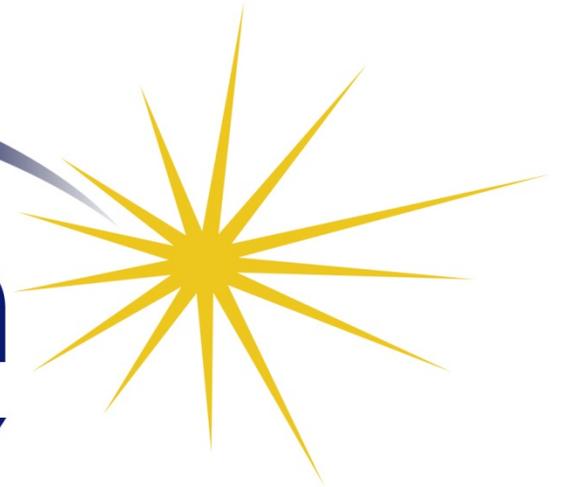


People. Power. Possibilities.

Central Hudson

A FORTIS COMPANY

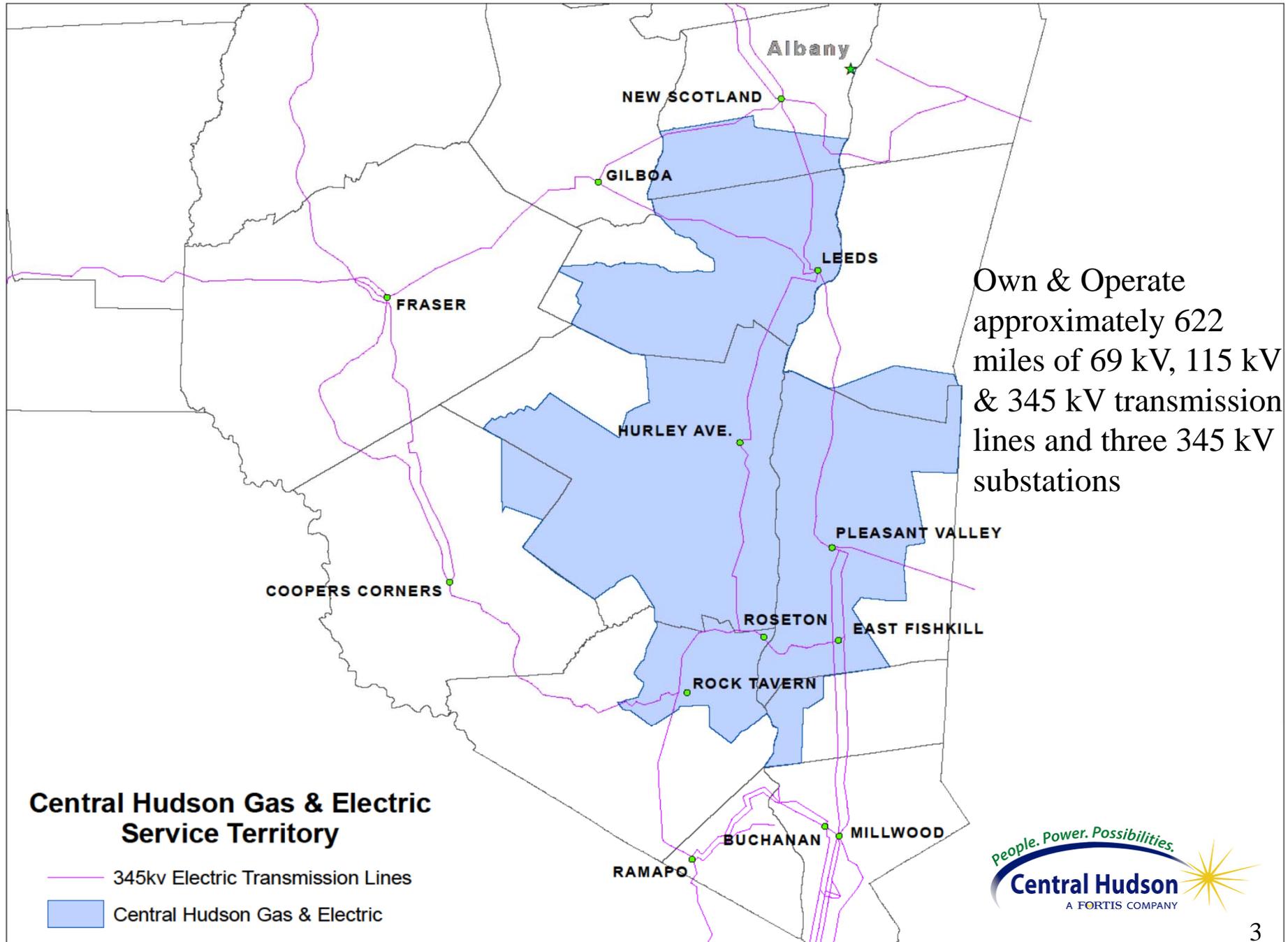


Local Transmission Plan

November 10, 2015

Central Hudson's Transmission System

- Zone G: Majority of Central Hudson's load
- Zone E: One small distribution substation
- Central Hudson interconnects with
 - Consolidated Edison
 - Orange & Rockland
 - NYSE&G
 - National Grid
 - NYPA
 - Eversource
 - First Energy



Own & Operate approximately 622 miles of 69 kV, 115 kV & 345 kV transmission lines and three 345 kV substations

Central Hudson Gas & Electric Service Territory

- 345kv Electric Transmission Lines
- Central Hudson Gas & Electric



Historic Peak Load

Summer Peak Loads				Winter Peak Loads			
Year	NYCA	Zone G	CHG&E+	Year	NYCA	Zone G	CHG&E+
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	892
2013	33956	2358	1202	2013-14	25738	1700	938
2014	29782	2046	1060	2014-15	24648	1500	874
2015	31138		1059	2015-16			

+ CHG&E Loads not coincident with other NYCA loads

Forecast Peak Load

Summer Forecast			
Year	NYCA*	Zone G*	CHG&E+
2016	33636	2260	1152
2017	33779	2262	1151
2018	33882	2264	1150
2019	34119	2266	1149
2020	34309	2268	1145
2021	34469	2270	1144
2022	34639	2272	1143
2023	34823	2274	1143
2024	35010	2276	1142
2025	35219	2278	1140

* From 2015 “Gold Book” Table I-2a

+ CHG&E 50/50 Forecast (includes impact of energy efficiency)

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

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)

Planning Horizon

Annual planning process

- First 5 years - corporate capital forecast
 - generally “firm” projects
 - budgetary cost estimates
 - estimated in service date
- Additional 5 years (years 6 through 10)
 - generally “potential” projects
 - planning cost estimates
 - estimated in service date

Data & Models

- Load Flow cases produced by NYISO Staff
 - NYISO Staff solicits input from all Transmission Owners
- Individual historic substation loads, updated where necessary, to be coincident with Central Hudson's peak hour

Issues Addressed

- Infrastructure Condition: Central Hudson Transmission System Infrastructure facility inspection reports, condition assessments and diagnostic test data
- Compliance requirements: NESC, NERC, etc.
- Reactive Support: 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

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 – Milan
- Load Serving Capabilities determined for More Probable Contingencies*

