

What is GCP Phase I?

One of the original requirements of the restructuring of the California electric industry was the transfer of Automatic Generation Control (AGC) to the California Independent System Operator Corporation (ISO) from the three largest California investor-owned utilities (IOUs) for all Generating Units with AGC capability. Given the short timeframe for ISO start-up, a two phased approach was adopted to accomplish the implementation of ISO AGC. During ISO start-up, the ISO implemented a Power Management System that interfaces with each of the IOUs' Energy Management Systems (EMS), and the IOUs' systems continue to execute AGC commands to the controllable plants.

The second phase is the ISO's Generator Communications Project (GCP). The GCP is the effort to implement a direct interface between plant facilities and the ISO for the purposes of generation control and monitoring, thereby eliminating the reliance on the IOUs' EMS.

Sections 2.5.6, 2.5.6.2, and 5.1.3 of the ISO Tariff and Section 4.2.1 and Appendix A of the ISO Ancillary Services Requirements Protocol require Generators providing Regulation to the ISO to meet technical requirements and standards for communication and direct digital control and AGC established by the ISO. Further, these provisions require that the ISO publish such technical requirements and standards on the ISO Home Page (<http://www.caiso.com/thegrid/operations/gcp/>).

The technology that the ISO has selected for that direct communications and control system is the Remote Intelligent Gateway (RIG) interface system utilizing the existing ISO communications network to transport AGC signals, as it meets all operational and market requirements.

Power generation scheduling and control are vital aspects in the daily operation of the ISO Controlled Grid. The ISO AGC system simultaneously controls Generating Unit output to match resources to load and maintain frequency. Generating Units offering Regulation services must be capable of being controlled by the ISO EMS. RIG interface units meet the ISO standards for transporting AGC signals. The ISO has the ability to send either set point or raise/lower signals. Additionally, the RIG has multiple ports to allow control to be switched between the Generator and the ISO.

Unless exempted by the ISO, a Generator must install equipment and software (a RIG unit or equivalent acceptable to the ISO) that can interface with the ISO's RIG system as the primary means for secure communications and direct control between the Generator's Generating Units and the ISO EMS as a prerequisite for participation in the ISO Regulation market.

Through the GCP, the ISO is committed to achievement of these goals and to publishing all relevant standards, procedures and technical guidelines to the restructured marketplace.