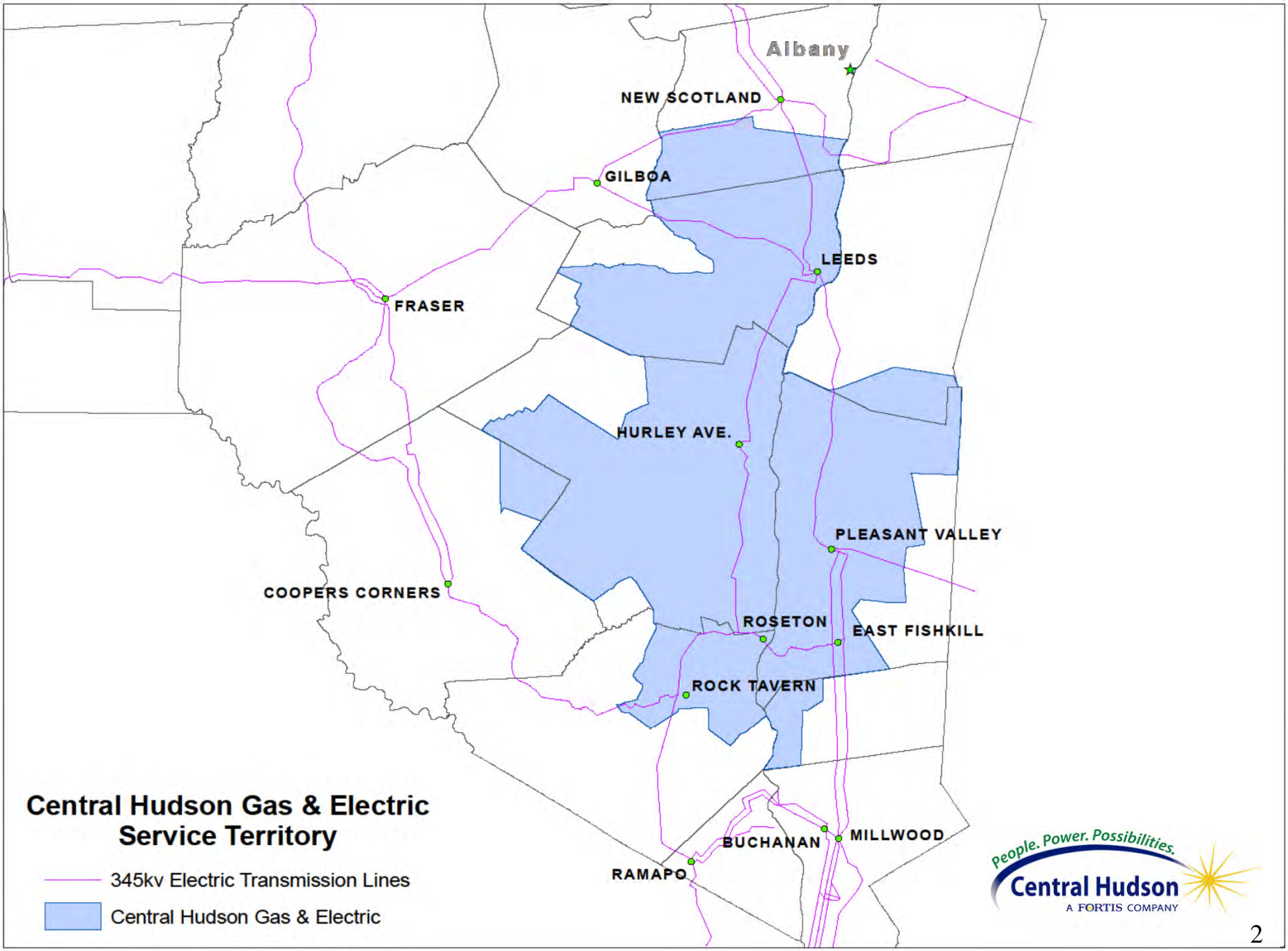
Local Transmission Plan

October 11, 2013

Revised August 25, 2014


Albany
NEW SCOTLAND
GILBOA
LEEDS
FRASER
HURLEY AVE.
PLEASANT VALLEY
COOPERS CORNERS
ROSETON
EAST FISHKILL
ROCK TAVERN
BUCHANAN
MILLWOOD
RAMAPO
Central Hudson Gas & Electric
Service Territory
345kv Electric Transmission Lines
Central Hudson Gas & Electric
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Central Hudson's System

- Zone G: Majority of Central Hudson's load
- Zone E: One small distribution substation
- Interconnections with Consolidated Edison, Orange & Rockland, NYSE&G, National Grid, Northeast Utilities, First Energy, NYPA
- Own & Operate approximately 622 miles of 69 kV, 115 kV & 345 kV transmission lines; three 345 kV stations.

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Historic Peak Load

Summer Peak Loads				Winter Peak Loads			
Year	NYCA	Zone G	CHG&E+	Year	NYCA	Zone G	CHG&E+
2004	28433	2041	1051	2004-05	25541	1766	988
2005	32075	2236	1204	2005-06	24947	1663	960
2006	33939	2436	1295	2006-07	25057	1638	934
2007	32169	2316	1185	2007-08	25021	1727	960
2008	32432	2277	1187	2008-09	24673	1634	911
2009	30844	2159	1107	2009-10	24074	1527	909
2010	33452	2399	1229	2010-11	24654	1586	905
2011	33865	2415	1225	2011-12	23901	1618	861
2012	32439	2273	1168	2012-13	24658	1539	907
2013	33956	2358	1202	2013-14	25738	1700	938

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+ CHG&E Loads not coincident with other NYCA loads

