CyFlex™

Site Review

New Control Programs

CyFlex Implementation of Controls

- **General purpose _user_ controls**
  - Air and fuel flow systems
  - Cooling systems
  - Single loop or cascaded controls where one loop outputs the setpoint for another loop.

- **Engine control systems**
  - Speed control
  - Torque control
  - Manipulation of the engine throttle (fueling)
  - One or two devices to absorb load

User Control Specification Files

- Keyword format for user control specification files
  - One or more loops may be specified per file
  - Each loop has a name which can be different from the feedback variable
  - Launch with:

    user_ctrl_specs [filename] [loopname]
    - Multiple instances of the user_ctrl_task will be launched by user_ctrl_specs
    - Reprocessing the file does not slay existing user control programs
    - If a loop is commented out in the file, use the command "remove_pnp loop" to clean things up
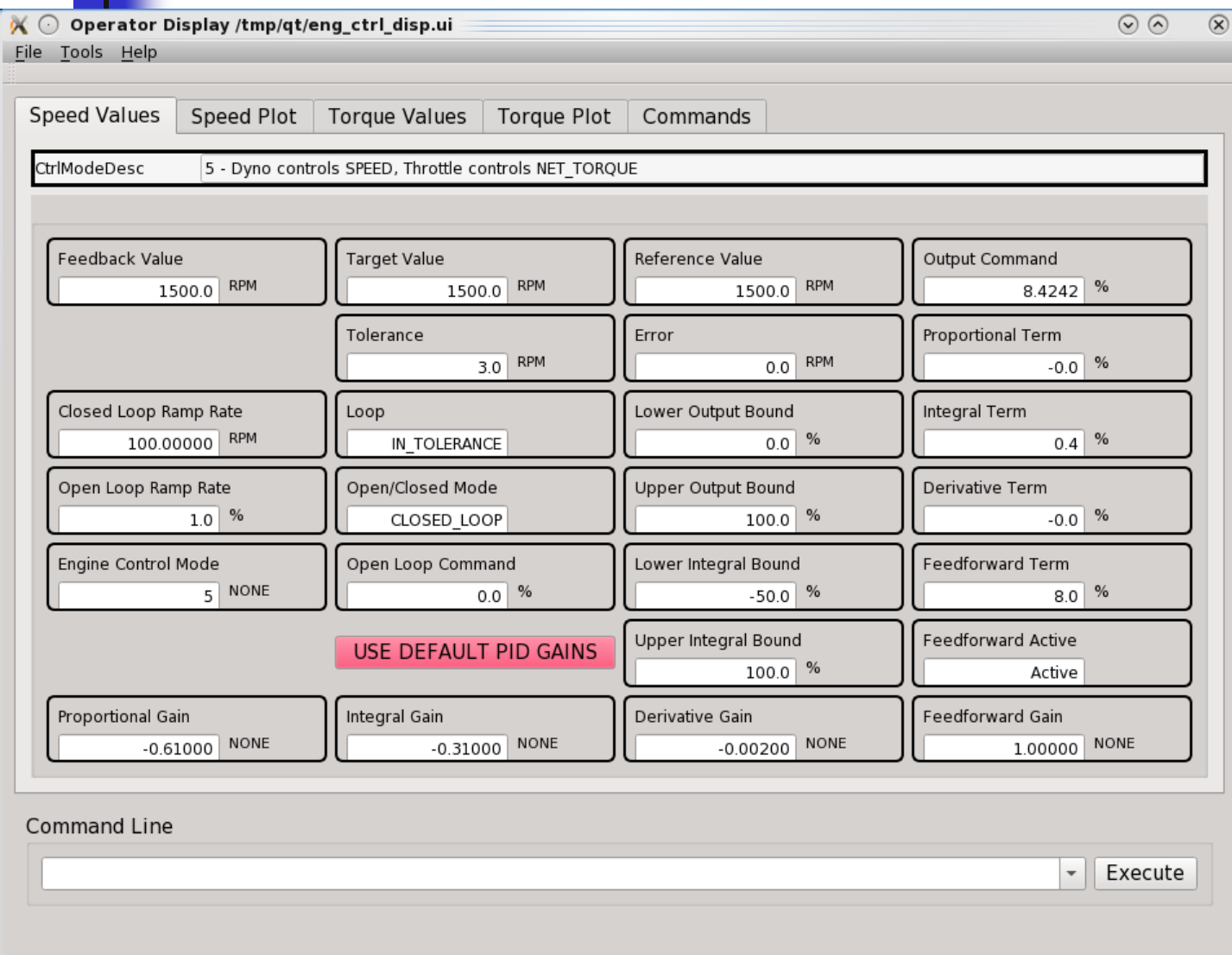
Engine Control Specification Files