Projects Addressing System Load Serving Capability

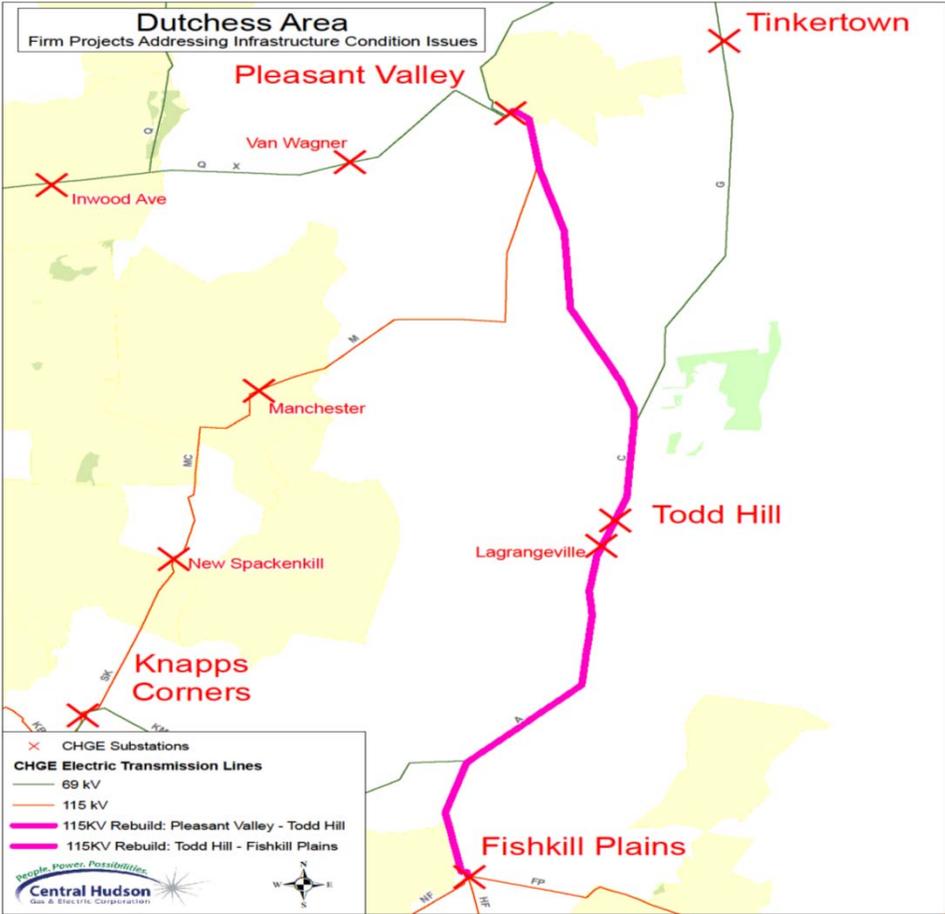
Projects Addressing System Load Serving Capability

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

Projects Addressing Infrastructure Condition Issues

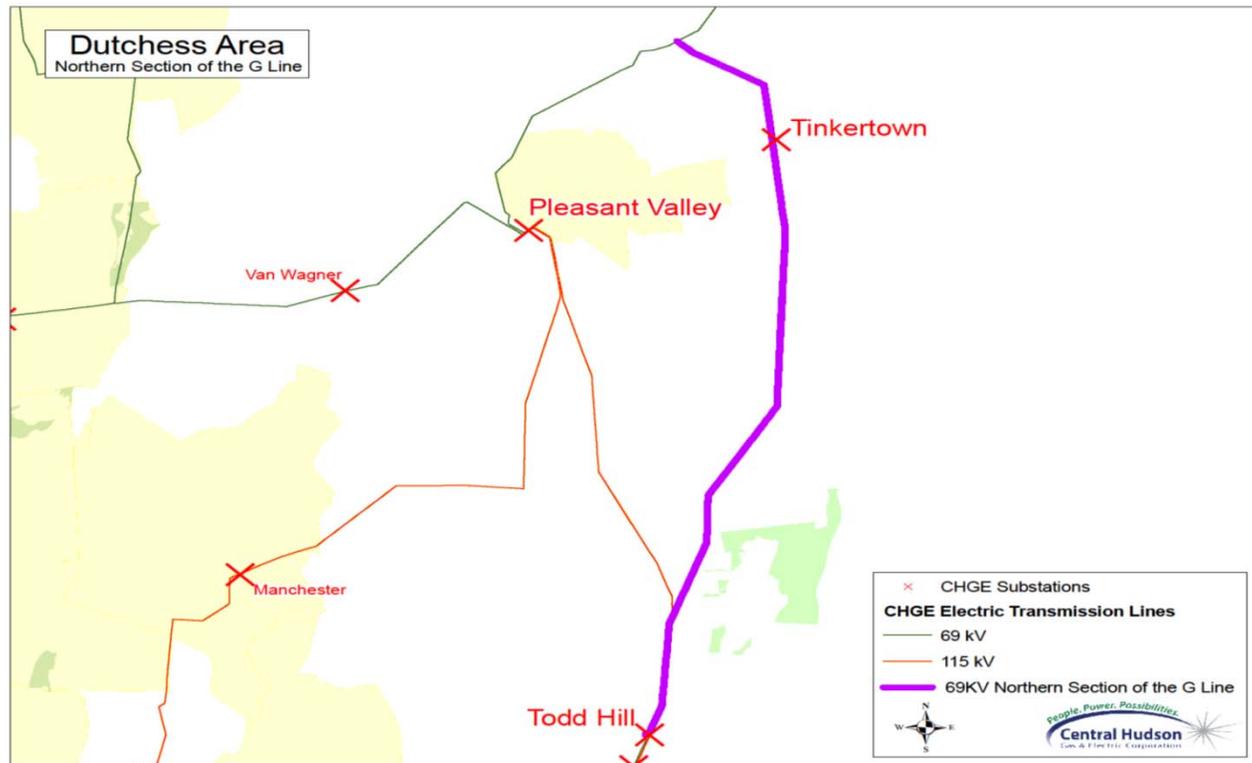
Projects Addressing Infrastructure Condition Issues

