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SLC Control Program

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Operator-entry of Fast Feedback Actuator Limits

August 3,1995

Author: *Phyllis Grossberg* **Subsystem:** *Fast Feedback* **User Impact:** *Small*
Panel Changes: *One* **Documents:** *No* **Help File:** *Yes*

During the last run, there were instances of bad-actuator-status error messages for some of the YAG loops and for FB69 IPCOLLID. This means that the actual hardware limits for some magnets (determined by the micro when a loop is turned on) were more constricting than the limits shown on the Fast Feedback Actuator panel (set by the operator or by a read of the magnet database). This means that the DAC cannot get to the requested setting. To eliminate this problem caused by database inconsistencies or PAU quirks, a minor change has been made to the procedure for entering feedback magnet limits on the Actuator panel.

Two new HSTA bits (OPLIMT) for feedback actuator elements have been defined to indicate that the operator has set magnet limits which should, if possible, be used by the micro instead of those limits actually imposed by the hardware. This is typically only done for cases like the polarized gun, where the responsible physicist has decided to limit the range for which the feedback will set the actuators. For most typical feedback loops, the range of the actuators should only be limited by the hardware. The OPLIMT bits are set whenever lower and/or upper actuator limits are entered which are more constricting than the currently known hardware limits. The OPLIMT bits are cleared whenever lower and/or upper limits are entered which are less constricting than the currently known hardware limits, or whenever a new button on the Actuator panel is pressed ("Turn Off OPlimt").

Each time the loop is turned on, actual hardware limits are determined. If the OPLIMT HSTA bits are not set, these hardware limits are used by the micro and they are also written to the database for display on the limit buttons on the Actuator panel.

If the OPLIMT bits are set, the hardware limits determined when the loop is turned on are compared with the operator-entered limits displayed on the limit buttons. The more constricting of these two are used by the micro, but the operator-entered limits remain in the database for display on the limit buttons. Should there be a conflict between limits used by the micro and those shown on the limit buttons, a warning message is displayed indicating that the operator-entered limits are outside the current hardware limits.

Configuration Facility Enhancements

August 10, 1995

Author: *Daniel Van Olst* **Subsystem:** *Configurations* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *Yes*

Several enhancements have been added to the configuration facility.

These features are only supported for non-BPM configurations.

For details on modifying a configuration template to use any of these enhancements, please contact Daniel Van Olst (x3475).

- "No-Load-or-Activate" Devices

The configuration facility now supports "no-load-or-activate" devices (i.e., devices that are only saved and displayed).

These devices are indicated with an asterisk ('*') at the end of the line on which the device is displayed. In addition, "no-load-or-activate" devices have their file value, primary, micro, etc. displayed in cyan (rather than white).

It is expected that "no-load-or-activate" devices will most often be added to configuration regions so that users may more easily choose the correct config for loading.

Several "no-load-or-activate" devices have been added to the feedback setpoint configuration region on a trial basis.

- "Saveable" comments

Comments may now be added to configuration template files that will propagate to the save file automatically when the configuration is saved.

- CON-DES-ACT Toggle Suppression

Devices may now be specified in configuration template files that will ignore the CON-DES-ACT toggle setting on saves.

These devices will still act properly on loading and activation.

(The trombone (STEP EP02 700) is the primary reason for this enhancement; its configuration template specification, for various technical reasons, now specifies that VACT should always be used for saves. VCON and VDES will still be used for loading and activation).

- Database Element Specification

Configurations now support operations on specific elements within a particular database primary-micro-unit-secondary.

History Buffers

June 13, 1995

Author: *Ralph Johnson* **Subsystem:** *All* **User Impact:** *None*
Panel Changes: *None* **Documents:** *No* **Help File:** *No*

The name of the history buffer process which takes data on the SLC control system has been changed from HSTBMAIN to HSTBSLC. The new name appears in the system cud display and is to be used in warmslcx commands. The name was changed so it can be easily differentiated from a second process which will be taking Epics data and is named HSTBEPICS.

LGPS ADC-SELFTEST BY AREA

June 7, 1995

Author: *Karen Goldsmith* **Subsystem:** *Magnets (LGPS only)* **User Impact:** *None*
Panel Changes: *Few* **Documents:** *No* **Help File:** *Yes*

The [LGPS SLFTST PANEL] button has been added to the ALL MAGNETS PANEL, this takes you to a new panel which provides a series of button macros. These button macros group LGPS units into accelerator areas such as the Injector, Linac, and North and South Damping rings. The selection of one of these buttons will perform an ADC-Selftest procedure for each LGPS unit which is turned off and considered in service (ie: dc is off, and hsta not dead) in that area.

This panel has been provided as a maintenance procedure which operators may wish to use during a ROD day or down time to locate and resolve any potential problems with LGPS units.

New MPS PICs as BPM-like Devices

July 20, 1995

Author: *R. Chestnut, T. Gromme* **Subsystem:** *BPM Acquisition* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *None*

The new PIC modules provide a CAMAC-readable fast integration capability. These data are now available for BPM Buffered Data Acquisition via dummy GADC units. These special GADC units mirror the fast integration PIC channels and are designated as such by a HSTA bit in the GADC definition. Each GADC uses only five channels, corresponding to the five channels of PIC input. Each ARRY primary includes one or two "mirror" GADC units, using five or ten channels each.

The GADC unit numbers are the same as the PICP unit numbers. Devices currently available are:

PICP,AB01 205, 209, 213, 215, 217, 219, 221, 223

PICP,CA01 1517

PICP,CA11 117

PICP,MC00 414,416,421

Per Workstation SCP Limit Coming

July 19, 1995

Author: *R. Chestnut, R. Johnson* **Subsystem:** *SCP* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *None*

One of the most severe limitations on the control system is the limited number of SCP slots available on MCC. The allowable number has been increased twice and will soon increase again. This problem is now exacerbated by having a new control room (NLCTA) and more people working with the control system (PEP-II).

18 months ago a SCP suicide clock was instituted, which reclaims unused SCP slots from users who forget to terminate them and leave them inactive for an hour. This does not, of course, affect control room SCPs.

Starting this week, each user workstation will be limited to one SCP on MCC. Each control room workstation will be limited to two SCPs. Ralph Johnson has made the code modifications, but I agreed to be the contact point for complaints.