



Orange & Rockland
a conEdison, inc. company

LOCAL TRANSMISSION PLANS (LTP)

**ESPWG MEETING (NYISO KCC)
November 18, 2019**

Rollie Mangonon

PRESENTATION OUTLINE



COMPANY BACKGROUND



LTP ASSUMPTIONS, TOOLS & METHODOLOGIES



DEVELOPMENT OF LTP



**PROPOSED LTP
(UPDATES FROM 2018 LTP)**



QUESTIONS

COMPANY BACKGROUND (Service Territory)



Company Profile:

TO, TOP & TP under NYISO.
TO under PJM.
Subsidiary of Con Edison, Inc.

Existing Circuit Miles:

Transmission (69 kV to 345 kV) :
554 miles
Distribution (4 kV to 34.5 kV) :
3,764 miles
UG Distribution (13.2 kV) :
1,696 miles

Customers Served:

Electric: 304,000 (NY, NJ)
Gas: 135,000 (NY)

All time Peak Demand for electricity:

1617 MW (8/2/06)

Number of employees ~ 1200

Service Territory ~ 1350 sq. miles



TRANSMISSION DESIGN STANDARDS

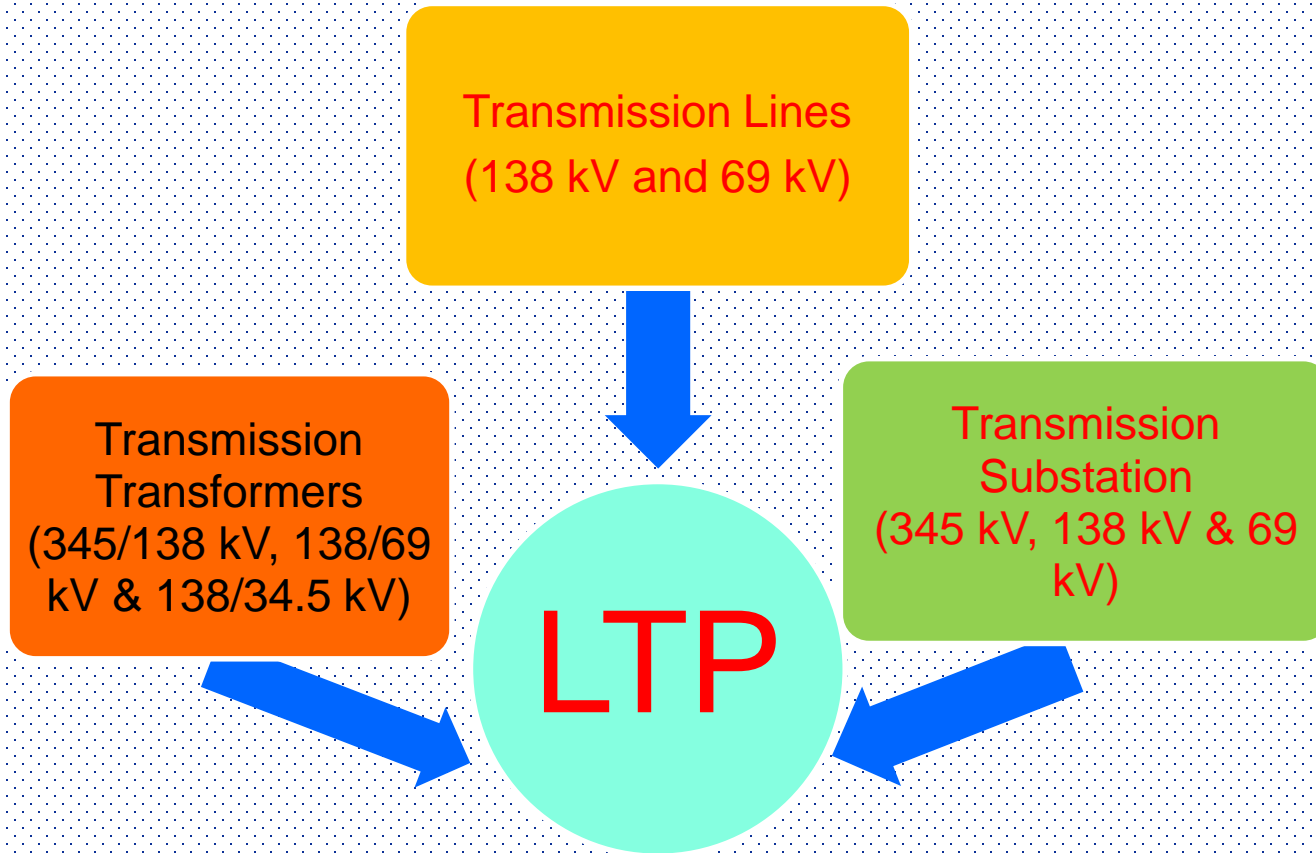
- **THERMAL**

- Normal Operating Conditions:
 - Below Normal Rating of Equipment
- N-1 Operating Conditions:
 - Below Normal Rating of Equipment.