Project	Type	Issue	Proposed In Service
115 kV Todd Hill – Fishkill Plains Rebuild	Firm	Tests have shown a loss of tensile strength for these lines' ACSR conductors	Dec 2015
115 kV Pleasant Valley – Todd Hill Rebuild			June 2016



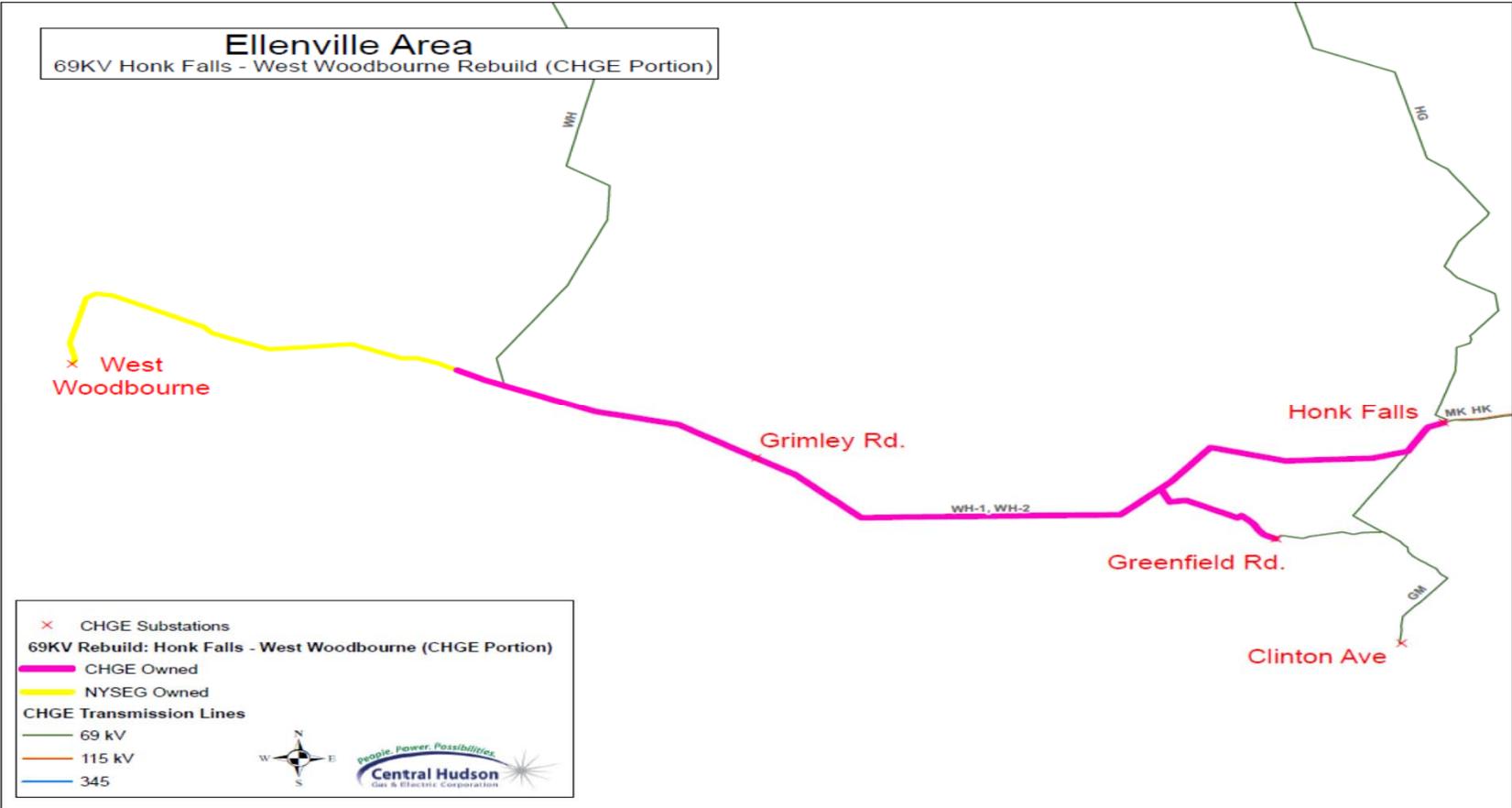
Projects Addressing Infrastructure Condition Issues