Forecast Peak Load

Summer Forecast			
Year	NYCA*	Zone G*	CHG&E+
2014	~~33725~~ 33666	~~2288~~ 2290	~~1171~~ 1150
2015	~~34138~~ 34066	~~2319~~ 2309	~~1173~~ 1153
2016	~~34556~~ 34412	~~2347~~ 2324	~~1176~~ 1148
2017	~~34818~~ 34766	~~2368~~ 2336	~~1179~~ 1151
2018	~~35103~~ 35111	~~2388~~ 2347	~~1182~~ 1150
2019	~~35415~~ 35454	~~2408~~ 2355	~~1185~~ 1149
2020	~~35745~~ 35656	~~2425~~ 2363	~~1187~~ 1147
2021	~~36068~~ 35890	~~2440~~ 2370	~~1190~~ 1146
2022	~~36355~~ 36127	~~2456~~ 2377	~~1192~~ 1145
2023	~~36613~~ 36369	~~2472~~ 2383	~~1195~~ 1144
2024	36580	2388	1143

* From ~~2013~~ 2014 "Gold Book" Table I-2a

+ CHG&E Forecast (includes impact of energy efficiency)

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Facilities Covered by Central Hudson's Local Transmission Plan

- Central Hudson's Local Transmission Plan is intended to provide safe & reliable service to the load within our franchise area.

- This plan does not address state-wide issues such as intra-state and inter-state transfer limits.

- This plan does not address in-kind equipment replacements

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Facilities Covered by Central Hudson's Local Transmission Plan

- Transmission lines: 69 kV and 115 kV
- Transmission system transformers:
  - 345/115 kV
  - 115/69 kV
- Substation facilities (69 kV, 115 kV, 345 kV)

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Planning Horizon

Annual planning process

- First 5 years - corporate capital forecast
  - generally “firm” projects
  - budgetary estimates and timing
- Additional 5 years (years 6 through 10)
  - generally “potential” projects
  - planning estimates and timing

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Data & Models

- Load Flow cases produced by NYISO Staff
  - NYISO Staff solicits input from all Transmission Owners
- Individual historic substation loads coincident with Central Hudson's peak hour
- Compliance requirements

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Issues Addressed

- Return of Danskammer Generation to Service
  - Complete 115 kV Danskammer Bus Reinforcement. Portions of this project were completed in 2013. The remaining portions were discontinued following Danskammer's out of service status.

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Issues Addressed

- Central Hudson's System Load Serving Capability
  - Consideration of through-flows
  - Consideration of proposed interconnections
- Central Hudson Local Areas' Load Serving Capabilities
  - Northwest 69 kV
  - Southwest 69 kV
  - Southern Dutchess 115 kV
  - Mid-Dutchess 115 kV
  - Ellenville Area
  - Newburgh Area
  - Eastern Dutchess 69 kV
  - Kingston – Rhinebeck
- Load Serving Capabilities determined for More Probable Contingencies*

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* CHG&E Transmission Planning Guidelines, pg. 5

Issues Addressed

- Central Hudson Transmission System Infrastructure facility inspection reports, condition assessments and diagnostic test data

- Maintain sufficient reactive support for local needs
  - The typical distribution circuit is designed for a power factor = 1.0 at time of peak
  - The peak system power factor is monitored to determine aggregate power factor of distribution system
  - Transmission capacitors installed for voltage support

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Project Addressing
System Load Serving Capability

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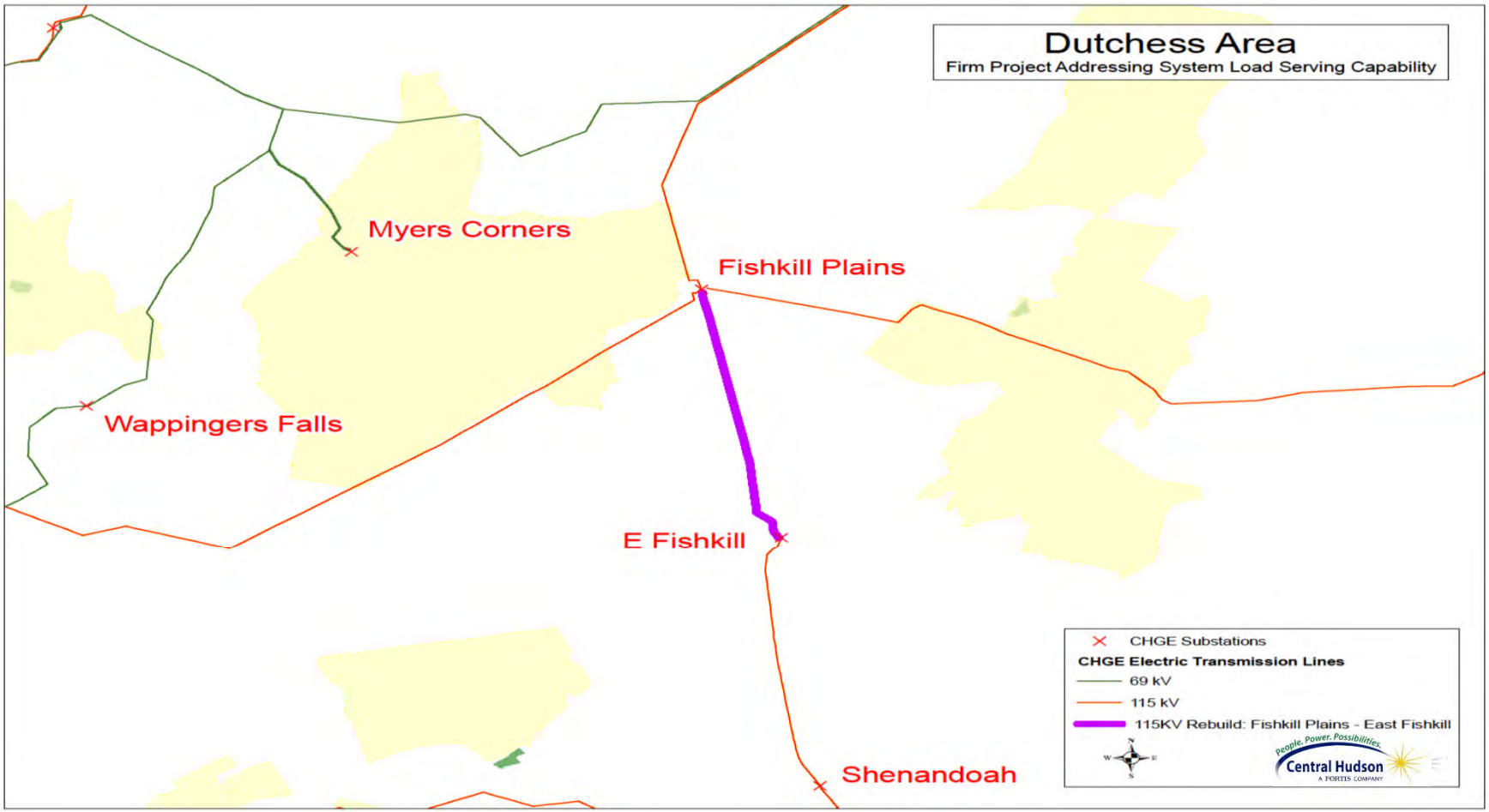
Project Addressing System Load Serving Capability