- ## Separate specification file for engine controls

  - Keyword format similar to user controls

  - Specify dyno (alternator) and throttle control loops

  - Launch with:

    eng_ctrl_specs [filename]

  - More options are available over the old control task

Control Display Variables

- More CyFlex variables are created for both engine and user controls

- Most inputs can be values, CyFlex labels, or computed expressions

- Many are live and can be changed by the user by setting a value (svar), with a test procedure, or with the display GUI
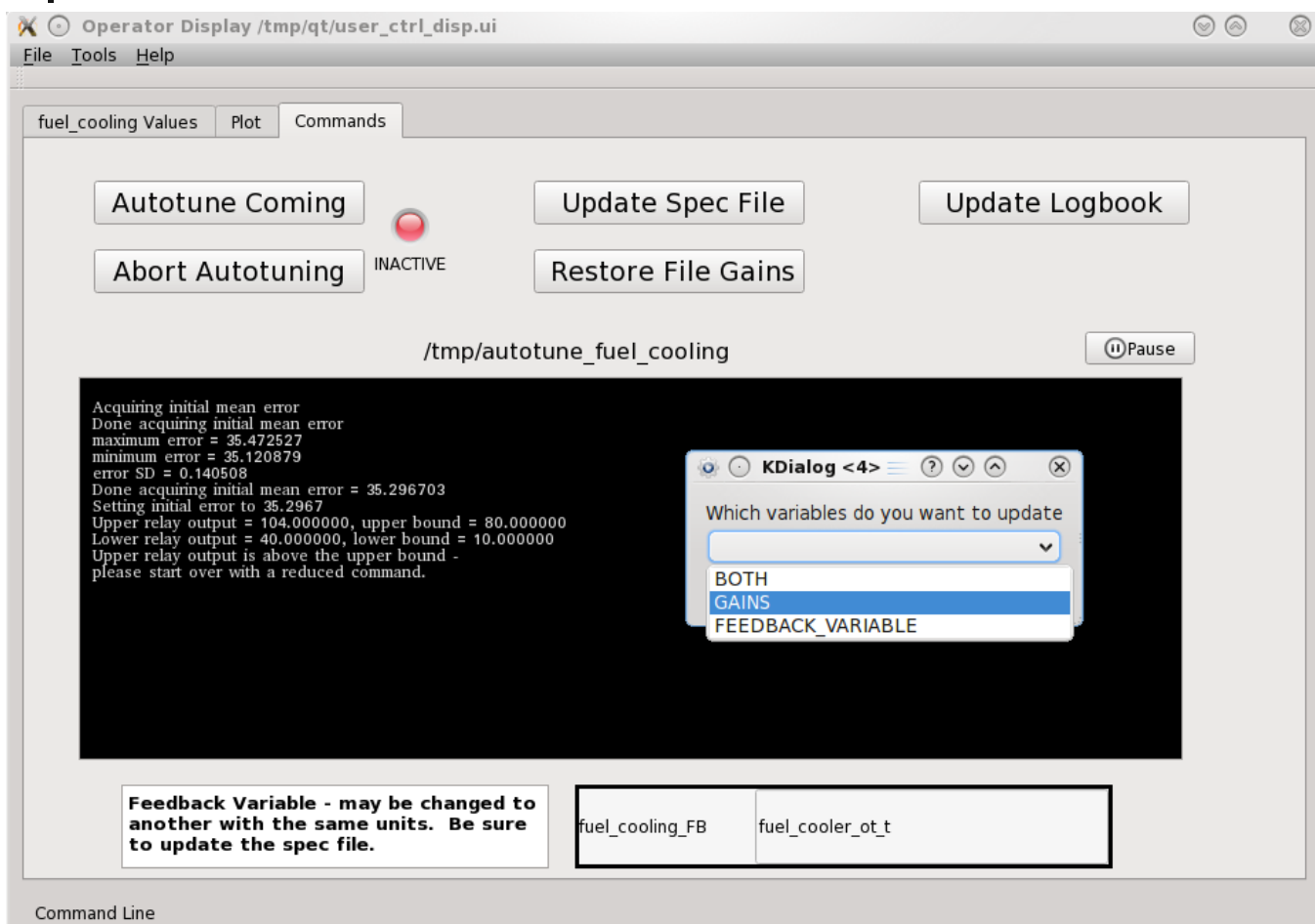
Engine Control Display GUI

