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Service Bulletin SB0069

Date: September 2004

From: Capstone Technical Support

Subject: Model C60 Software Version 4.23 Release Notes

Affected

All Capstone Model C60 MicroTurbine systems and Model C60 Integrated CHP Systems, as follows:

- MicroTurbines with v4.22 software may be upgraded to v4.23 during a site visit or through remote dial-up using the CRMS.
- MicroTurbines with v4.21 software experiencing 4011 Frame EEPROM Write warnings may be upgraded to v4.23 during a site visit or through remote dial-up using the CRMS.
- MicroTurbines with v3.91 software but WITHOUT common exhaust ducting may be upgraded to v4.23 during a site visit or through remote dial-up using the CRMS – upgrading is recommended.
- MicroTurbines with v3.91 software and WITH common exhaust ducting MUST be upgraded to v4.23 software.
- MicroTurbines with v3.93, v3.94, and v3.95 software deviations MUST be upgraded to v4.23 software.
- ICHP systems with v4.02 or v4.10 software may be upgraded to v4.23 during a site visit or through remote dial-up using the CRMS – upgrading is recommended.
- ICHP systems with v4.00, v4.03 and v4.04 software deviations MUST be upgraded to v4.23 software.

Summary

Version 4.23 software replaces v4.22, and incorporates all related changes from this version (refer to Service Bulletin SB0064 for details on the v4.22 software as required). Version 4.23 is released to support all Model C60 MicroTurbines and ICHP systems. Improvements in Version 4.23 software are as follows:

Auto Restart Issues

1. Updated the Frame PM so that the Grid Connect Restart Delay factory default setting is 5 Minutes to comply with UL 1741 Requirements.
2. Fixed a bug that forced the user to reboot to restart the engine after a flameout (6011) or fail to light fault (6006).
3. Updated Auto Restart logic to allow the user to disable the Auto Restart on a MultiPac-enabled system.

Engine Controls

1. Improved TET error during offload and SPV undershoot and hence offload flameouts.
2. Injector switching scheme was changed for Injectors 2 and 3 to help flameout during offload as a part of the improvement in Step #1.

Maximum Engine Purge Time

The Engine air purge time is now adjustable from 2 to 180 seconds, with a factory default setting of 2 seconds. Contact Capstone Technical Support if additional flue purge times are required to meet NFPA 37 Installation Requirements.

Restoration of Settings

NOTE	If you are upgrading from v4.22 to v4.23 software, then disregard the instructions in this section. If you are upgrading from v4.21 and earlier software, then proceed with the following instructions.

Version 4.23 updates certain default operational settings (PM data values), upon completion of a software upgrade. In the process, it restores other user-customizable settings to their default values. All the ICHP-related settings and the Fault Input polarity settings must be restored to their customized values upon completion of a software upgrade from Version 4.10, and from System Configurations in the family of Versions 3.9x and 4.0x. This feature provides for system stability following a software upgrade to Version 4.23 software.

All the following ICHP-related settings, along with the Fault Input polarity settings, must explicitly be restored to their customized values on a site-by-site basis.

NOTE	Record these settings from the display panel or CRMS, PRIOR to upgrading the software.

The ICHP-related settings that are directly affected include the following:

- CHP Water Temperature Set Point
- CHP Overtemperature Limits
- CHP Configuration
- CHP Data Source (Feedback and Set Point)
- CHP Water Temperature Feedback
- CHP Temperature Control Configuration
- CHP Mode
- CHP Output Relay Setting
- CHP Water Flow Rate
- Electrical Power Demand Set Point
- Analog Inputs

There will be explicit indications that the above-mentioned feature has performed as expected:

1. An indication that the ICHP-related settings require an explicit restoration to their customized values will be in the form of a logged fault, the 17001 CHP CONFIG ERR

fault. This indication is only visible on and specific to those C60 MicroTurbines that are equipped with a Heat Recovery Module (HRM).

2. An indication that both of the Fault Input polarity settings require an explicit restoration to their customized values, will be in the form of posted warning(s) as follows:

   7004 IN FLT 1 LVL 2 or 7007 IN FLT 2 LVL 2

   This indication is visible on both Non-ICHP and ICHP C60 MicroTurbines.

Responsibility

It is the responsibility of Capstone to provide description of software changes contained within this document to Authorized Service Providers.

It is the responsibility of Capstone to make available the Version 4.23 software to Authorized Service Providers for the resolution of issues related to fielded MicroTurbine systems.

It is the responsibility of the Authorized Service Provider to obtain the Version 4.23 software zip files from the Members Only section of the Capstone website.

It is the responsibility of the Authorized Service Provider to diagnose related field issues, and upload this software to resolve the problem. After completion of software uploading, it is the responsibility of the Authorized Service Provider to provide Capstone with a Field Service Report.

Capstone shall reimburse the Authorized Service Provider for up to half-an-hour for performing the software upload on systems under warranty and on the following systems:

- Model C60 MicroTurbine systems with v3.91 software and WITH common exhaust ducting - Must be upgraded.
- Model C60 MicroTurbines with v3.93, v3.94, and v3.95 software deviations - Must be upgraded.
- ICHP systems with v4.00, v4.03 and v4.04 software deviations - Must be upgraded.

Capstone Technical Support

If you have additional questions, please contact:

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