Firm Project	Need	Proposed In Service
115 kV Fishkill Plains – East Fishkill Rebuild	Post contingency overload	2020 (Under reevaluation)



Project Addressing System Load Serving Capability

Firm Project	Need	Proposed In Service
115 kV Danskammer Bus Reinforcement -upgrade disconnect switches -upgrade strain bus	Post contingency overload	2016 (Partially Complete)

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Project Addressing
Local Area Load Serving Capability

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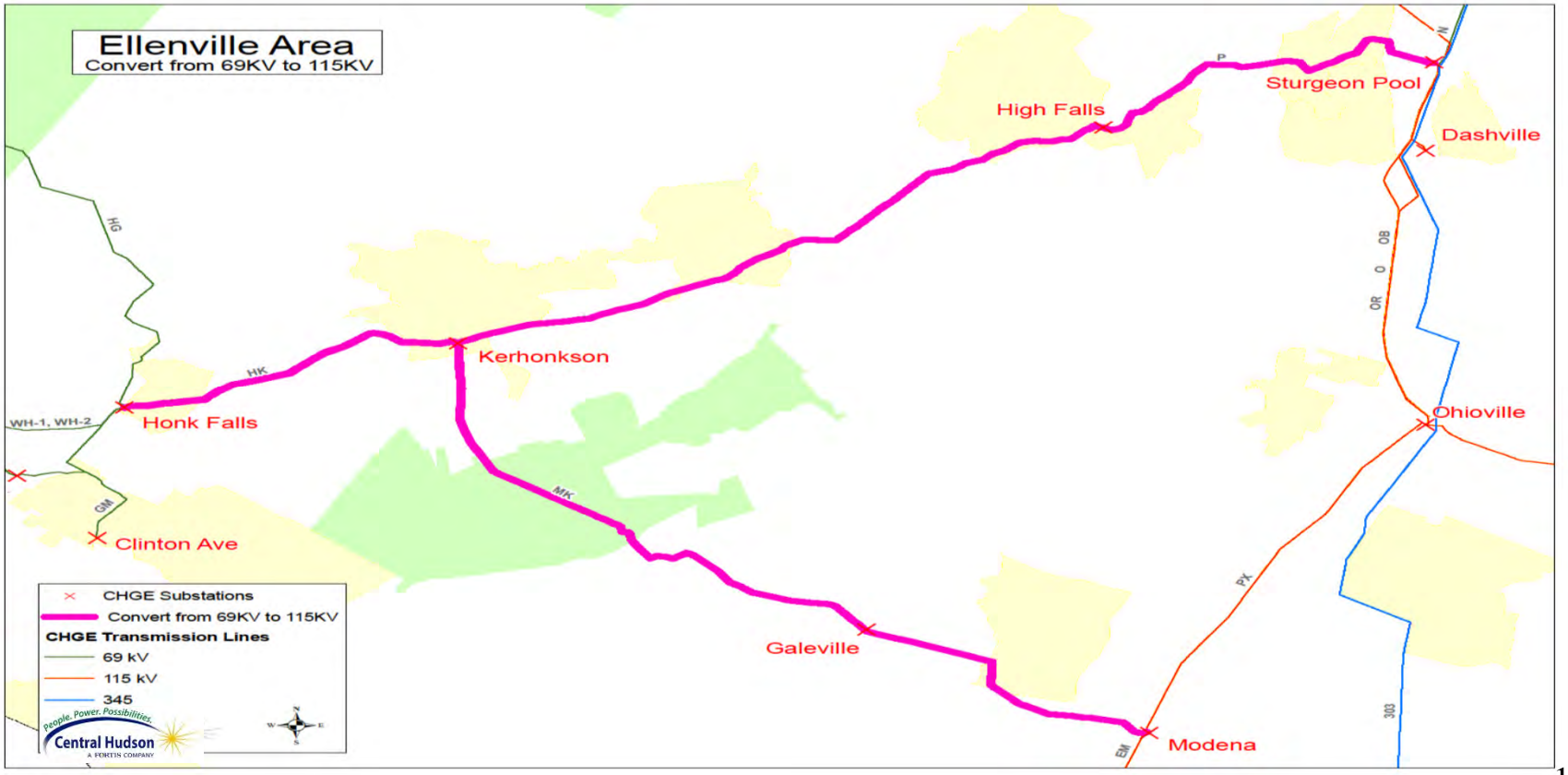
Project Addressing Local Area Load Serving Capability

