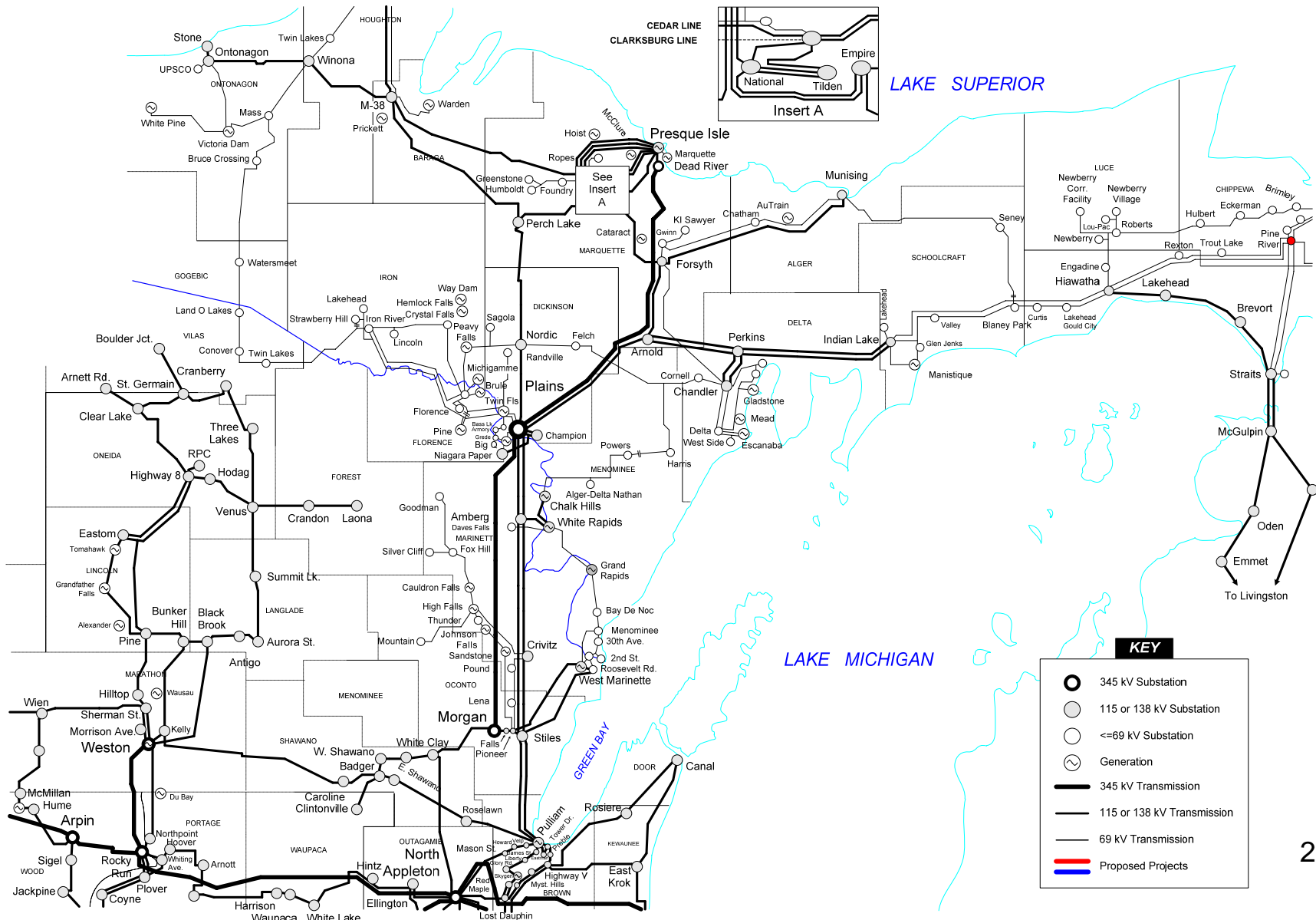




Northern Umbrella Plan Update

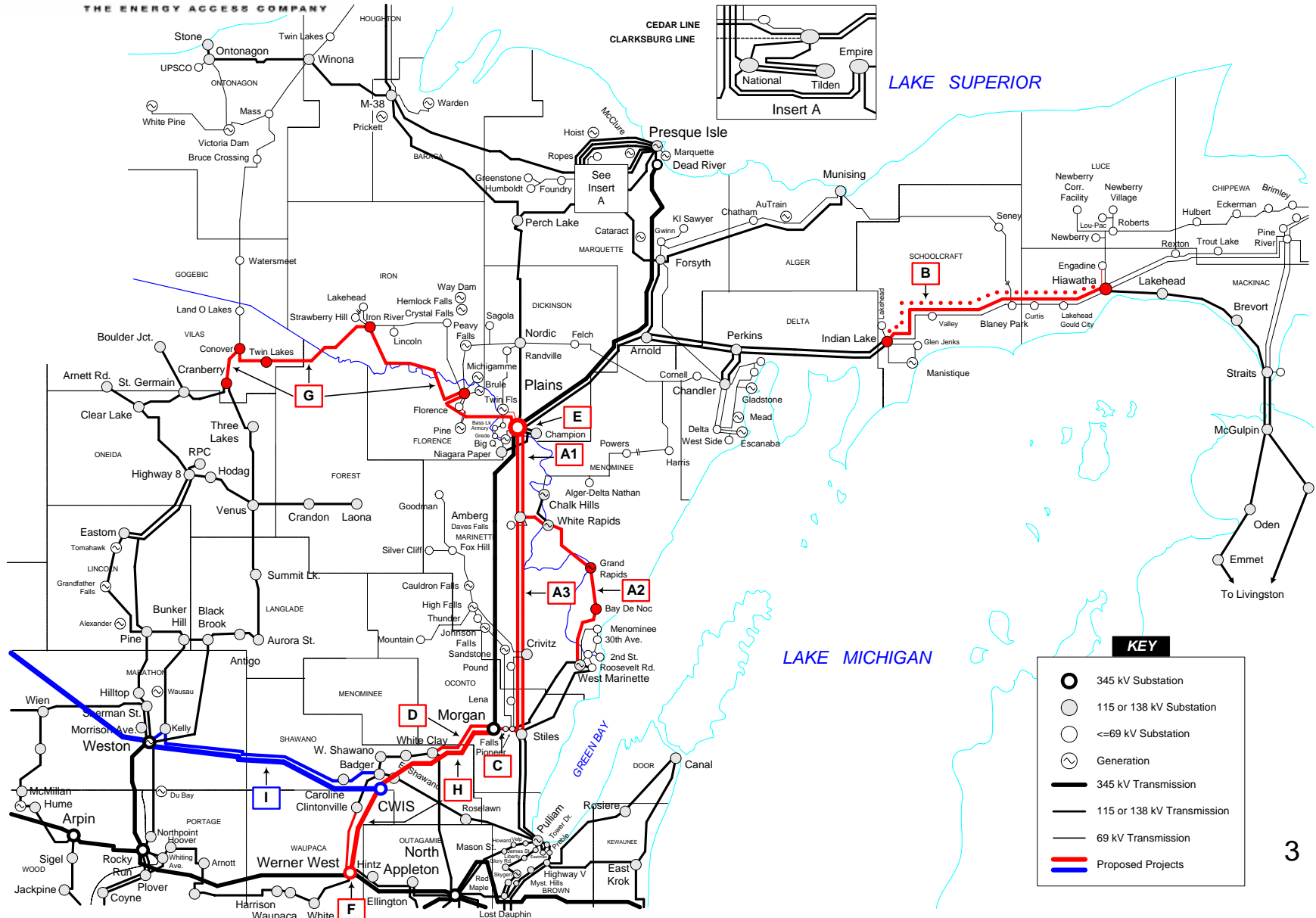
March 11, 2008

System Prior to NUP Projects





Northern Umbrella Plan





NUP Projects

Completed Projects:

- A: Plains – Stiles 138 kV Rebuild
- B: Indian Lake – Hiawatha 69 kV to 138 kV Rebuild
- C: Morgan – Stiles 138 kV Rebuild
- D: Morgan – White Clay 138 kV Up-rate
- E: Add 2nd Plains Transformer **(Project cancelled in Feb. 2008)**
- F: New Werner West 345/138 kV Substation

In-progress Projects:

- G: Cranberry – Conover – Plains Project
- H: Morgan – Werner West 345 kV Line (including Clintonville – Werner West 138 kV)
- I: Gardner Park – Central Wisconsin 345 kV Line (for generator interconnection)



Project Overview and Status

E. Second Transformer at Plains

- ATC cancelled this project in February 2008.
- In late 2007 a transformer rating review indicated that the existing Plains 345/138 kV 250 MVA transformer had a higher emergency loading capability than previously thought. Specifically an internal transformer CT thermal factor was recalculated based on updated information, changing the overload factor in the loading calculations and increasing the overload capability of the transformer. The review indicated an increase in the emergency rating from 250 MVA to 359 MVA.
- Studies show that this rating increase will eliminate the Plains transformer as a limiter in U.P. import capability. The transfer limit was the primary driver of the project, and because of the rating increase it was determined this project was not justified.
- Studies show that without the Plains Transformer Project, the Wisconsin-U.P. transfer capability will still be 500 MW upon completion of the NUP.



