

SPS Software Test Report

PFS-SPS-PRU300006-01

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October 17, 2019

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1 Version and Changelog

The version of this document is **0.2** .

| Version | Date | Author | Description |
|---------|------------|------------|----------------|
| 0.2 | 2019-10-16 | A Le Fur | Second version |
| 0.1 | 2019-07-10 | H Siddiqui | First version |

2 Introduction

This document presents the overall findings of the software test campaign for the SPS SM1 module, that took place during September and October 2019 at LAM.

3 Executive Summary

Table 3 summarizes the results of the individual tests.

| Test Case | Pass/FAIL | Comments |
|-----------------------|-----------|---|
| SPS-ALERT-TRIGGER-010 | Pass | See report section 5.1 |
| SPS-ALERT-INVALID-020 | Pass | See report section 5.2 |
| SPS-ALERT-TIMEOUT-030 | Pass | See report section 5.3 |
| SPS-XCU-PCM-040 | Pass | See report section 5.4 |
| SPS-XCU-GATEVALVE-050 | Pass | See report section 5.5 |
| SPS-XCU-TURBO-060 | Pass | See report section 5.6 |
| SPS-XCU-IONPUMP-070 | Pass | See report section 5.7 |
| SPS-XCU-GAUGE-080 | Pass | See report section 5.8 |
| SPS-XCU-COOLER-090 | Pass | See report section 5.9 |
| SPS-XCU-TEMPS-100 | Pass | See report section 5.10 |
| SPS-XCU-HEATERS-110 | Pass | See report section 5.11 |
| SPS-LOG-120 | NA | See report section 5.12 |
| SPS-IO-130 | NA | See report section 5.13 |
| SPS-BIAS-140 | Pass | See report section 5.14 |
| SPS-DARK-150 | Pass | See report section 5.15 |
| SPS-SHUTTER-160 | Pass | See report section 5.16 |
| SPS-SLIT-170 | Pass | See report section 5.17 |
| SPS-REXM-180 | Pass | See report section 5.18 |
| SPS-BIA-190 | FAILED | See report section 5.19 |
| SPS-BIA-190 | FAILED | See report section 5.20 |
| SPS-IIS-210 | Pass | See report section 5.21 |

3.1 Discussion

SPS-BIA-190 and SPS-BIA-190 tests have failed, but do not affect the overall test campaign because it was expected to fail, indeed the hardware was not actually connected.

4 Conclusions

The test campaign are declared overall as **successful**.

5 Additional notes

5.1 SPS-ALERT-TRIGGER-010

step 1 : keywords are generated within ranges, no alerts are raised yet

```
oneCmd.py 2019-10-10T11:40:40.635 sent alerts connect controller=tests
oneCmd.py 2019-10-10T11:40:40.710 alerts : controllers="tests"

testsActor-log 2019-10-10 11:40:53.008Z cmds 20 CommandLink.py:121 > 0 0 i keytest1=163.2,165.35
testsActor-log 2019-10-10 11:40:53.009Z cmds 20 CommandLink.py:121 > 0 0 i keytest2=1.3e-7
testsActor-log 2019-10-10 11:40:53.009Z cmds 20 CommandLink.py:121 > 0 0 i keytest3=Closed,OK

STS-Server-log 2019-10-10 13:40:53,082 [INFO] Datum(id=2010, format=4, timestamp=1570707653, value=(163.2, 'OK'))
STS-Server-log 2019-10-10 13:40:53,133 [INFO] Datum(id=2011, format=4, timestamp=1570707653, value=(165.35, 'OK'))
STS-Server-log 2019-10-10 13:40:53,180 [INFO] Datum(id=2012, format=4, timestamp=1570707653, value=(1.3e-07, 'OK'))
STS-Server-log 2019-10-10 13:40:53,247 [INFO] Datum(id=2013, format=4, timestamp=1570707653, value=(nan, 'OK'))
STS-Server-log 2019-10-10 13:40:53,335 [INFO] Datum(id=2014, format=4, timestamp=1570707653, value=(nan, 'OK'))
```

