

Table UP-8A-W: Western U.P. Area Preliminary Solution Sets – Summary

Atlantic69 Line (M38-Atlantic 69 kV) – U.P. Preliminary Solutions Groups

U.P. Zone	Map Item #	Solutions Description	(\$M) Estimated Cost	In Service Year	Strategic Flexibility Future (Planning Needs N-1 @ Peak)						Asset Mgmt. Needs
					Robust Economy Future Solutions Group	High Retirements Future Solutions Group	High Environmental Future Solutions Group	Slow Growth Future Solutions Group	DOE 20% Wind Future Solutions Group	Fuel & Investment Limitations Future Solutions Group	Asset Renewal needs for Atlantic69
Western	W-AR1	Minimum Asset Renewal projects on Atlantic69 line (remove spar arms, install crossarms, replace insulators, clearance issues)	\$5-10M	2012-14	Not adequate	Not adequate	Not adequate	Adequate	Not adequate	Not adequate	Adequate
Western	W13, W-AR1	Uprate M38-Atlantic 69 kV line to 167 ° F (May not be structurally possible) + Minimum Asset Renewal projects	\$10-15M	2013, 2012-14	Not adequate	Not adequate	Adequate	Not needed for Planning	Not adequate	Adequate	Adequate
Western	W9	Rebuild M38-Atlantic 69 kV line at 69 kV (22 mi)	\$22M	2013	Not adequate	Adequate	More robust than needed	Not needed for Planning	Adequate	More robust than needed	More robust than needed
Western	W10	Rebuild M38-Atlantic 69 kV line at 138 kV (22 mi), add 2 nd Atlantic 138/69 kV transformer	\$30M	2013	Adequate	More robust than needed	More robust than needed	Not needed for Planning	More robust than needed	More robust than needed	More robust than needed

6530 Line (Conover-Mass 69 kV) – U.P. Preliminary Solutions Groups

U.P. Zone	Map Item #	Solutions Description	(\$M) Estimated Cost	In Service Year	Strategic Flexibility Future (Planning Needs N-1 @ Peak)						Asset Mgmt. Needs
					Robust Economy Future Solutions Group	High Retirements Future Solutions Group	High Environmental Future Solutions Group	Slow Growth Future Solutions Group	DOE 20% Wind Future Solutions Group	Fuel & Investment Limitations Future Solutions Group	Asset Renewal needs for 6530
Western	W-AR2	Minimum Asset Renewal projects on line 6530 (replace selected poles/bayonets/crossarms/insulators) \$200k/mi	\$10-15M	2015+	Not adequate	Not adequate	Adequate	Adequate	Not adequate	Adequate	Adequate
Western	W4, W-AR2	Reconductor Conover-Mass-Winona 69 kV line with 336 ACSR + Minimum Asset Renewal projects	\$TBD	TBD, 2015+	Not adequate	Not adequate	Not needed for Planning	Not needed for Planning	Not adequate	Not needed for Planning	Adequate
Western	W4, W-AR2	New Conover-Mass-Winona 69 kV line (68 mi) + Minimum Asset Renewal projects	\$60-65M	TBD, 2015+	Not adequate	Not adequate	Not needed for Planning	Not needed for Planning	Not adequate	Not needed for Planning	Adequate
Western	W1	Rebuild Lakota Rd.-Mass-Winona 69 kV line @ 138 kV (68 mi), add Mass 138 kV SS + 138/69 kV transformer	\$70M	TBD	Adequate	Adequate	Not needed for Planning	Not needed for Planning	Adequate	Not needed for Planning	More robust than needed
Western	W1a	Rebuild Lakota Rd.-Mass-Winona 69 kV line @ 138/69 kV (68 mi), add Mass 138 kV SS + 138/69 kV transformer	\$100M	TBD	More robust than needed	More robust than needed	Not needed for Planning	Not needed for Planning	More robust than needed	Not needed for Planning	More robust than needed