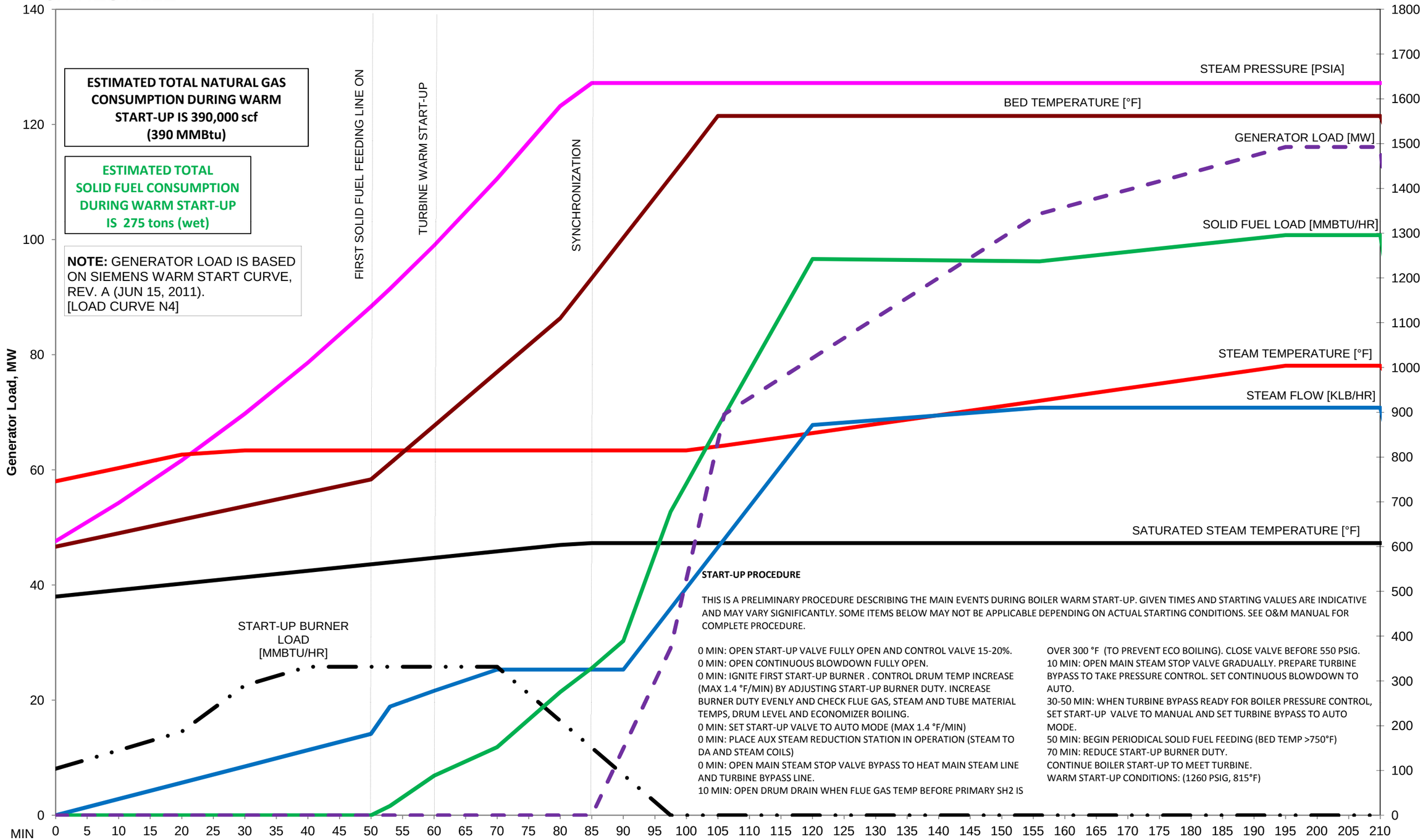
METSO
POWER

GAINESVILLE

PRELIMINARY WARM START-UP CURVE



START-UP PROCEDURE

THIS IS A PRELIMINARY PROCEDURE DESCRIBING THE MAIN EVENTS DURING BOILER WARM START-UP. GIVEN TIMES AND STARTING VALUES ARE INDICATIVE AND MAY VARY SIGNIFICANTLY. SOME ITEMS BELOW MAY NOT BE APPLICABLE DEPENDING ON ACTUAL STARTING CONDITIONS. SEE O&M MANUAL FOR COMPLETE PROCEDURE.

0 MIN: OPEN START-UP VALVE FULLY OPEN AND CONTROL VALVE 15-20%.
0 MIN: OPEN CONTINUOUS BLOWDOWN FULLY OPEN.
0 MIN: IGNITE FIRST START-UP BURNER . CONTROL DRUM TEMP INCREASE (MAX 1.4 °F/MIN) BY ADJUSTING START-UP BURNER DUTY. INCREASE BURNER DUTY EVENLY AND CHECK FLUE GAS, STEAM AND TUBE MATERIAL TEMPS, DRUM LEVEL AND ECONOMIZER BOILING.
0 MIN: SET START-UP VALVE TO AUTO MODE (MAX 1.4 °F/MIN)
0 MIN: PLACE AUX STEAM REDUCTION STATION IN OPERATION (STEAM TO DA AND STEAM COILS)
0 MIN: OPEN MAIN STEAM STOP VALVE BYPASS TO HEAT MAIN STEAM LINE AND TURBINE BYPASS LINE.
10 MIN: OPEN DRUM DRAIN WHEN FLUE GAS TEMP BEFORE PRIMARY SH2 IS OVER 300 °F (TO PREVENT ECO BOILING). CLOSE VALVE BEFORE 550 PSIG.
10 MIN: OPEN MAIN STEAM STOP VALVE GRADUALLY. PREPARE TURBINE BYPASS TO TAKE PRESSURE CONTROL. SET CONTINUOUS BLOWDOWN TO AUTO.
30-50 MIN: WHEN TURBINE BYPASS READY FOR BOILER PRESSURE CONTROL, SET START-UP VALVE TO MANUAL AND SET TURBINE BYPASS TO AUTO MODE.
50 MIN: BEGIN PERIODICAL SOLID FUEL FEEDING (BED TEMP >750°F)
70 MIN: REDUCE START-UP BURNER DUTY.
CONTINUE BOILER START-UP TO MEET TURBINE.
WARM START-UP CONDITIONS: (1260 PSIG, 815°F)

2012-08-08 Rev. 1