step 2 : send tests alerts trigger

```
oneCmd.py 2019-10-10T11:40:57.503 sent tests alerts trigger
oneCmd.py 2019-10-10T11:40:57.510 tests : test=alerts-trigger,OK

testsActor-log 2019-10-10T11:40:57.507 tests i keytest1=210.89,180.65
testsActor-log 2019-10-10T11:40:57.509 tests i keytest2="10.2"
testsActor-log 2019-10-10T11:40:57.510 tests i keytest3=Open,"Status is not OK !! "

STS-Server-log 2019-10-10 13:40:57,630 [INFO] Datum(id=2010, format=4, timestamp=1570707657, value=(210.89, 'tests keytest1[0] : 210.89K out of range'))
STS-Server-log 2019-10-10 13:40:57,689 [INFO] Datum(id=2011, format=4, timestamp=1570707657, value=(180.65, 'tests keytest1[i] : 180.65K out of range'))
STS-Server-log 2019-10-10 13:40:57,737 [INFO] Datum(id=2012, format=4, timestamp=1570707657, value=(10.2, 'keytest3 is too high!!: 10.2'))
STS-Server-log 2019-10-10 13:40:57,788 [INFO] Datum(id=2013, format=4, timestamp=1570707657, value=(nan, 'OK'))
STS-Server-log 2019-10-10 13:40:57,838 [INFO] Datum(id=2014, format=4, timestamp=1570707657, value=(nan, 'test regexp : Status is not OK !! !'))
```

As a conclusion, alerts are correctly generated

5.2 SPS-ALERT-INVALID-020

step 1 :keywords are generated within ranges, no alerts are raised yet

```
testsActor-log 2019-10-10 11:41:08.010Z cmds 20 CommandLink.py:121 > 0 0 i keytest1=163.2,165.35
testsActor-log 2019-10-10 11:41:08.010Z cmds 20 CommandLink.py:121 > 0 0 i keytest2=1.3e-7
testsActor-log 2019-10-10 11:41:08.010Z cmds 20 CommandLink.py:121 > 0 0 i keytest3=Closed,OK

STS-Server-log 2019-10-10 13:41:08,080 [INFO] Datum(id=2010, format=4, timestamp=1570707668, value=(163.2, 'OK'))
STS-Server-log 2019-10-10 13:41:08,130 [INFO] Datum(id=2011, format=4, timestamp=1570707668, value=(165.35, 'OK'))
STS-Server-log 2019-10-10 13:41:08,181 [INFO] Datum(id=2012, format=4, timestamp=1570707668, value=(1.3e-07, 'OK'))
STS-Server-log 2019-10-10 13:41:08,231 [INFO] Datum(id=2013, format=4, timestamp=1570707668, value=(nan, 'OK'))
STS-Server-log 2019-10-10 13:41:08,300 [INFO] Datum(id=2014, format=4, timestamp=1570707668, value=(nan, 'OK'))
```

step 2 : generate invalid values

```

oneCmd.py 2019-10-10T11:41:14.332 sent tests alerts invalid
oneCmd.py 2019-10-10T11:41:14.338 tests : test=alerts-invalid,OK

testsActor-log 2019-10-10T11:41:14.335 tests i keytest1=nan,nan
testsActor-log 2019-10-10T11:41:14.335 tests i keytest2="nan"
testsActor-log 2019-10-10T11:41:14.338 tests i keytest3=Closed,OK

STS-Server-log 2019-10-10 13:41:14,412 [INFO] Datum(id=2010, format=4, timestamp=1570707674, value=(nan, 'tests keytest1[0] : is unknown'))
STS-Server-log 2019-10-10 13:41:14,497 [INFO] Datum(id=2011, format=4, timestamp=1570707674, value=(nan, 'tests keytest1[1] : is unknown'))
STS-Server-log 2019-10-10 13:41:14,538 [INFO] Datum(id=2012, format=4, timestamp=1570707674, value=(nan, 'tests keytest2[0] : is unknown'))

```

As a conclusion, alerts are correctly generated

5.3 SPS-ALERT-TIMEOUT-030

Keyword generation is stopped

```

oneCmd.py 2019-10-10T11:41:31.149 sent tests alerts timeout
oneCmd.py 2019-10-10T11:41:31.152 tests i text="stopping monitoring"
oneCmd.py 2019-10-10T11:41:31.153 tests : test=alerts-timeout,OK

STS-Server-log 2019-10-10 13:44:40,759 [INFO] Datum(id=2010, format=4, timestamp=1570707880, value=(163.2, 'tests keytest1[0] NO DATA since 197 s'))
STS-Server-log 2019-10-10 13:44:40,806 [INFO] Datum(id=2011, format=4, timestamp=1570707880, value=(165.35, 'tests keytest1[i] NO DATA since 197 s'))
STS-Server-log 2019-10-10 13:44:40,852 [INFO] Datum(id=2012, format=4, timestamp=1570707880, value=(1.3e-07, 'tests keytest2[0] NO DATA since 197 s'))
STS-Server-log 2019-10-10 13:44:40,898 [INFO] Datum(id=2013, format=4, timestamp=1570707880, value=(nan, 'tests keytest3[0] NO DATA since 197 s'))
STS-Server-log 2019-10-10 13:44:40,940 [INFO] Datum(id=2014, format=4, timestamp=1570707880, value=(nan, 'tests keytest3[1] NO DATA since 197 s'))

