

UP Flow South Limit March 27, 2003 Update

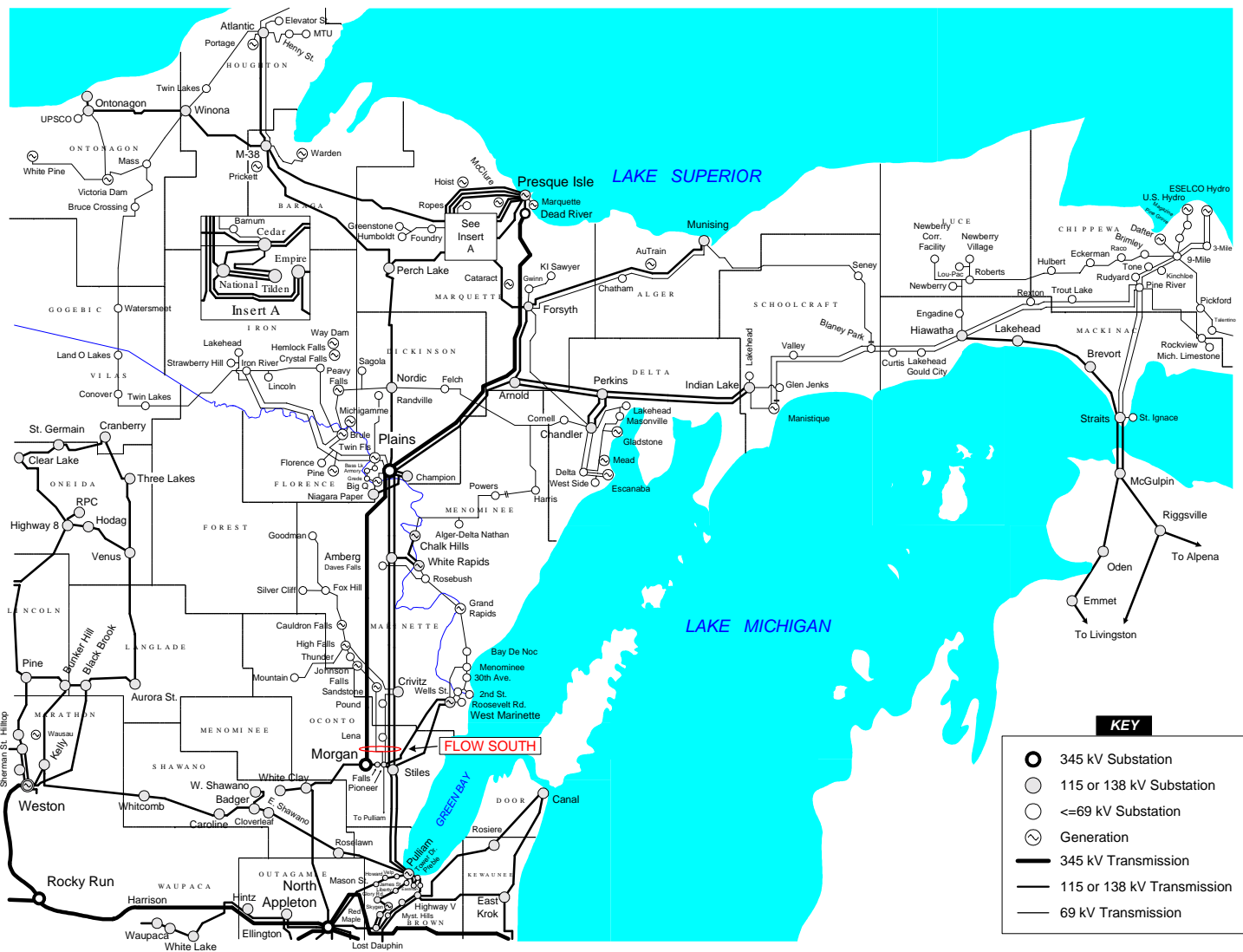


Figure 1: Northern Wisconsin And Upper Michigan System

- Flow South Limit is based on the summation of three line flows (multi-element PTDF flowgate):
 - Morgan – Plains 345 kV
 - Stiles – Amberg 138 kV #1
 - Stiles – Amberg 138 kV #2
- Previous U.P. import limit was 200 MW, based on voltage constraints and thermal limits.
- 200 MW translates to roughly 220 MVA.