- Launch with ctrl_disp for engine loops

Control Display GUI
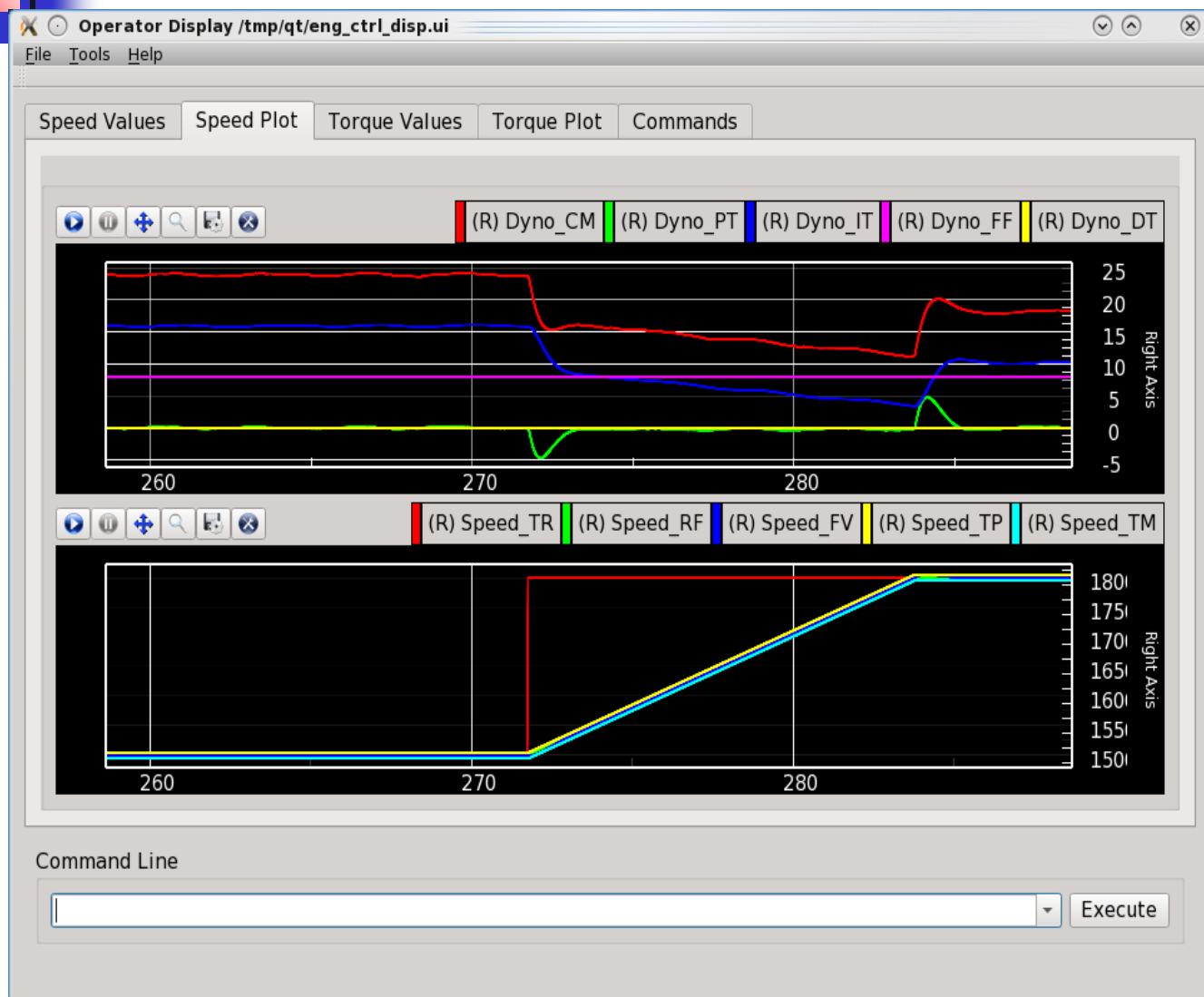
- Launch with "ctrl_disp"