```

After 180 sec NO DATA alerts are correctly raised

5.4 SPS-XCU-PCM-040

test=power-b1,OK

```

testsActor-log 2019-10-09T18:10:28.363 sent tests power cam=b1
testsActor-log 2019-10-09T18:10:28.367 tests i text="starting b1 power test"
testsActor-log 2019-10-09T18:10:28.368 tests i text="checking pcm tcp server"
testsActor-log 2019-10-09T18:10:28.869 tests i text="power status OK, retrieving data ..."
testsActor-log 2019-10-09T18:10:39.608 tests i bl__24vupsvolts=27.6833,0.0288675
testsActor-log 2019-10-09T18:10:39.609 tests i bl__24vupscurrent=1.26667,0.0057735
testsActor-log 2019-10-09T18:10:39.610 tests i bl__24vupspower=35.0657,0.196299
testsActor-log 2019-10-09T18:10:39.611 tests i bl__24vauxvolts=24.55,0
testsActor-log 2019-10-09T18:10:39.612 tests i bl__24vauxcurrent=0.0933333,0.0208167
testsActor-log 2019-10-09T18:10:39.614 tests i bl__24vauxpower=2.29133,0.510569
testsActor-log 2019-10-09T18:10:39.615 tests i bl__motorsvolts=0.166667,0.0288675
testsActor-log 2019-10-09T18:10:39.616 tests i bl__motorscurrent=0,0
testsActor-log 2019-10-09T18:10:39.617 tests i bl__motorspower=0,0
testsActor-log 2019-10-09T18:10:39.619 tests i bl__gaugevolts=27.65,4.35117e-15
testsActor-log 2019-10-09T18:10:39.620 tests i bl__gaugecurrent=0.09,1.69967e-17
testsActor-log 2019-10-09T18:10:39.621 tests i bl__gaugepower=2.49,0
testsActor-log 2019-10-09T18:10:39.622 tests i bl__coolervolts=27.7,0
testsActor-log 2019-10-09T18:10:39.623 tests i bl__coolercurrent=0.05,8.49837e-18
testsActor-log 2019-10-09T18:10:39.625 tests i bl__coolerpower=1.39,0
testsActor-log 2019-10-09T18:10:39.626 tests i bl__tempvolts=27.75,0
testsActor-log 2019-10-09T18:10:39.627 tests i bl__tempcurrent=0.156667,0.0057735
testsActor-log 2019-10-09T18:10:39.628 tests i bl__tempspower=4.34667,0.161658
testsActor-log 2019-10-09T18:10:39.629 tests i bl__beevolts=27.6167,0.0288675
testsActor-log 2019-10-09T18:10:39.631 tests i bl__beecurrent=0.61,0
testsActor-log 2019-10-09T18:10:39.632 tests i bl__beepower=16.85,0.0173205
testsActor-log 2019-10-09T18:10:39.633 tests i bl__feevolts=27.7167,0.0288675
testsActor-log 2019-10-09T18:10:39.634 tests i bl__feecurrent=0.27,0
testsActor-log 2019-10-09T18:10:39.636 tests i bl__feepower=7.48333,0.0057735
testsActor-log 2019-10-09T18:10:39.637 tests i bl__interlockvolts=27.6833,0.0288675
testsActor-log 2019-10-09T18:10:39.638 tests i bl__interlockcurrent=0,0
testsActor-log 2019-10-09T18:10:39.639 tests i bl__interlockpower=0,0
testsActor-log 2019-10-09T18:10:39.641 tests i bl__heatersvolts=27.75,0
testsActor-log 2019-10-09T18:10:39.642 tests i bl__heaterscurrent=0,0
testsActor-log 2019-10-09T18:10:39.643 tests i bl__heaterspower=0,0
testsActor-log 2019-10-09T18:10:39.648 tests : test=power-b1,OK