Local Area	Firm Project	Need	Proposed In Service
Ellenville Area	Convert from 69 kV to 115 kV (Lines are constructed for 115 kV operation)	Post contingency overload	2020



Projects Addressing Infrastructure Condition Issues

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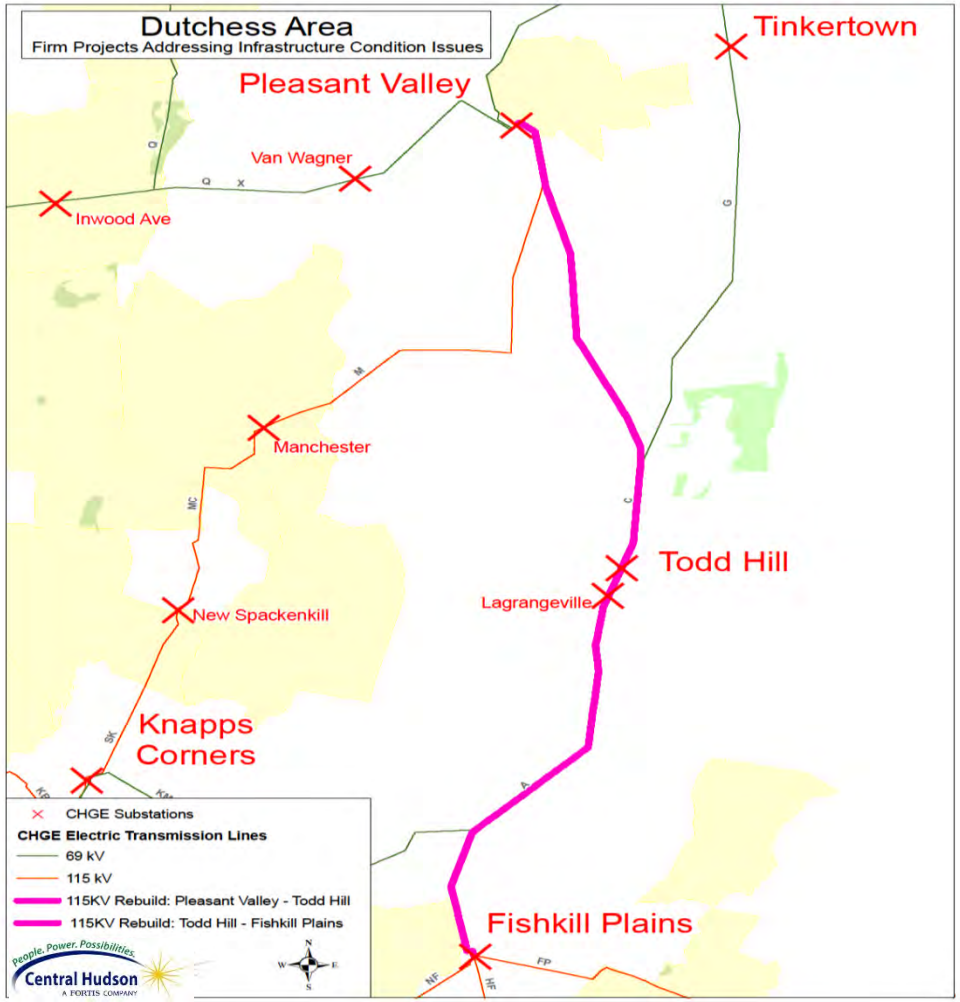
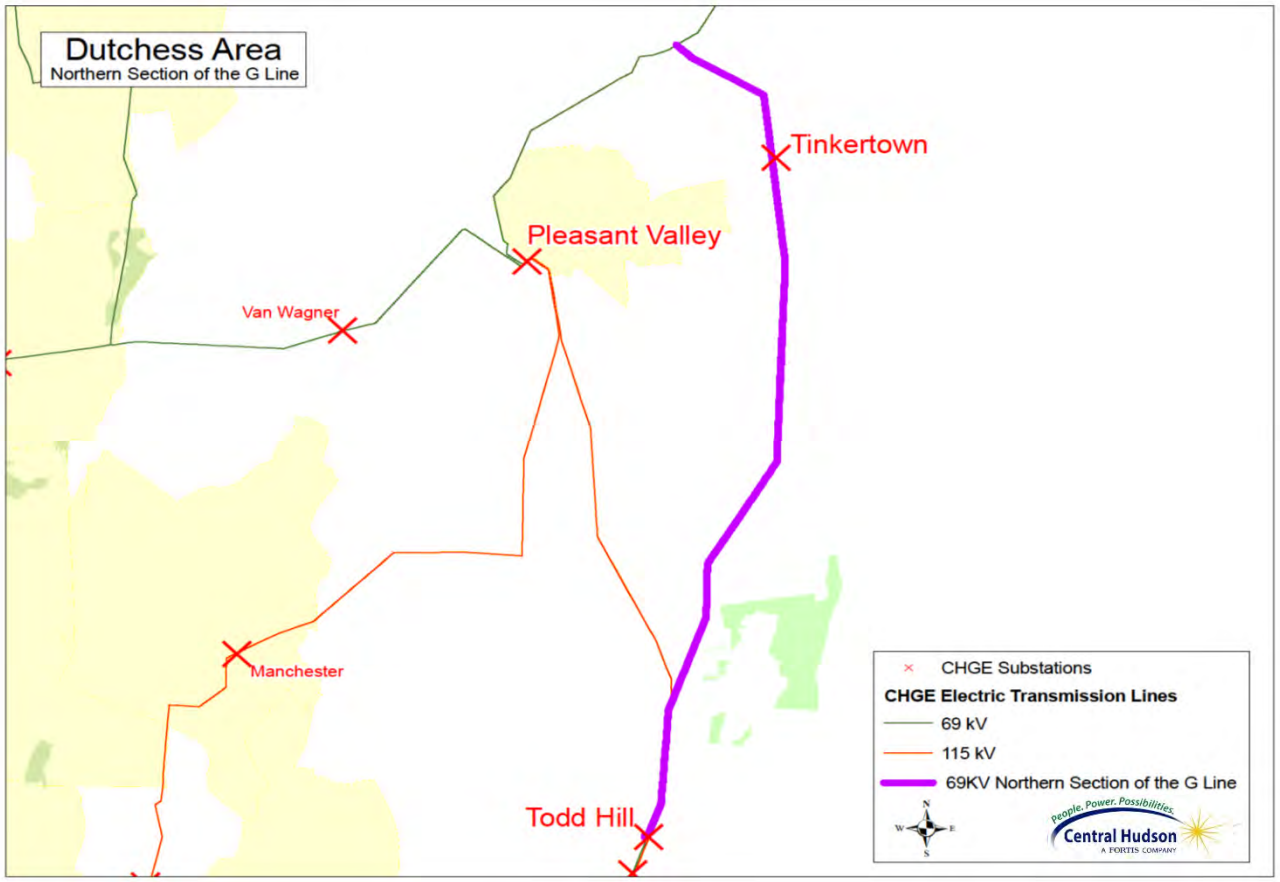
Projects Addressing Infrastructure Condition Issues