- **VOLTAGE**

- Normal and N-1 Operating Conditions:
 - $0.95 < \text{Nominal Bus voltage} < 1.05$

FACILITIES COVERED BY LTP



LTP ASSUMPTIONS

- Projects based on the 2020-2029 Capital Budget.
- Load Forecast*:
 - 2020 (1580 MW) 
 - 2024 (1595 MW) 
 - 2029 (1660 MW) 
- Factors Affecting LTP:
 - Reliability Requirements
 - Changes in Load Forecast
 - DSM/EE
 - REV Screening
 - Federal and State Programs
 - New Generation (i.e. PV, Wind, Energy Storage, Gas Turbines)
 - Other Non-Wire Alternatives (NWAs)

**2019: Forecast: 1585 MW*

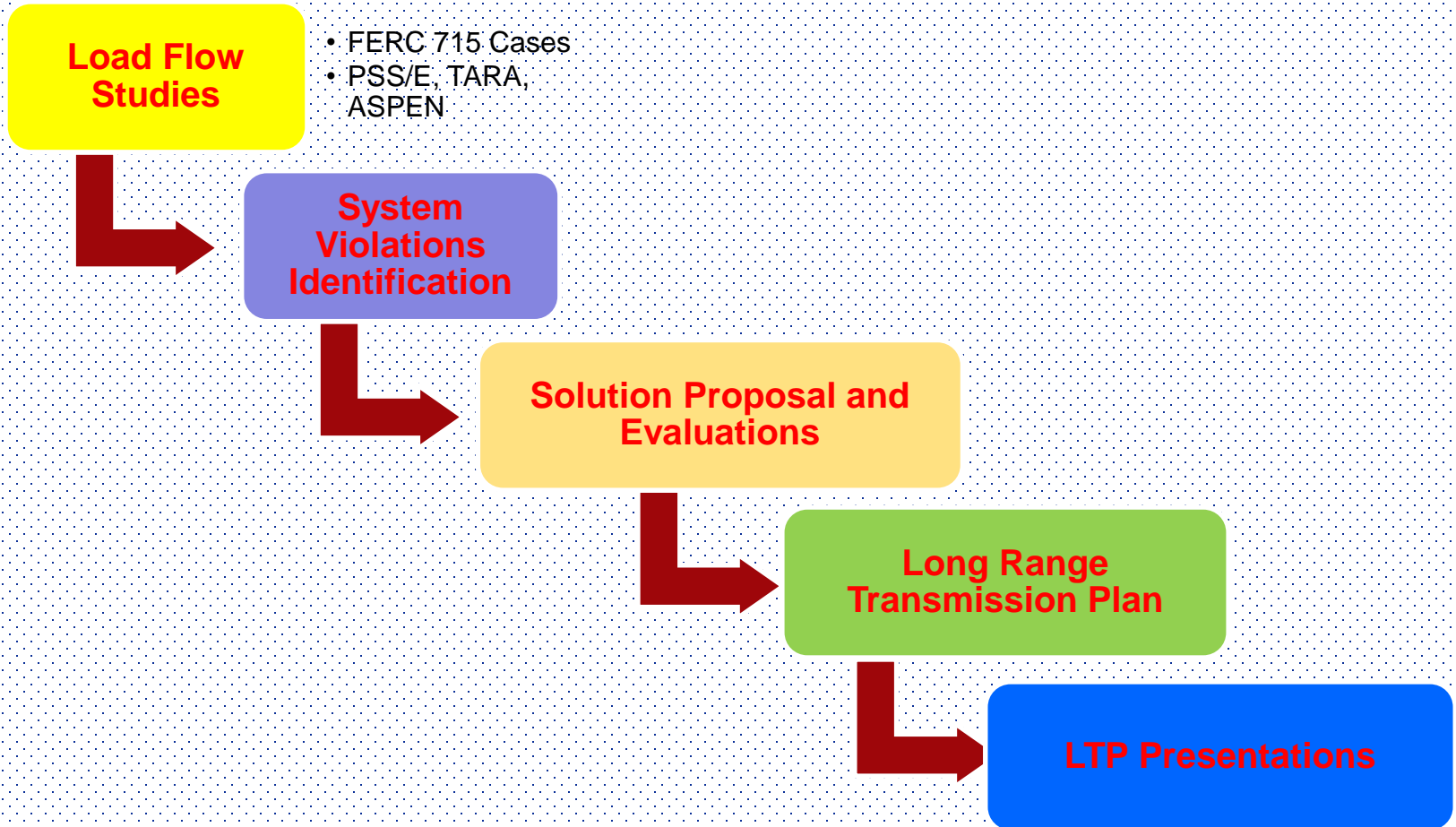
Actual: 1445 MW (July 21, 2019)