Project	Type	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	Firm	Detailed condition assessment has identified need for comprehensive rebuild	2016



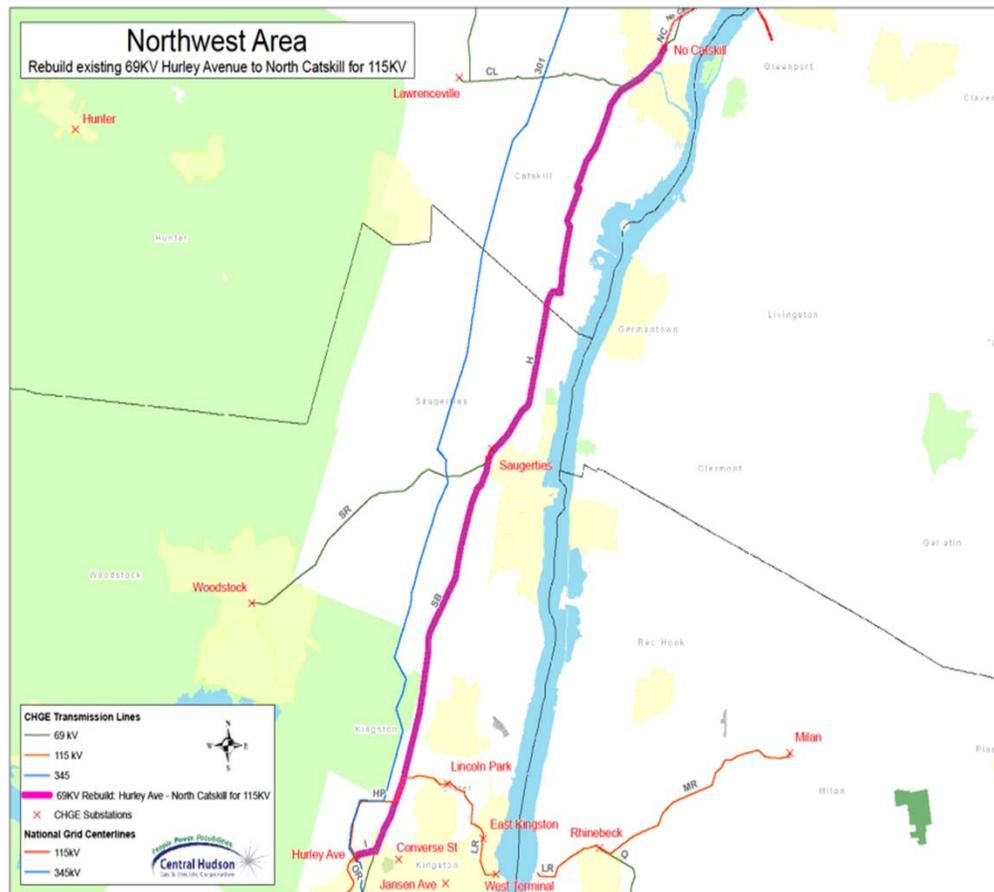
Projects Addressing Infrastructure Condition Issues