Firm Project	Issue	Proposed In Service
115 kV Pleasant Valley – Todd Hill Rebuild	Tests have shown a loss of tensile strength for certain ACSR conductors	2015
115 kV Todd Hill – Fishkill Plains Rebuild		2015



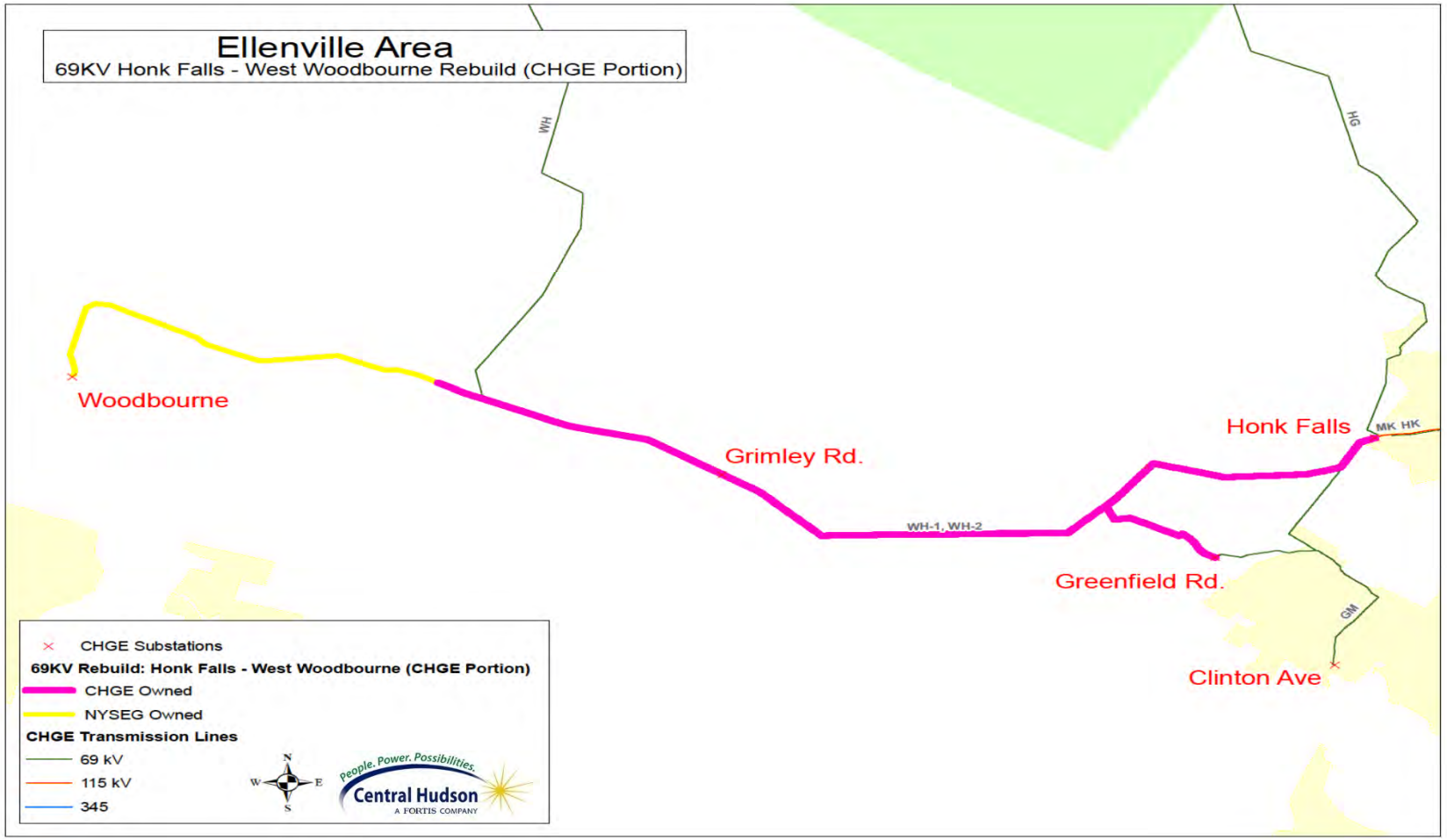
Projects Addressing Infrastructure Condition Issues