LTP TOOLS & METHODOLOGIES

- Thermal (PSS/E, TARA)
- Voltage (PSS/E, TARA)
- Short Circuit (ASPEN)
- Equipment Replacements Due to Condition (FIELD INSPECTIONS AND TEST REPORTS)
- Equipment Thermal Ratings

Conductors		Transformer Banks
OH	UG	PT LOAD
Rate Kit	ACE Program	

DEVELOPMENT OF LTP



DEVELOPMENT OF LTP

• POSSIBLE MITIGATION FOR CRITERIA VIOLATIONS

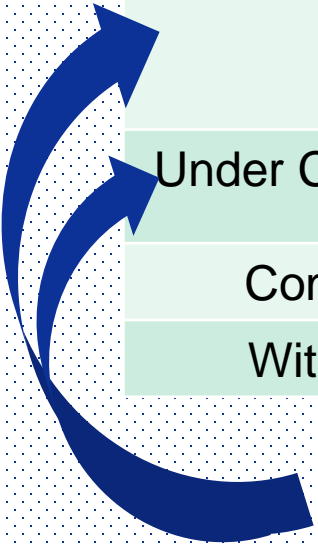
- ❖ Load Transfers
- ❖ Equipment Upgrades
- ❖ New or Reconfiguration of Transmission Lines
- ❖ New Switching Stations with new or reconfigured Transmission Lines
- ❖ Transmission Station Reconfiguration or Upgrade
- ❖ Reactive Power Compensation (Capacitors or Reactors)
- ❖ Short Circuit Remediation/Breaker Upgrade
- ❖ REV Screening
- ❖ Non-Wires Alternatives (NWAs)

“FIRM” PROJECTS

- Projects are considered “FIRM” if they satisfy the following conditions:
 - ✓ Included in the 2020-2024 O&R Five Year Budget
 - Funds approved by Upper Management
 - ✓ Completed System Impact Study (SIS) and approved Article VII and/or necessary permits approved (if applicable).
 - ✓ Major equipment ordered and/or awaiting delivery.

PROJECT STATUS

PROJECT STATUS	DESCRIPTION
Design	Project approved and budgeted, engineering design/permits underway and, if necessary, SIS and Article VII approval on-going.
Pre-Construction	Major equipment procured and/or awaiting delivery, necessary outages planned, company resources/manpower assigned and if necessary, SIS and Article VII approved and permits secured.
Under Construction	Major equipment delivered and construction underway.
Completed	Project in service.
Withdrawn	Project no longer needed.



“FIRM” Project

PROPOSED LTP

- **EASTERN DIVISION LOCAL PLANS:**

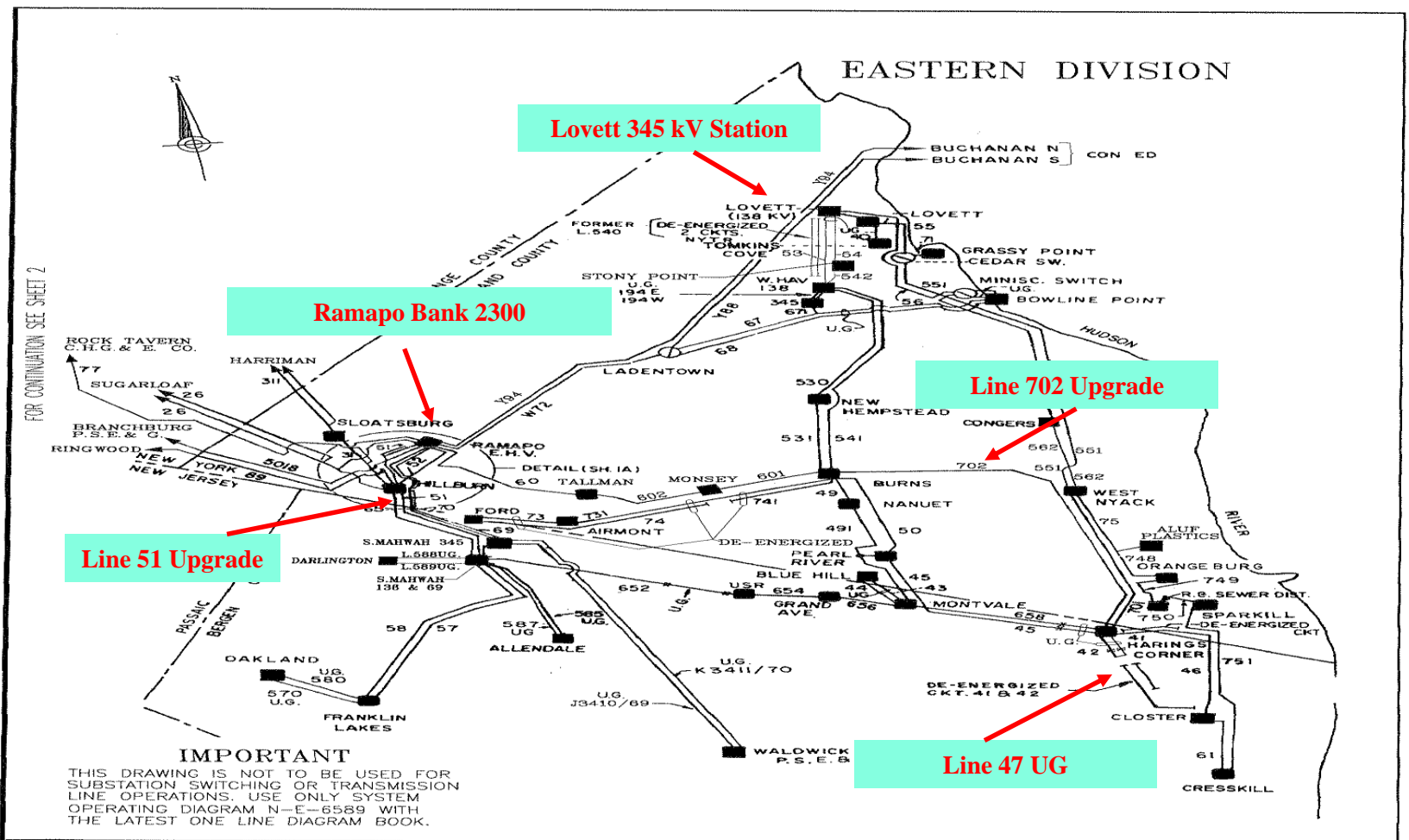
GEOGRAPHIC COVERAGE : Rockland County (NY),
Portions of Bergen County (NJ)
DESIGN STANDARD: First Contingency