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



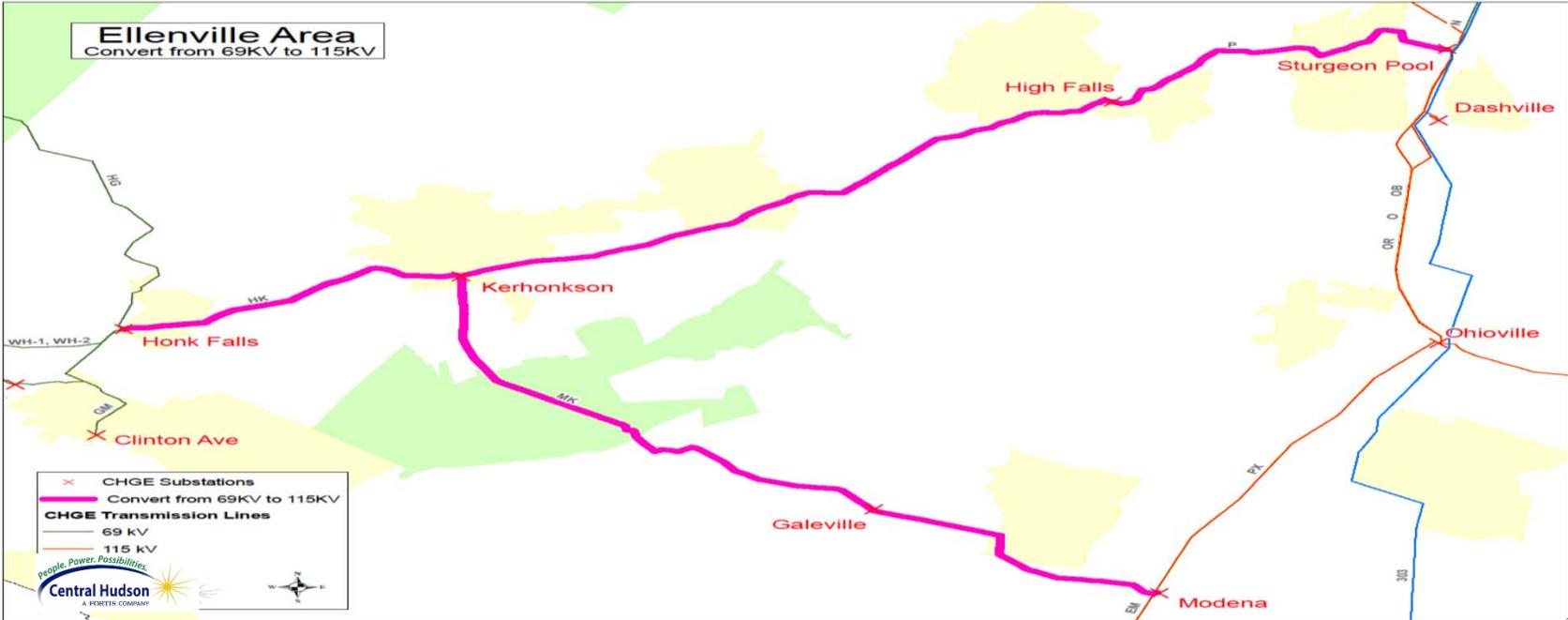
Projects Addressing Infrastructure Condition Issues

Project	Type	Issue	Proposed In Service
Rebuild existing 69 kV Hurley Avenue to North Catskill for 115 kV	Firm	Detailed condition assessment has identified need for comprehensive rebuild	2019



