

505 LST Manual page markup by Tasker 7/2012

Description of Frequency Participation Droop

Valve Position Control Verbatim from Manual page 65

Valve Position Control (VPC) is the mode of control that the control is in most of the time that the unit is on-line. Once the generator breaker closes the control automatically selects VPC control, which automatically moves the valves to pick up the initial load. The initial load is based on throttle pressure at the time the breaker closed, where a higher pressure means less valve lift necessary to achieve the initial load. The control is defaulted to pickup a small amount of load. This value can be changed in the service menu under initial load curve (see the Initial Load Curve Header section in Chapter 5). The initial load value may be different if the unit closes online with a different valve, and may need to be adjusted.

Droop Verbatim from Manual page 65

VPC has a 5% droop or valve regulation as a default. This value is configurable and can be adjusted in the speed configuration header. This regulation has a dead band from 3597 to 3603 rpm. When turbine speed is between these values the droop or regulation has no effect. Once the turbine speed goes outside this range and is online the regulation starts working. The valves will be completely closed when the speed reaches 5% above rated speed, and will be fully open when speed reaches 5% below rated speed.

Tasker Notes

The Speed Droop percentage value is configured in the Speed Droop (%) Block of the Speed Configure Header Menu, about midway down the menu, in the Program Configuration Mode.

The Speed Droop Deadband Value is configurable in the Debug Mode. The Debug Mode includes tunable values that are not intended to be utilized by the average end user, however, a few of the configurable values various end users may need to modify are accessed via the Debug Mode. The Debug Mode interface is more cryptic and less intuitive than the publicly documented Program Mode or Service Mode. See Tasker Notes posted at:

http://tasker.us/source/woodward/505/lst/tech_support/speed_droop/droop_deadband.htm