PROJECT DESCRIPTION	IN-SERVICE DATE		Firm	SIS	Article VII	Project Status
	2018 Plan	2020 Plan				
Lovett 345 kV Station (formerly North Rockland 345 kV Station) ¹	May 2021	May 2022	Y	Y	N/A	Pre-Const.
Line 705 New UG ¹ (138 kV)	Dec 2022	Dec 2022	N	N/A	N/A	Design
Line 47/Closter Re-configuration ¹ (69 kV – New Jersey)	May 2020	May 2020	Y	N/A	N/A	Pre-Const.
Ramapo Bank 1300 Upgrade ²	June 2019		-	-	-	Completed
Ramapo Bank 2300 Upgrade ²	June 2021	June 2020	Y	N/A	N/A	Pre-Const.
Line 51 ¹ (138 kV)	Dec 2022		N	N	N/A	Design

¹Reliability Projects

²Projects Due to Equipment Condition

PROPOSED LTP (Eastern)



IMPORTANT
 THIS DRAWING IS NOT TO BE USED FOR
 SUBSTATION SWITCHING OR TRANSMISSION
 LINE OPERATIONS. USE ONLY SYSTEM
 OPERATING DIAGRAM N-E-6589 WITH
 THE LATEST ONE LINE DIAGRAM BOOK.

ORANGE AND ROCKLAND UTILITIES, INC.										
DRAWING		DRAWN	DESIGNED	CHECKED	APPROVED	DATE	DRAWING NO.		SHEET	REV.
TRANSMISSION LINES-KEY MAP		F.B.	<i>FWS</i>	<i>FWS</i>	<i>JCB</i>	11/19/07	N A 7051		1 OF 3	9

PROPOSED LTP

- EASTERN DIVISION LOCAL PLANS

PROPOSED TRANSMISSION CAPACITOR BANK INSTALLATIONS (32 MVARs)

STATION	IN-SERVICE DATE		Firm	SIS	Article VII	Status
	2018 Plan	2020 Plan				
Little Tor	Dec 2019	Dec 2022	N	N/A	N/A	Design
West Nyack (16 MVARs)	June 2018	June 2020	Y	N/A	N/A	Pre-Const.
Montvale (NJ)	June 2024	-	-	-	-	Withdrawn
Tappan	Dec 2025	-	-	-	-	Withdrawn