New Limit

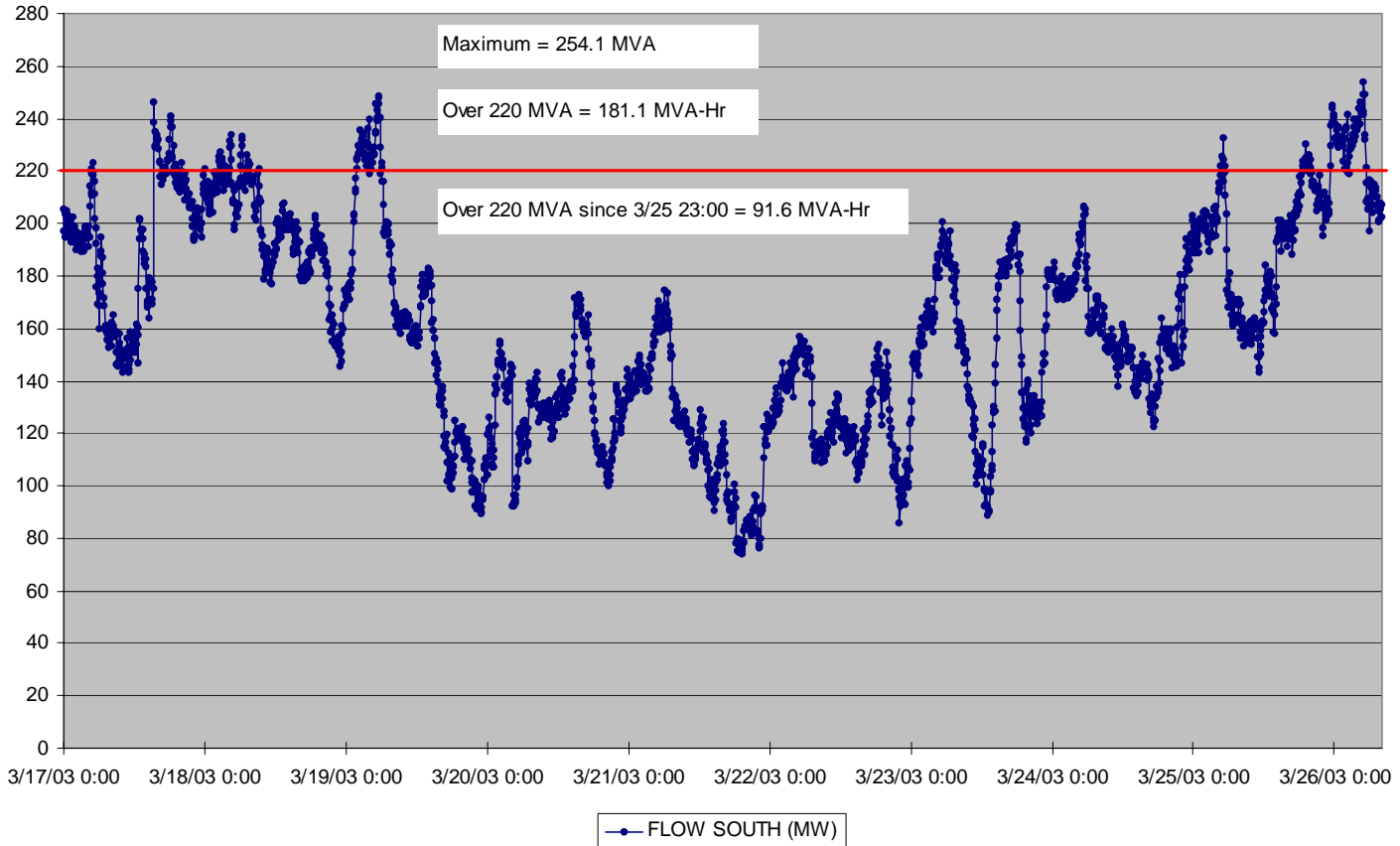
- New limits are:
 - Summer = 220 MVA
 - Spring / Fall = 235 MVA
 - Winter = 255 MVA
- New limits are based on the thermal capacity of the Plains-Amberg-Crivitz-Stiles 138 kV lines for the contingency loss of Morgan – Plains 345 kV
- An additional assessment is ongoing to evaluate the U.P. import limit as temperature conditions, and therefore the transmission thermal limits, change. This matrix of import limits will be used to allow maximum utilization of transfer capability throughout the year.

- The new import limits are due to an extensive study performed by TP&S, which resulted in an operating guide that optimizes system resources and system configurations, including: 1) specific operational procedures which address voltage issues such as capacitor bank utilization and system voltage monitoring at critical substations to ensure an adequate system voltage profile, 2) the application of a reactor trip scheme to remove reactors that are not needed subsequent to 345 kV line trip, and 3) a new operational procedure for the Edison Sault ties to keep the Edison Sault system closed for central U.P. support.

- These new limits will reduce the frequency and cost of required generation redispatch in the U.P. Based on historical redispatch requests, the number of redispatch events due to U.P. imports will be reduced dramatically.

Recent Flows (MVA)

FLOW SOUTH (MVA): 3/17/2003 - 3/26/2003



Recent Flows (MW & MVA)

FLOW SOUTH, MW & MVA: 3/17/2003 - 3/26/2003