```

test=power-r1,OK

```

testsActor-log 2019-10-09T18:11:06.801 sent tests power cam=r1
testsActor-log 2019-10-09T18:11:06.805 tests i text="starting r1 power test"
testsActor-log 2019-10-09T18:11:06.806 tests i text="checking pcm tcp server"
testsActor-log 2019-10-09T18:11:07.301 tests i text="power status OK, retrieving data ..."
testsActor-log 2019-10-09T18:11:17.686 tests i r1__24vupsvolts=27.7,0
testsActor-log 2019-10-09T18:11:17.686 tests i r1__24vupscurrent=1.29,0
testsActor-log 2019-10-09T18:11:17.687 tests i r1__24vupspower=35.733,0
testsActor-log 2019-10-09T18:11:17.688 tests i r1__24vauxvolts=24.45,0
testsActor-log 2019-10-09T18:11:17.689 tests i r1__24vauxcurrent=0.273333,0.011547
testsActor-log 2019-10-09T18:11:17.689 tests i r1__24vauxpower=6.683,0.282324
testsActor-log 2019-10-09T18:11:17.690 tests i r1__motorsvolts=24.45,0
testsActor-log 2019-10-09T18:11:17.693 tests i r1__motorscurrent=0.16,0
testsActor-log 2019-10-09T18:11:17.693 tests i r1__motorspower=3.91,0
testsActor-log 2019-10-09T18:11:17.694 tests i r1__gaugevolts=27.6833,0.0288675
testsActor-log 2019-10-09T18:11:17.695 tests i r1__gaugecurrent=0.08,0
testsActor-log 2019-10-09T18:11:17.697 tests i r1__gaugepower=2.21667,0.0057735
testsActor-log 2019-10-09T18:11:17.698 tests i r1__coolervolts=27.7167,0.0288675
testsActor-log 2019-10-09T18:11:17.699 tests i r1__coolercurrent=0.0433333,0.0057735
testsActor-log 2019-10-09T18:11:17.700 tests i r1__coolerpower=1.20333,0.161658
testsActor-log 2019-10-09T18:11:17.702 tests i r1__tempsvolts=27.7,0
testsActor-log 2019-10-09T18:11:17.703 tests i r1__tempscurrent=0.143333,0.0057735
testsActor-log 2019-10-09T18:11:17.704 tests i r1__tempspower=3.97,0.155885
testsActor-log 2019-10-09T18:11:17.705 tests i r1__beevolts=27.65,4.35117e-15
testsActor-log 2019-10-09T18:11:17.707 tests i r1__beecurrent=0.62,0
testsActor-log 2019-10-09T18:11:17.708 tests i r1__beepower=17.14,0
testsActor-log 2019-10-09T18:11:17.709 tests i r1__feevolts=27.7,0
testsActor-log 2019-10-09T18:11:17.710 tests i r1__feecurrent=0.26,0
testsActor-log 2019-10-09T18:11:17.713 tests i r1__feepower=7.2,0
testsActor-log 2019-10-09T18:11:17.713 tests i r1__interlockvolts=27.7833,0.0288675
testsActor-log 2019-10-09T18:11:17.714 tests i r1__interlockcurrent=0,0
testsActor-log 2019-10-09T18:11:17.715 tests i r1__interlockpower=0,0
testsActor-log 2019-10-09T18:11:17.717 tests i r1__heatersvolts=27.7333,0.0288675
testsActor-log 2019-10-09T18:11:17.718 tests i r1__heaterscurrent=0,0
testsActor-log 2019-10-09T18:11:17.719 tests i r1__heaterspower=0,0
testsActor-log 2019-10-09T18:11:18.149 tests : test=power-r1,OK

```

5.5 SPS-XCU-GATEVALVE-050

test=gatevalve-b1,OK

```

testsActor-log 2019-10-09T18:10:41.486 sent tests gatevalve cam=b1
testsActor-log 2019-10-09T18:10:41.491 tests i text="starting b1 gatevalve test"
testsActor-log 2019-10-09T18:10:41.897 tests i b1__gatevalve=Closed,Closed
testsActor-log 2019-10-09T18:10:41.897 tests i text="gatevalve status OK, retrieving data ..."
testsActor-log 2019-10-09T18:10:52.726 tests i b1__cryostatpressure=-1.80333,0.011547
testsActor-log 2019-10-09T18:10:52.727 tests i b1__roughingpressure=-1.04,0.052915
testsActor-log 2019-10-09T18:10:52.772 tests : test=gatevalve-b1,OK

```

test=gatevalve-r1,OK

```

testsActor-log 2019-10-09T18:11:20.001 sent tests gatevalve cam=r1
testsActor-log 2019-10-09T18:11:20.006 tests i text="starting r1 gatevalve test"
testsActor-log 2019-10-09T18:11:20.496 tests i r1__gatevalve=Closed,Closed
testsActor-log 2019-10-09T18:11:20.497 tests i text="gatevalve status OK, retrieving data ..."
testsActor-log 2019-10-09T18:11:31.476 tests i r1__cryostatpressure=-1.33333,0.0057735
testsActor-log 2019-10-09T18:11:31.476 tests i r1__roughingpressure=-0.49,0.06
testsActor-log 2019-10-09T18:11:31.524 tests : test=gatevalve-r1,OK