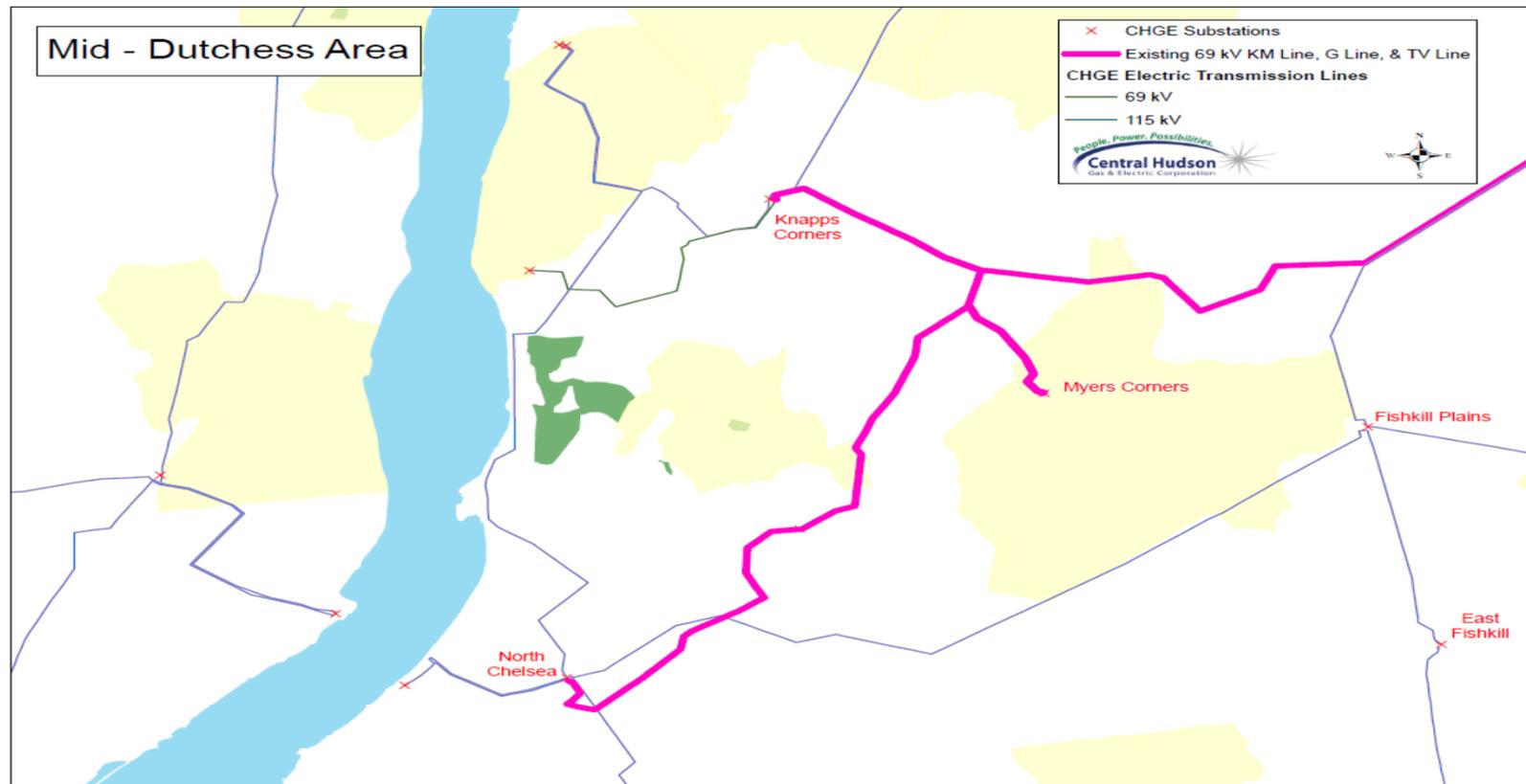
Projects Addressing Infrastructure Condition Issues

Project	Type	Issue	Proposed In Service
Kerhonkson Substation	Firm	Infrastructure	Oct 2015
115/69 kV Sturgeon Pool Substation	Firm		2016
Ohioville Substation – retire 69 kV yard	Firm		2018
Kerhonkson-Honk Falls 115/69 kV Substation	Firm	Infrastructure & Post contingency overload	2019
Convert from 69 kV to 115 kV (Lines are constructed for 115 kV operation)	Firm		2020



Projects Addressing Infrastructure Condition Issues

Project	Type	Issue	Proposed In Service
Rebuild existing 69 kV Knapps Corners to Pleasant Valley (Southern Section)	Potential	Detailed condition assessment has identified need for comprehensive rebuild	2020 (Under Study)



Comments

Interested parties should forward any comments to:

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