Project Overview and Status

G. Cranberry-Conover-Plains

- Scope
 - Phase 1: New 15 miles of 115kV line (overhead and underground) from Cranberry to new Lakota Road Substation with modifications at various substations including Conover SS
 - Phase 2: Rebuild 69kV line from Conover SS to Iron River SS to 138kV including new Iron Grove SS
 - Phases 3 and 4: Rebuild 69kV line from Iron River SS to Plains SS to 138kV (single, double and triple circuit configurations) with modifications at various substations including Aspen SS



Project Overview and Status

G. Cranberry-Conover-Plains (cont'd)

- Phase 1 -- Schedule/Status
 - Construction started Aug. '07 on UG line and in Oct. '07 on SS and OH line
 - Physical work is estimated as 60% complete
 - Planned in-service June 2008
- Phase 2 -- Schedule/Status
 - OH and SS design and procurement activities underway
 - Partial construction (Twin Lakes crossing) completed in January '08
 - Remainder of construction 3Q08 to 1Q09 (with construction complete to Twin Lakes SS in 3Q08)
 - NFS Special Use Permit is still outstanding
- Phase 3 & 4 -- Schedule/Status
 - OH line and substation design/procurement activities in underway
 - Construction start 2Q09
 - Planned in-service June 2010



New Morgan-Werner West 345kV Line (52.8 Mi)

ATC Executive approval	2/05
ATC Board approval	2/05
File CPCN application	3/05
CPCN issued	6/06
Morgan – White Clay, 13.2 Mi Werner West – Clintonville, 17.5 Mi Clintonville – Highway 22, 7.7 Mi Highway 22 – White Clay, 15.4 Mi Werner West SS, 345/138 kV	Complete 10/7 Real Estate 80% Construction 12/08 - 4/09 Construction 4/09 - 10/09 Complete 12/06
Construction period, ~39% Complete	1/07-12/09
Project in-service – on schedule	12/09



New Gardner Park-Central WI 345kV line (51 Mi)

ATC Executive approval	2/05
ATC Board approval	2/05
File CPCN application	3/05
CPCN issued	6/06
Belle Plain Tap – Highway 22, 1.1 Mi Caroline – Belle Plain Tap, 6.9 Mi Structure 773 – Whitcomb, 20.33 Mi Gardner Park – Structure 773, 6.53 Mi Whitcomb – Caroline, 16.1 Mi Highway 22 Substation	Complete 6/07 Complete 7/07 Construction 8/07 - 4/08 Construction 1/08 - 7/08 Construction 9/08 - 3/09 Construction 9/07 - 2/09
Construction period; ~ 66% Complete	1/07 – 12/09
Project in-service	December 2009



Project Status Summary

Project Name	Key Need Drivers	Projected In-Service Date	Projected Cost	Status
A: Plains – Stiles 138 kV Rebuild	Physical condition; transfer capability; solution also results in a more robust parallel path for 2/3 of P-S corridor		\$94.3M	Complete
•A1: Plains – Amberg		October 2005	-	Complete
•A2: Amberg – West Marinette		November 2005	-	Complete
•A3: Amberg – Stiles		October 2006	-	Complete
B: Indian Lake – Hiawatha 69 kV to 138 kV Rebuild	TLR mitigation; voltage support; physical condition; local load-serving in Manistique area; required operating guide that splits the U.P. system			Complete
•Phase 1 – Rebuild Indian Lake – Glen Jenks		August 2004	\$6.1M	Complete
•Phase 2 – Rebuild as double circuit 138 kV, operate at 69 kV		March 2006	\$46.2M	Complete
•Phase 3 – Convert to 138 kV operation		N/A	N/A	Not part of the Northern Umbrella Plan
C: Morgan – Stiles 138 kV Rebuild as double circuit	Transfer capability	May 2006	\$8.0M	Complete



Project Status Summary

Project Name	Key Need Drivers	Projected In-Service Date	Projected Cost	Status
D: Morgan – White Clay 138 kV uprate (eventual rebuild as part of Element H)	Transfer capability	March 2005	\$0.4M	Project Complete.
E: Add 2 nd Plains transformer (250 MVA 345/138 kV)	Transfer capability	Cancelled		Cancelled
F: New Werner West Substation with 345/138 kV transformer	TLR mitigation, system security	December 2006	\$14.2M	Project Complete.
G: Cranberry – Conover – Plains Project	Transfer capability; Transmission service; Reliability, physical condition	See below	\$133.5M	
• Phase 1: New 115 kV Cranberry – Conover		June 2008	-	Construction started in August 2007.
• Phase 2, 3 & 4: Rebuild 69 kV Conover – Plains to 138 kV		June 2010	-	Design/procurement activities started. Will design/construct from west to east.
H: New Morgan – Werner West 345 kV line & Clintonville – Werner West 138 kV line	Transfer capability, reliability, and network service.	2009	\$132.3M	See Page 8 for detailed status. Project under construction and on schedule.
I: New Gardner Park – Central Wisconsin 345 kV line & Central Wisconsin 345 kV switching station	Required for new Weston 4 generation	2009	\$121.5M	See Page 9 for detailed status. Project under construction and on schedule.



Northern Umbrella Plan Summary

- Current estimated cost for all projects is \$556.5 million
- Total project spending to date is approximately \$333 million (through January 2008)
- Of the 9 projects –
 - 5 are complete and in-service
 - 3 are in various stages of design and construction
 - 1 has been cancelled
- Construction and completion of all projects is expected in mid-2010