```

5.6 SPS-XCU-TURBO-060

test=turbo-b1,OK

```

testsActor-log 2019-10-09T18:10:54.785 sent tests turbo cam=b1
testsActor-log 2019-10-09T18:10:54.789 tests i text="starting b1 turbo test"
testsActor-log 2019-10-09T18:10:54.791 tests i text="connecting turbo controller"
testsActor-log 2019-10-09T18:10:54.982 tests i text="turbo status OK, retrieving data ..."
testsActor-log 2019-10-09T18:11:06.029 tests i b1__turbospeed=0,0
testsActor-log 2019-10-09T18:11:06.029 tests i b1__turbovolts=24.1,4.35117e-15
testsActor-log 2019-10-09T18:11:06.030 tests i b1__turbocurrent=0,0
testsActor-log 2019-10-09T18:11:06.031 tests i b1__turbo功率=1,0
testsActor-log 2019-10-09T18:11:06.032 tests i b1__turbodytemp=20,0
testsActor-log 2019-10-09T18:11:06.033 tests i b1__turbocontrollertemp=29,0
testsActor-log 2019-10-09T18:11:06.080 tests : test=turbo-b1,OK

```

test=turbo-r1,OK

```

testsActor-log 2019-10-09T18:11:33.313 sent tests turbo cam=r1
testsActor-log 2019-10-09T18:11:33.317 tests i text="starting r1 turbo test"
testsActor-log 2019-10-09T18:11:33.318 tests i text="connecting turbo controller"
testsActor-log 2019-10-09T18:11:33.517 tests i text="turbo status OK, retrieving data ..."
testsActor-log 2019-10-09T18:11:43.223 tests i r1__turbospeed=0,0
testsActor-log 2019-10-09T18:11:43.224 tests i r1__turbovolts=24.1667,0.057735
testsActor-log 2019-10-09T18:11:43.225 tests i r1__turbocurrent=0.2,3.39935e-17
testsActor-log 2019-10-09T18:11:43.225 tests i r1__turbopower=4.2,0
testsActor-log 2019-10-09T18:11:43.228 tests i r1__turbobodytemp=20,0
testsActor-log 2019-10-09T18:11:43.229 tests i r1__turbocontrollertemp=29,0
testsActor-log 2019-10-09T18:11:43.277 tests : test=turbo-r1,OK

```

5.7 SPS-XCU-IONPUMP-070

test=ionpump-b1,OK

```

testsActor-log 2019-10-09T18:11:07.883 sent tests ionpump cam=b1
testsActor-log 2019-10-09T18:11:07.887 tests i text="starting b1 ionpump test"
testsActor-log 2019-10-09T18:11:24.897 tests i text="connecting ionpump controller"
testsActor-log 2019-10-09T18:11:26.820 tests i text="ionpump status OK, retrieving data ..."
testsActor-log 2019-10-09T18:11:37.093 tests i b1__ionpump1volts=7000,0
testsActor-log 2019-10-09T18:11:37.094 tests i b1__ionpump1current=8.6e-05,1.65984e-20
testsActor-log 2019-10-09T18:11:37.094 tests i b1__ionpump1temps=44,0
testsActor-log 2019-10-09T18:11:37.094 tests i b1__ionpump1pressure=1.3e-07,0
testsActor-log 2019-10-09T18:11:37.095 tests i b1__ionpump2volts=6900,0
testsActor-log 2019-10-09T18:11:37.095 tests i b1__ionpump2current=9.3e-05,0
testsActor-log 2019-10-09T18:11:37.095 tests i b1__ionpump2temps=43,0
testsActor-log 2019-10-09T18:11:37.095 tests i b1__ionpump2pressure=1.4e-07,0
testsActor-log 2019-10-09T18:11:44.653 tests : test=ionpump-b1,OK

```

test=ionpump-r1,OK

```

testsActor-log 2019-10-09T18:11:45.141 sent tests ionpump cam=r1
testsActor-log 2019-10-09T18:11:45.145 tests i text="starting r1 ionpump test"
testsActor-log 2019-10-09T18:12:00.205 tests i text="connecting ionpump controller"
testsActor-log 2019-10-09T18:12:03.976 tests i text="ionpump status OK, retrieving data ..."
testsActor-log 2019-10-09T18:12:13.712 tests i r1__ionpump1volts=7000,0
testsActor-log 2019-10-09T18:12:13.713 tests i r1__ionpump1current=0.00016,0
testsActor-log 2019-10-09T18:12:13.714 tests i r1__ionpump1temps=47,0
testsActor-log 2019-10-09T18:12:13.715 tests i r1__ionpump1pressure=2.5e-07,0
testsActor-log 2019-10-09T18:12:13.717 tests i r1__ionpump2volts=7000,0
testsActor-log 2019-10-09T18:12:13.718 tests i r1__ionpump2current=0.00017,0
testsActor-log 2019-10-09T18:12:13.719 tests i r1__ionpump2temps=49,0
testsActor-log 2019-10-09T18:12:13.720 tests i r1__ionpump2pressure=2.7e-07,0
testsActor-log 2019-10-09T18:12:21.280 tests : test=ionpump-r1,OK