Firm Project	Issue	Proposed In Service
Rebuild existing 69 kV Knapps Corners to Pleasant Valley (Northern Section) -Rebuild for 69 kV -Install 115/69 kV transformer at Todd Hill	Detailed condition assessment has identified need for comprehensive rebuild	2017



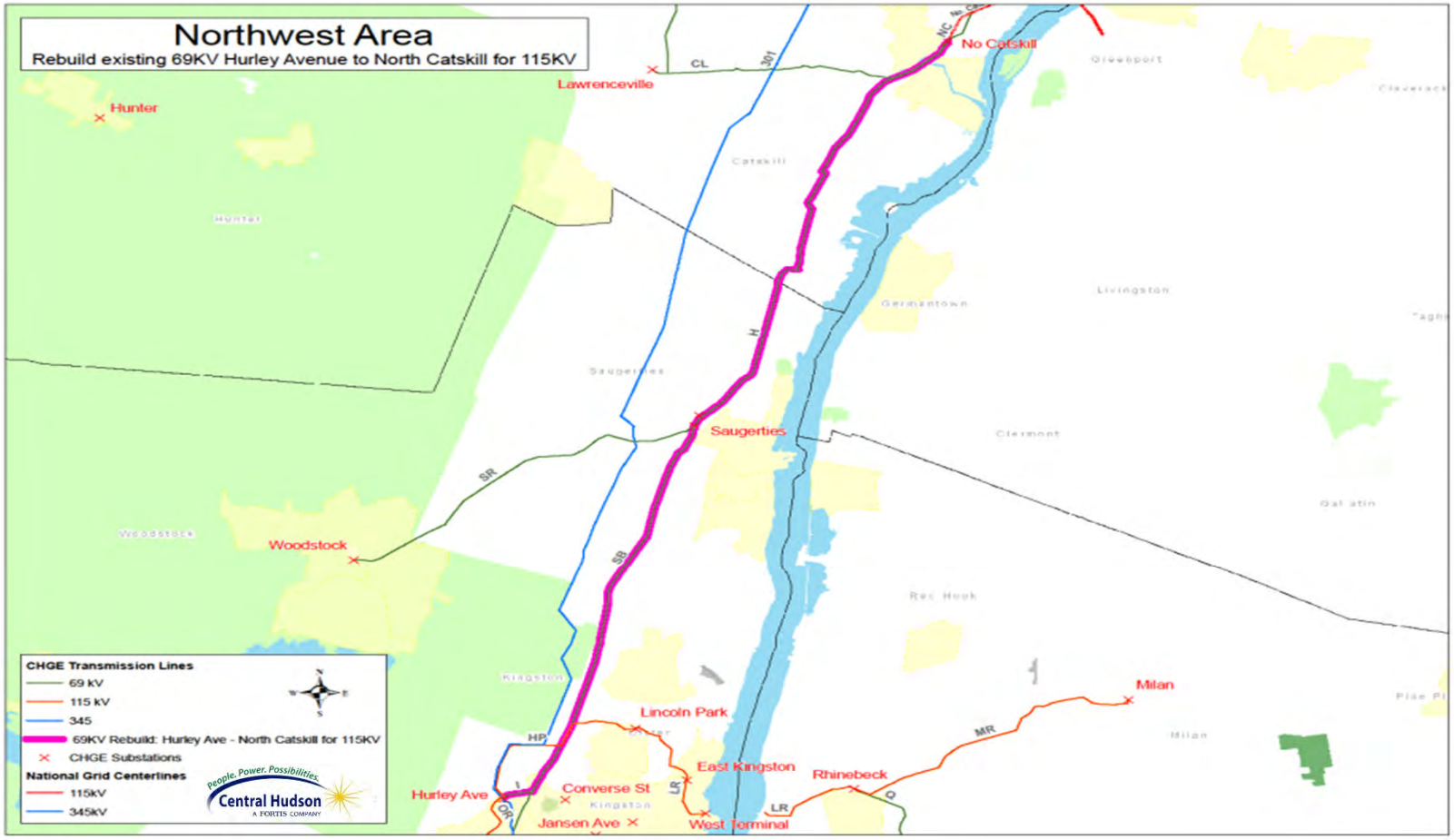
Projects Addressing Infrastructure Condition Issues

Firm Project	Issue	Proposed In Service
69 kV Honk Falls – West Woodbourne Rebuild	Tests have shown a loss of tensile strength for certain ACSR conductors	2017



Projects Addressing Infrastructure Condition Issues

Firm Project	Issue	Proposed In Service
Rebuild existing 69 kV Hurley Avenue to North Catskill for 115 kV	Detailed condition assessment has identified need for comprehensive rebuild	2018