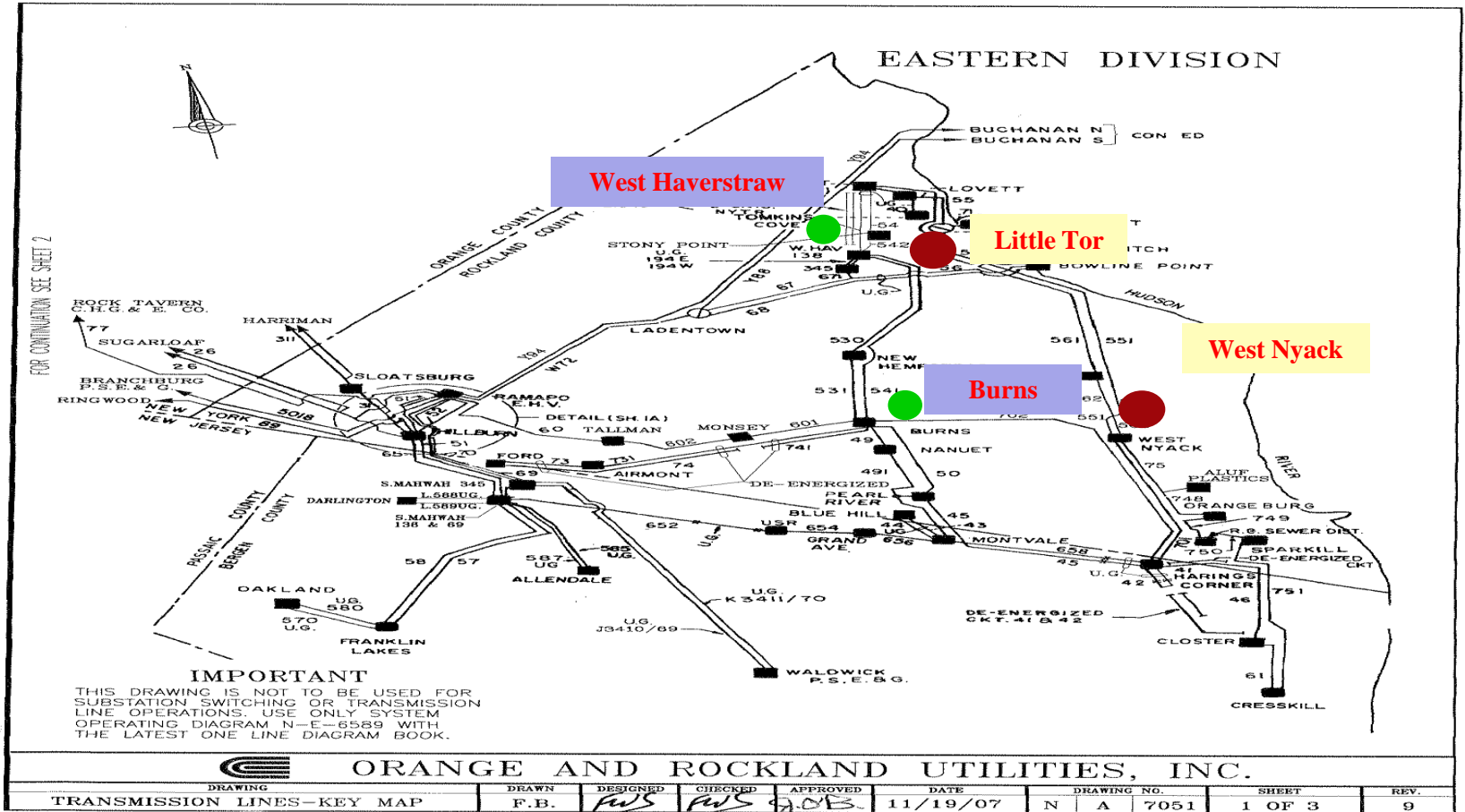
PROPOSED LTP

- EASTERN DIVISION LOCAL PLANS

PROPOSED EQUIPMENT REPLACEMENTS DUE TO CONDITION (138 KV BREAKERS)

STATION	IN-SERVICE DATE		Firm	SIS	Article VII	Status
	2018 Plan	2020 Plan				
Burns	Dec 2021	Dec 2022	N	N/A	N/A	Design
West Haverstraw	Dec 2021	Dec 2022	N	N/A	N/A	Design

PROPOSED LTP – Cap Banks & Breaker Replacements (Eastern)