```

5.8 SPS-XCU-GAUGE-080

test=gauge-b1,OK

```

testsActor-log 2019-10-09T18:11:46.514 sent tests gauge cam=b1
testsActor-log 2019-10-09T18:11:46.519 tests i text="starting b1 gauge test"
testsActor-log 2019-10-09T18:11:46.519 tests i text="checking pcm tcp server"
testsActor-log 2019-10-09T18:11:48.348 tests i text="gauge status OK, retrieving data ..."
testsActor-log 2019-10-09T18:11:58.204 tests i b1__gauge=2.10873e-07,3.24187e-23
testsActor-log 2019-10-09T18:11:58.253 tests : test=gauge-b1,OK

```

test=gauge-r1,OK

```

testsActor-log 2019-10-09T18:12:23.100 sent tests gauge cam=r1
testsActor-log 2019-10-09T18:12:23.104 tests i text="starting r1 gauge test"
testsActor-log 2019-10-09T18:12:23.105 tests i text="checking pcm tcp server"
testsActor-log 2019-10-09T18:12:23.188 tests i text="gauge status OK, retrieving data ..."
testsActor-log 2019-10-09T18:12:32.609 tests i r1__gauge=2.74604e-07,0
testsActor-log 2019-10-09T18:12:32.657 tests : test=gauge-r1,OK

```

5.9 SPS-XCU-COOLER-090

test=cooler-b1,OK

```

testsActor-log 2019-10-09T18:12:00.229 sent tests cooler cam=b1
testsActor-log 2019-10-09T18:12:00.276 tests i text="starting b1 cooler test"
testsActor-log 2019-10-09T18:12:00.278 tests i text="checking cooler tcp server"
testsActor-log 2019-10-09T18:12:00.278 tests i text="connecting cooler controller"
testsActor-log 2019-10-09T18:12:00.642 tests i text="cooler status OK, retrieving data ..."
testsActor-log 2019-10-09T18:12:11.048 tests i bl__coolerasetpoint=128.15,0
testsActor-log 2019-10-09T18:12:11.049 tests i bl__coolerreject=20.98,0
testsActor-log 2019-10-09T18:12:11.050 tests i bl__coolertip=128.143,0.0057735
testsActor-log 2019-10-09T18:12:11.050 tests i bl__coolerpower=79.8467,0.0351188
testsActor-log 2019-10-09T18:12:11.096 tests : test=cooler-b1,OK

```

test=cooler-r1,OK

```

testsActor-log 2019-10-09T18:12:34.793 sent tests cooler cam=r1
testsActor-log 2019-10-09T18:12:34.798 tests i text="starting r1 cooler test"
testsActor-log 2019-10-09T18:12:34.799 tests i text="checking cooler tcp server"
testsActor-log 2019-10-09T18:12:34.800 tests i text="connecting cooler controller"
testsActor-log 2019-10-09T18:12:35.173 tests i text="cooler status OK, retrieving data ..."
testsActor-log 2019-10-09T18:12:46.910 tests i r1__coolerasetpoint=128.64,0
testsActor-log 2019-10-09T18:12:46.911 tests i r1__coolerreject=20.92,0
testsActor-log 2019-10-09T18:12:46.912 tests i r1__coolertip=128.637,0.0057735
testsActor-log 2019-10-09T18:12:46.913 tests i r1__coolerpower=81.3167,0.0416333
testsActor-log 2019-10-09T18:12:47.434 tests : test=cooler-r1,OK