Potential Projects Addressing Local Area Load Serving Capability

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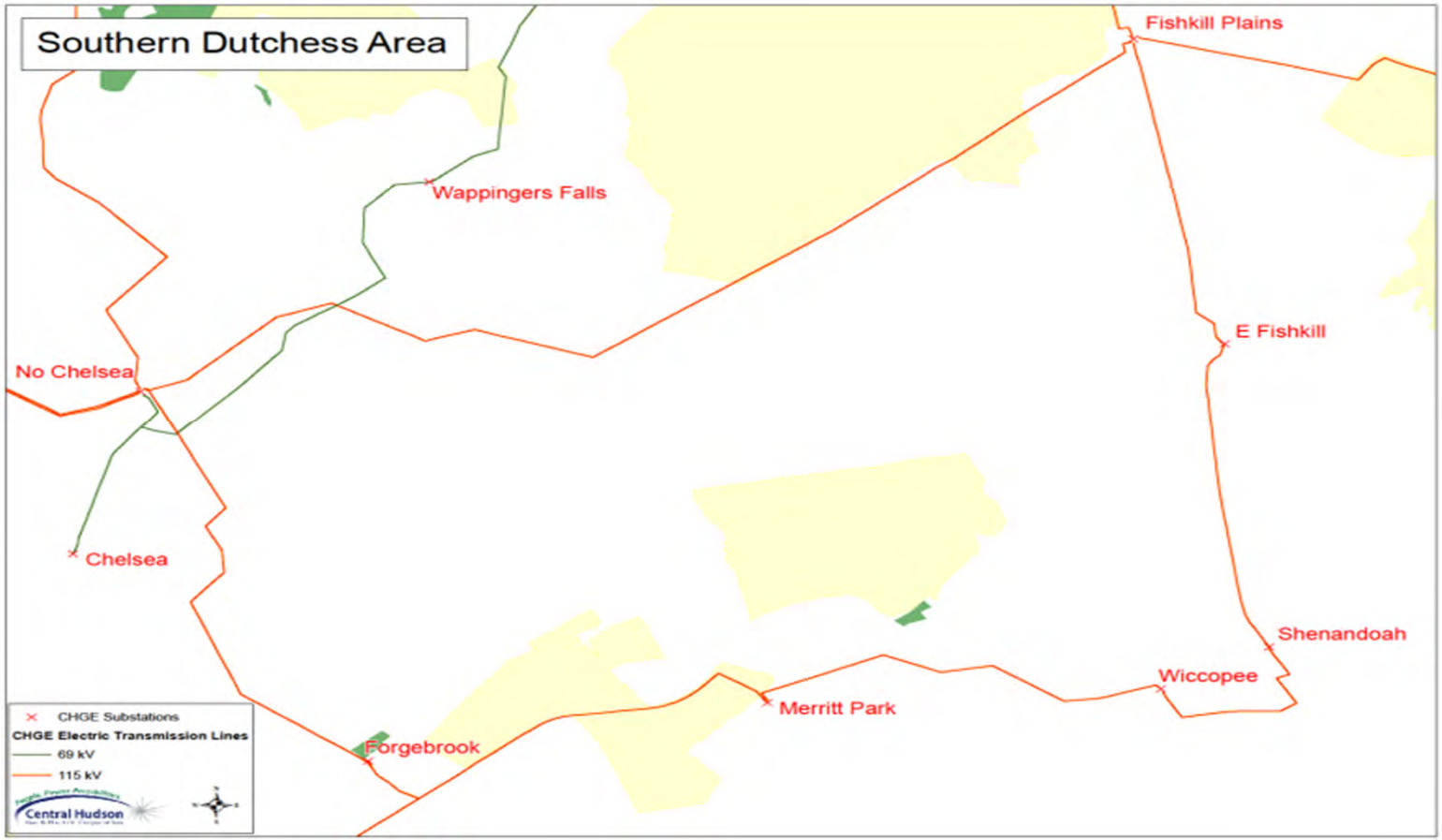
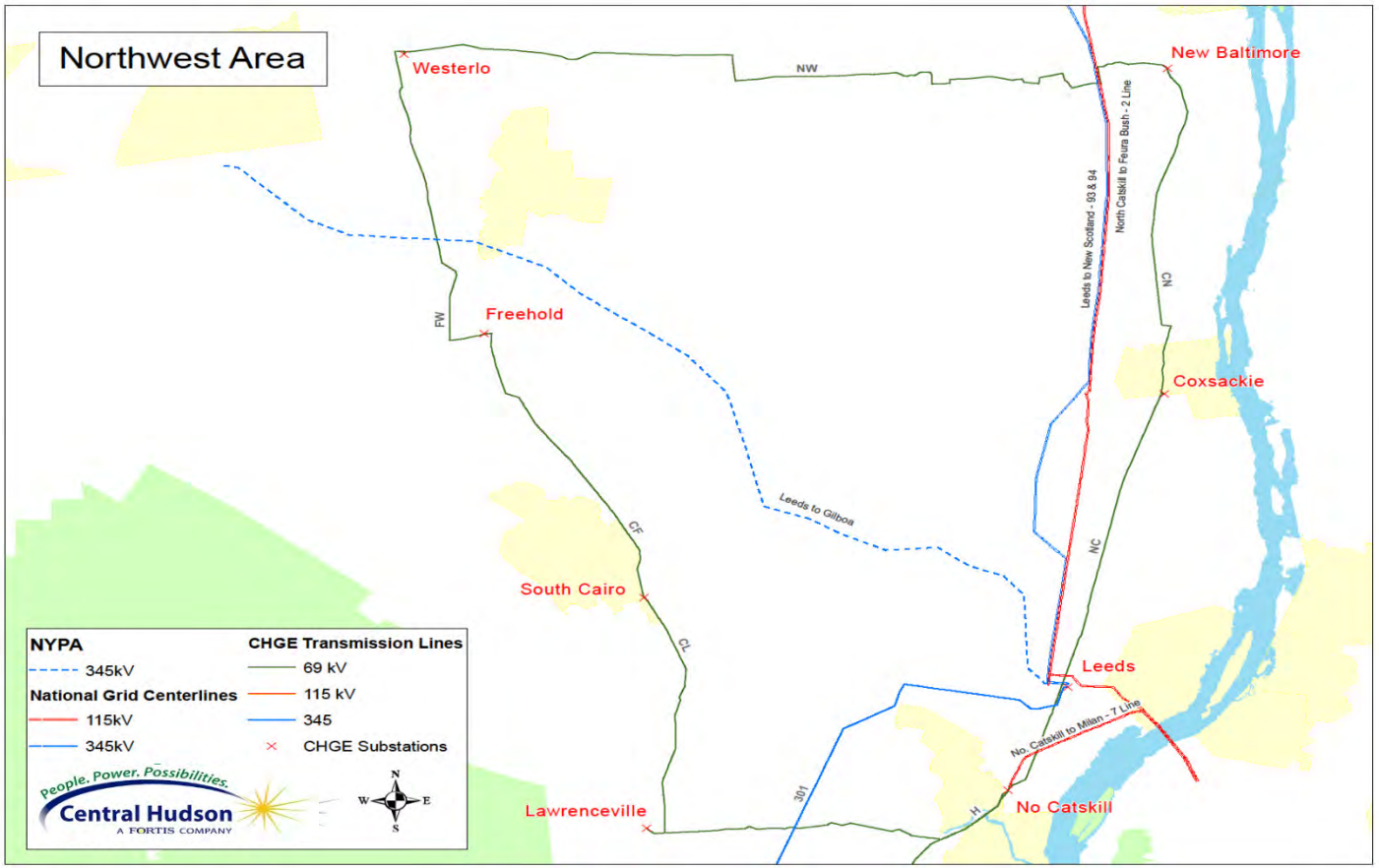
Potential Projects Under Consideration