User Control Display GUI

- Launch with "ctrl_disp loop_name"

User Control Display GUI
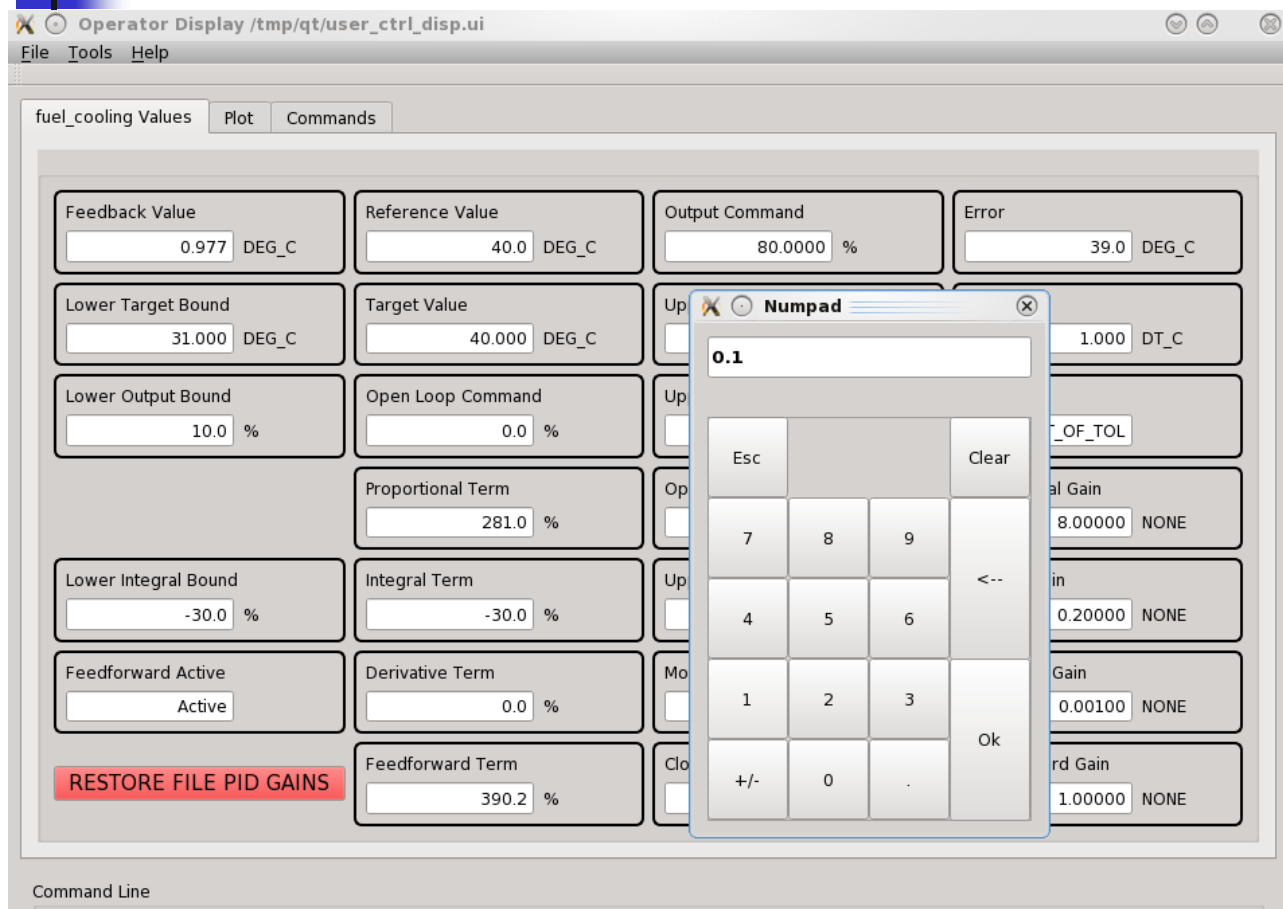
- **Change values with the GUI**

New CyFlex Control Programs

- ## Alpha testing was done by Dan Redmon
  - ### All issues were addressed and requests for change were completed
- ## Alpha testing was also done in TRP test cells
- ## Beta testing was done by Scott McInerny on the CTC test bench
- ## Would like to work closely with a site when 6.3.X is installed