```

5.10 SPS-XCU-TEMPS-100

test=temps-b1,OK

```

testsActor-log 2019-10-09T18:12:12.905 sent tests temps cam=b1
testsActor-log 2019-10-09T18:12:12.911 tests i text="starting b1 temps test"
testsActor-log 2019-10-09T18:12:12.912 tests i text="checking temps tcp server"
testsActor-log 2019-10-09T18:12:12.912 tests i text="connecting temps controller"
testsActor-log 2019-10-09T18:12:12.977 tests i text="temps status OK, retrieving data ..."
testsActor-log 2019-10-09T18:12:23.948 tests i bl__detectorbox=156.48,0.000450925
testsActor-log 2019-10-09T18:12:23.949 tests i bl__mangin=289.244,0.000404145
testsActor-log 2019-10-09T18:12:23.951 tests i bl__spider=148.233,0.000556776
testsActor-log 2019-10-09T18:12:23.952 tests i bl__thermalspreader=139.286,0.000208167
testsActor-log 2019-10-09T18:12:23.953 tests i bl__frontring=291.228,0.000321455
testsActor-log 2019-10-09T18:12:23.954 tests i bl__detectorstrap1=162.094,0.0006
testsActor-log 2019-10-09T18:12:23.956 tests i bl__detectorstrap2=163.066,0.000680686
testsActor-log 2019-10-09T18:12:24.005 tests : test=temps-b1,OK

```

test=temps-r1,OK

```

testsActor-log 2019-10-09T18:12:49.318 sent tests temps cam=r1
testsActor-log 2019-10-09T18:12:49.321 tests i text="starting r1 temps test"
testsActor-log 2019-10-09T18:12:49.322 tests i text="checking temps tcp server"
testsActor-log 2019-10-09T18:12:49.322 tests i text="connecting temps controller"
testsActor-log 2019-10-09T18:12:49.380 tests i text="temps status OK, retrieving data ..."
testsActor-log 2019-10-09T18:12:58.523 tests i r1__detectorbox=162.883,0.000458258
testsActor-log 2019-10-09T18:12:58.524 tests i r1__mangin=289.434,0.00064291
testsActor-log 2019-10-09T18:12:58.530 tests i r1__spider=157.554,0.000288675
testsActor-log 2019-10-09T18:12:58.532 tests i r1__thermalspreader=141.277,0.000251661
testsActor-log 2019-10-09T18:12:58.533 tests i r1__frontring=291.621,0.00051316
testsActor-log 2019-10-09T18:12:58.535 tests i r1__detectorstrap1=162.193,0.00061101
testsActor-log 2019-10-09T18:12:58.536 tests i r1__detectorstrap2=162.275,0.000556776
testsActor-log 2019-10-09T18:12:58.584 tests : test=temps-r1,OK

```

5.11 SPS-XCU-HEATERS-110

test=temps-b1,OK

```

testsActor-log 2019-10-09T18:12:25.954 sent tests heaters cam=b1
testsActor-log 2019-10-09T18:12:25.960 tests i text="starting b1 heaters test"
testsActor-log 2019-10-09T18:12:25.981 tests i text="heaters status OK, retrieving data ..."
testsActor-log 2019-10-09T18:12:35.369 tests i bl__heatersccdenabled=0,0
testsActor-log 2019-10-09T18:12:35.369 tests i bl__heatersspreaderrenabled=0,0
testsActor-log 2019-10-09T18:12:35.369 tests i bl__heatersccdfraction=0,0
testsActor-log 2019-10-09T18:12:35.370 tests i bl__heatersspreaderfraction=0,0
testsActor-log 2019-10-09T18:12:35.417 tests : test=heaters-b1,OK

```

test=temps-r1,OK

```

testsActor-log 2019-10-09T18:13:00.614 sent tests heaters cam=r1
testsActor-log 2019-10-09T18:13:00.617 tests i text="starting r1 heaters test"
testsActor-log 2019-10-09T18:13:02.189 tests i text="heaters status OK, retrieving data ..."
testsActor-log 2019-10-09T18:13:11.563 tests i r1__heatersccdenabled=0,0
testsActor-log 2019-10-09T18:13:11.564 tests i r1__heatersspreaderrenabled=0,0
testsActor-log 2019-10-09T18:13:11.565 tests i r1__heatersccdfraction=0,0
testsActor-log 2019-10-09T18:13:11.566 tests i r1__heatersspreaderfraction=0,0
testsActor-log 2019-10-09T18:13:11.612 tests : test=heaters-r1,OK

```


5.12 SPS-LOG-120

NOT IMPLEMENTED

5.13 SPS-IO-130

NOT IMPLEMENTED, SPS-BIAS-140 and SPS-DARK-150 partly cover it, because it's creating new file onto /data

