

Data Acquisition

@FUEL_READING_SYNC

This function provides the ability to synchronize several processes that are required to generate a PAM datapoint. The keyword allows the construction of a chain of events that provide the synchronization.

Keyword:

@FUEL_READING_SYNC

Usage:

This keyword allows multiple processes to be synchronized with fuel readings when multiple fuel readings have been requested in a mode. The synchronization is handled externally from gp_test. The specification consists of a list of output events that will be emitted in the sequence that they are listed. Each output event is emitted when all of the input events listed on its line and all preceding lines have been received. This condition is overridden by the specified timeout (0 timeout indicates no timer). The timeout for a particular line doesn't start until the output event on the previous line has been emitted. All input events are attached at the time a fuel reading is requested, so if an input event of a later specification line is received before those of a preceding line, it is still considered to be satisfied, but the corresponding output event would not be emitted until all those preceding it have been emitted.

Note also, that the maximum specified delay for this entire process is the value of the variable "FR_wrte_delay". If that time expires after the issuance "fr_ready", the datapoint will be written even if "fr_write_ok" is not received. For a better understanding of the variables and events associated with fuel readings, refer to ASSET Gazette.6b.97-"Variables, Events, and Processes associated with fuel readings"

Data Fields:

timeout	maximum wait time for the specified input events - the output event is issued if this timeout expires before all of the input events are received.
output_event	An event that will be set when all of the specified input events are received or the timeout expires
input_events	Up to 4 input events which must all be received before this sequence in the chain is satisfied.

Example Specification:

```
@FUEL_READING_SYNC
#when all the input events have arrived, the output event is emitted
#and we go to the next spec. Keep doing that until the list is
#complete

#event_sync (event sequences required to complete a datapoint)
#max_timeout      output_event      input_event_list (up to 4)
  0[sec]           TS_StrtAcq         fr_ave_strt
  0[sec]           TS_OpCondCmp       HS_AcqInPrg fr_ready HS_AcqCmp
  0[sec]           fr_write_ok        HS_AnlsCmp
```

Notes:

"Fr_write_ok" should always be the last output event.

The "FR_write_delay" is automatically set to 4 minutes when @FUEL_READING_SYNC is used.

@FUEL_READING_SYNC can only be used in modes where @FUEL_READING or @FUEL_READING_STATS are also used.