PROPOSED LTP

- CENTRAL DIVISION LOCAL PLANS:**

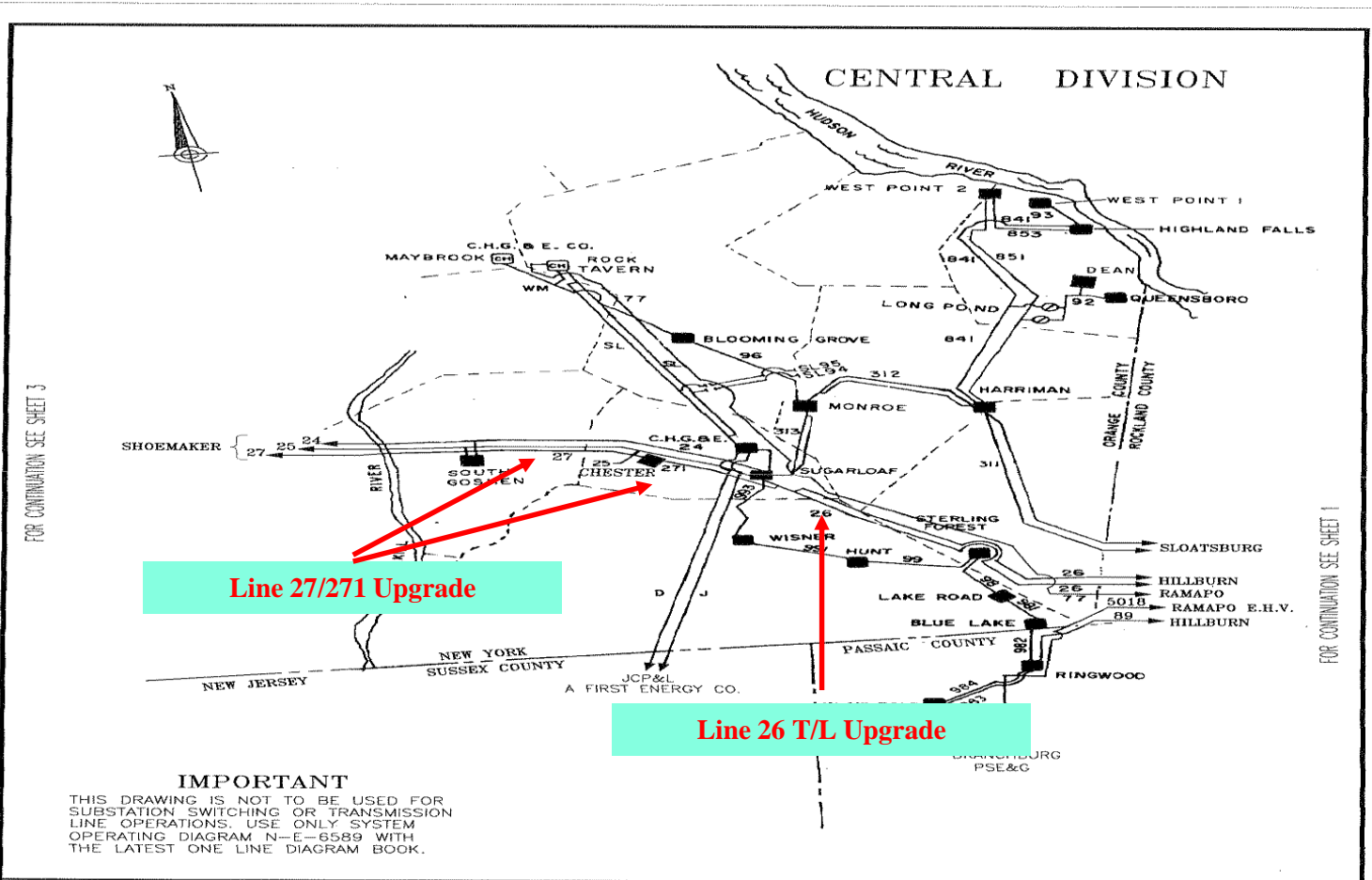
GEOGRAPHIC COVERAGE : Portions of Orange County (NY)
 Portions of Passaic County (NJ)
DESIGN STANDARD: First Contingency

PROJECT DESCRIPTION	IN-SERVICE DATE		Firm	SIS	Article VII	Status
	2018 Plan	2020 Plan				
Line 26 T/L Upgrade ¹ (138 kV)	June 2026	June 2026	N	Y	Y	Design
Line 27/271 Upgrade ² (138 kV)	June 2023	June 2023	N	Y	Y	Design

¹Project Due to Equipment Condition

²Reliability Project and AC Transmission Related

PROPOSED LTP (Central)



FOR CONTINUATION SEE SHEET J

FOR CONTINUATION SEE SHEET I

IMPORTANT
 THIS DRAWING IS NOT TO BE USED FOR
 SUBSTATION SWITCHING OR TRANSMISSION
 LINE OPERATIONS. USE ONLY SYSTEM
 OPERATING DIAGRAM N-E-6589 WITH
 THE LATEST ONE LINE DIAGRAM BOOK.



ORANGE AND ROCKLAND UTILITIES, INC.

DRAWING	DRAWN	DESIGNED	CHECKED	APPROVED	DATE	DRAWING NO.	SHEET	REV.
TRANSMISSION LINES-KEY MAP	F.B.	<i>FW</i>	<i>FW</i>	<i>J.O.B.</i>	11/19/07	N A 7051	2 OF 3	6