Local Area	Potential Solution	Need	Proposed In Service
Southern Dutchess Area	Additional 115 kV Area Input (e.g., East Fishkill to Merritt Park 115 kV)	Post contingency overload	2019 (Under Study)



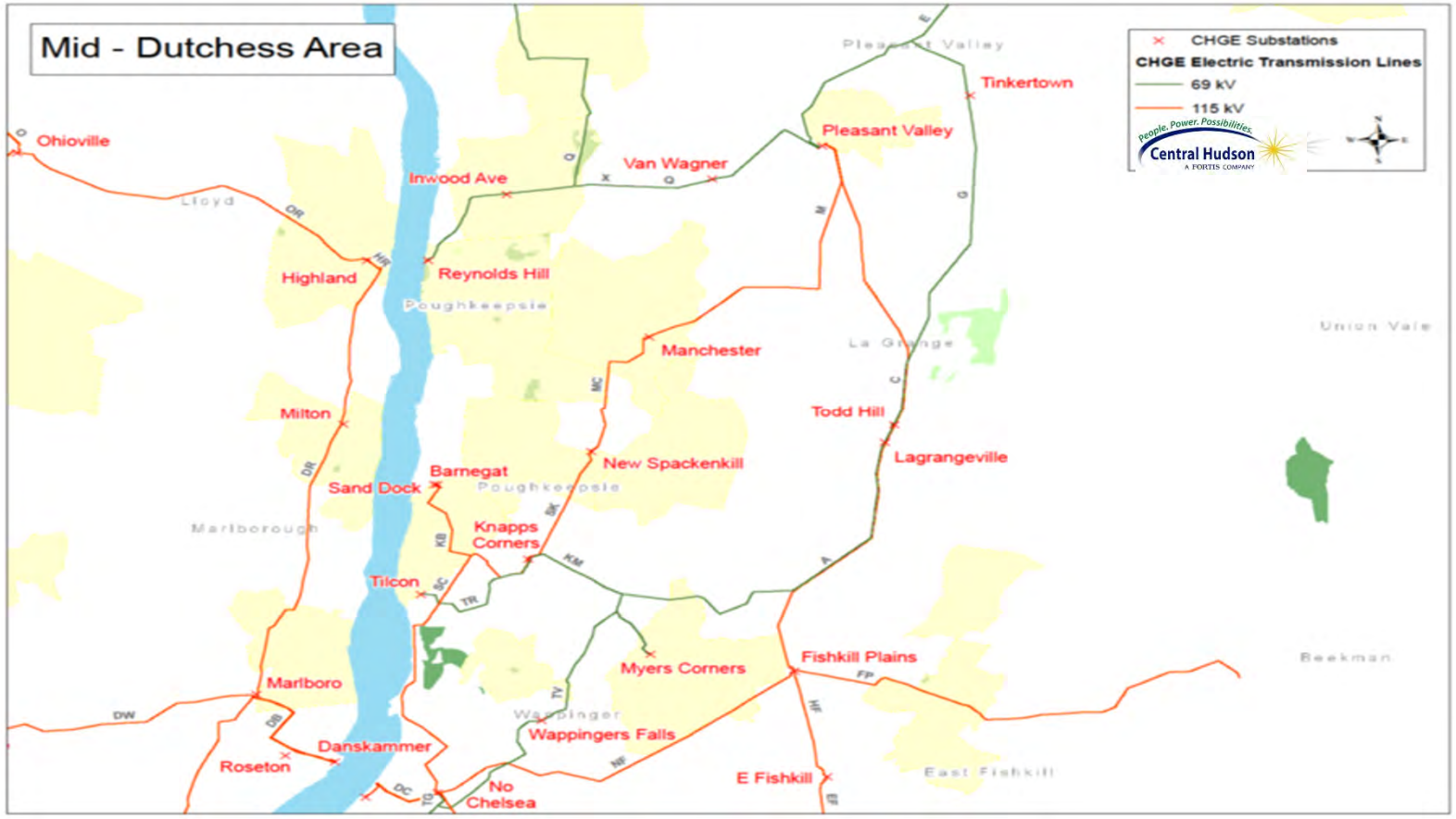
Potential Projects Under Consideration

Local Area	Potential Solution	Need	Proposed In Service
Northwest Area	Additional 115 kV Area Input	Post contingency overload	2020 (Under Study)



Potential Project Under Consideration

Local Area	Potential Solution	Issue	Proposed In Service
Mid-Dutchess Area	Rebuild existing 69 kV Knapps Corners to Pleasant Valley (Southern Section) for 115 kV	Post contingency overload and detailed condition assessment has identified need for comprehensive rebuild	2020 (Under Study)



Comments

Interested parties should forward any comments to:

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