PROPOSED LTP

- CENTRAL DIVISION LOCAL PLANS

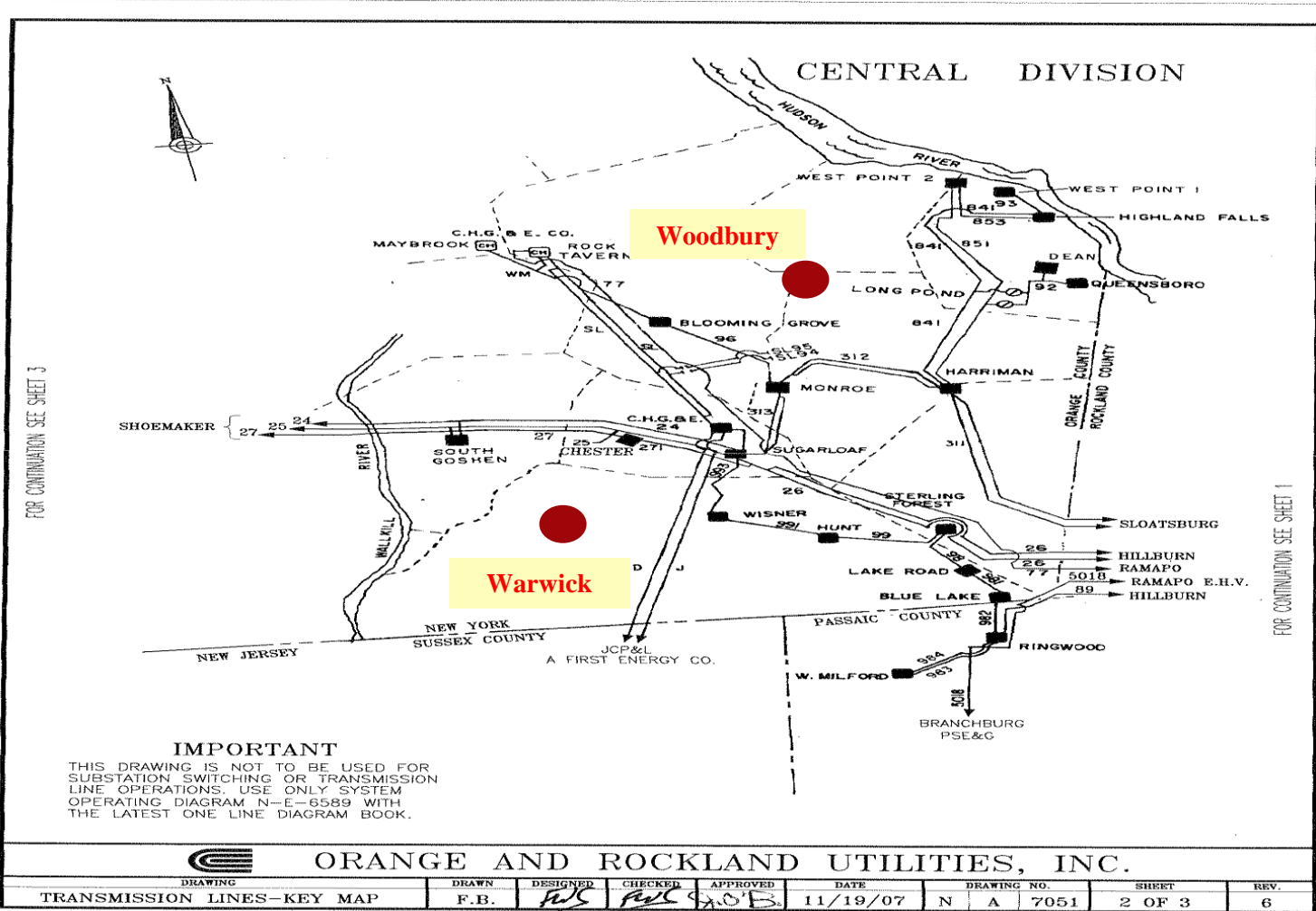
PROPOSED TRANSMISSION CAPACITOR BANK INSTALLATIONS (32 MVARs)

STATION	IN-SERVICE DATE		Firm	SIS	Article VII	Status
	2018 Plan	2020 Plan				
West Warwick	Dec 2025	Dec 2025	N	N/A	N/A	Design
Woodbury	Dec 2024	Dec 2024	N	N/A	N/A	Design

PROPOSED EQUIPMENT REPLACEMENTS DUE TO CONDITION (BREAKERS)

STATION	IN-SERVICE DATE	
	2018 Plan	2020 Plan
	None	None

PROPOSED LTP - CAP BANKS (Central)



PROPOSED LTP

- WESTERN DIVISION LOCAL PLANS:

GEOGRAPHIC COVERAGE : Portions of Orange County (NY),
Portions of Sullivan County (NY)
DESIGN STANDARD: First Contingency

PROJECT DESCRIPTION	IN-SERVICE DATE		Firm	SIS	Article VII	Status
	2018 Plan	2020 Plan				
Western Division 34.5 kV Upgrade to 69 kV ¹	Various Stages starting in December 2022	Various Stages Starting in December 2023	N	N/A	N/A	Design

¹Reliability Project

PROPOSED LTP

- WESTERN DIVISION LOCAL PLANS

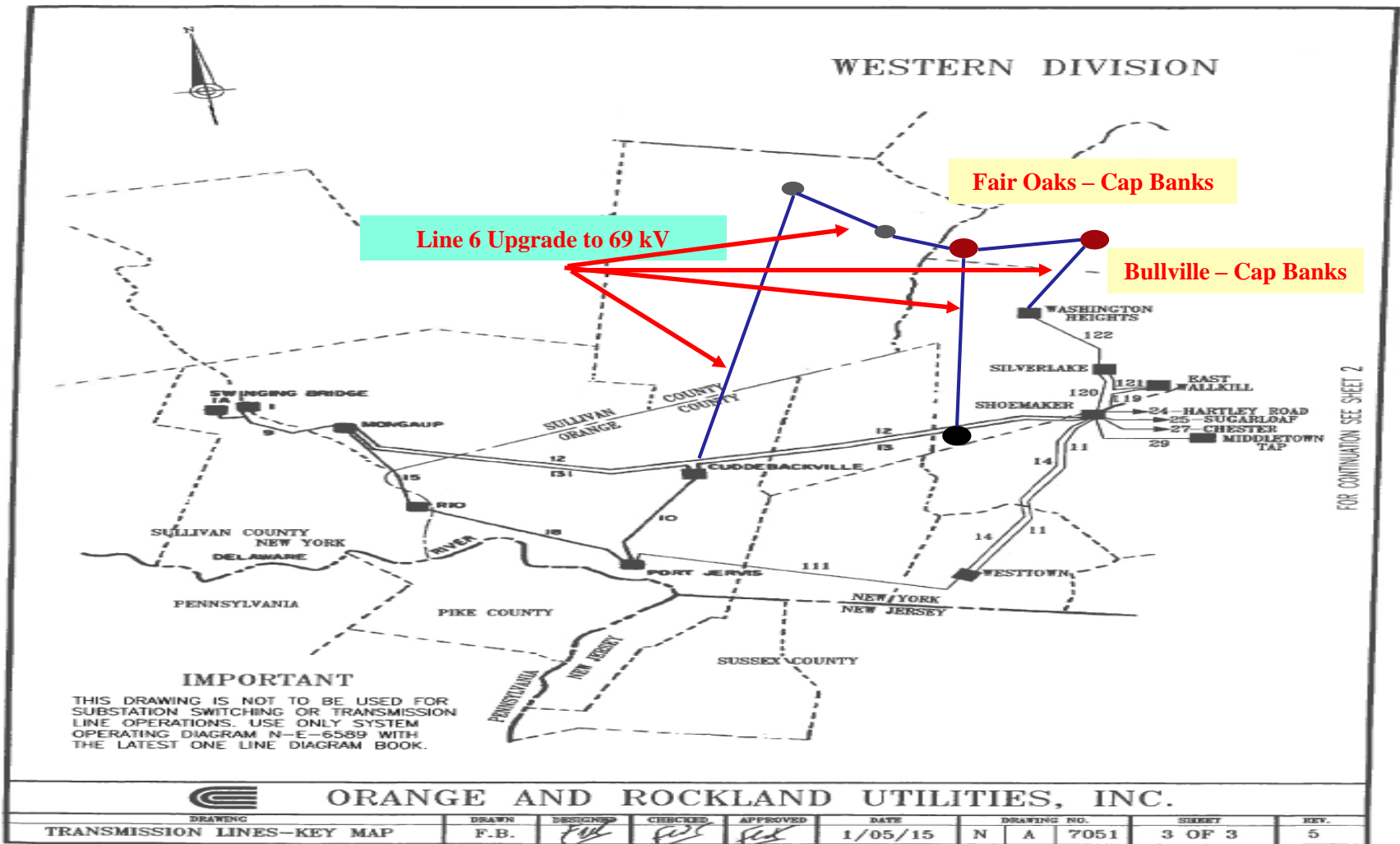
PROPOSED TRANSMISSION CAPACITOR BANK INSTALLATIONS (16 MVARs or 32 MVARs)

STATION	IN-SERVICE DATE		Firm	SIS	AVII	Status
	2018 Plan	2020 Plan				
Pocatello (New - 32)	2025	-	N	N/A	N/A	Withdrawn
Fair Oaks (New -16)	2025	2026	N	N/A	N/A	Design
Bullville (New – 16)	2025	2027	N	N/A	N/A	Design

PROPOSED EQUIPMENT REPLACEMENTS DUE TO CONDITION BREAKERS - NONE

STATION	IN-SERVICE DATE	
	2018 Plan	2020 Plan
	None	None

PROPOSED LTP & CAP BANKS (Western)



O & R LTP LINK AND CONTACTS

1 LTP LINK

<http://www.oru.com/aboutoru/tariffsandregulatorydocuments/federal/order890.html>

2. CONTACTS

Rollie Mangonon
(845) 577-3326
mangononr@oru.com

Eric Remolona
(845) 577-3700
remolonae@oru.com

Thank you
for your kind
attention!