5.14 SPS-BIAS-140

test=bias-b1,OK

```
testsActor-log 2019-10-09T18:07:45.669 sent tests bias cam=b1
testsActor-log 2019-10-09T18:07:45.675 tests i text="starting b1 bias test"
testsActor-log 2019-10-09T18:08:39.589 tests i filepath="/data/pfs/pfs/2019-10-09/PFLA02324511.fits"
testsActor-log 2019-10-09T18:08:39.590 tests i simple="True"
testsActor-log 2019-10-09T18:08:39.590 tests i bitpix="16"
testsActor-log 2019-10-09T18:08:39.591 tests i naxis="2"
testsActor-log 2019-10-09T18:08:39.592 tests i naxis1="4416"
testsActor-log 2019-10-09T18:08:39.592 tests i naxis2="4300"
testsActor-log 2019-10-09T18:08:39.592 tests i headvers="1"
testsActor-log 2019-10-09T18:08:39.592 tests i specnum="1"
testsActor-log 2019-10-09T18:08:39.593 tests i dewarnam="blue"
testsActor-log 2019-10-09T18:08:39.593 tests i arm="blue"
testsActor-log 2019-10-09T18:08:39.593 tests i detnum="2"
testsActor-log 2019-10-09T18:08:39.595 tests i imagetyp="bias"
testsActor-log 2019-10-09T18:08:39.595 tests i exptime="0.0"
testsActor-log 2019-10-09T18:08:39.595 tests i darktime="0.0"
testsActor-log 2019-10-09T18:08:39.596 tests i w_pfdsgn="72057594037927936"
testsActor-log 2019-10-09T18:08:39.596 tests i w_visit="23245"
testsActor-log 2019-10-09T18:08:39.596 tests : test=bias-b1,OK
```

test=bias-r1,OK

```
testsActor-log 2019-10-09T18:07:01.449 sent tests bias cam=r1
testsActor-log 2019-10-09T18:07:01.453 tests i text="starting r1 bias test"
testsActor-log 2019-10-09T18:07:54.866 tests i filepath="/data/pfs/pfs/2019-10-09/PFLA02324414.fits"
testsActor-log 2019-10-09T18:07:54.866 tests i simple="True"
testsActor-log 2019-10-09T18:07:54.867 tests i bitpix="16"
testsActor-log 2019-10-09T18:07:54.867 tests i naxis="2"
testsActor-log 2019-10-09T18:07:54.868 tests i naxis1="4416"
testsActor-log 2019-10-09T18:07:54.868 tests i naxis2="4300"
testsActor-log 2019-10-09T18:07:54.870 tests i headvers="1"
testsActor-log 2019-10-09T18:07:54.870 tests i specnum="1"
testsActor-log 2019-10-09T18:07:54.870 tests i dewarnam="red"
testsActor-log 2019-10-09T18:07:54.870 tests i arm="red"
testsActor-log 2019-10-09T18:07:54.871 tests i detnum="2"
testsActor-log 2019-10-09T18:07:54.871 tests i imagetyp="bias"
testsActor-log 2019-10-09T18:07:54.871 tests i exptime="0.0"
testsActor-log 2019-10-09T18:07:54.871 tests i darktime="0.0"
testsActor-log 2019-10-09T18:07:54.871 tests i w_pfdsgn="72057594037927936"
testsActor-log 2019-10-09T18:07:54.871 tests i w_visit="23244"
testsActor-log 2019-10-09T18:07:54.873 tests : test=bias-r1,OK
```

5.15 SPS-DARK-150

test=dark-b1,OK

```
testsActor-log 2019-10-09T18:08:41.595 sent tests dark cam=b1
testsActor-log 2019-10-09T18:08:41.599 tests i text="starting b1 dark test"
testsActor-log 2019-10-09T18:09:45.967 tests i filepath="/data/pfs/pfs/2019-10-09/PFLA02324711.fits"
testsActor-log 2019-10-09T18:09:45.968 tests i simple="True"
testsActor-log 2019-10-09T18:09:45.968 tests i bitpix="16"
testsActor-log 2019-10-09T18:09:45.968 tests i naxis="2"
testsActor-log 2019-10-09T18:09:45.968 tests i naxis1="4416"
testsActor-log 2019-10-09T18:09:45.969 tests i naxis2="4300"
testsActor-log 2019-10-09T18:09:45.969 tests i headvers="1"
testsActor-log 2019-10-09T18:09:45.969 tests i specnum="1"
testsActor-log 2019-10-09T18:09:45.969 tests i dewarnam="blue"
testsActor-log 2019-10-09T18:09:45.969 tests i arm="blue"
testsActor-log 2019-10-09T18:09:45.970 tests i detnum="2"
testsActor-log 2019-10-09T18:09:45.971 tests i imagetyp="dark"
```

```

testsActor-log 2019-10-09T18:09:45.973 tests i exptime="10.0"
testsActor-log 2019-10-09T18:09:45.973 tests i darktime="10.001"
testsActor-log 2019-10-09T18:09:45.973 tests i w_pfdsgn="72057594037927936"
testsActor-log 2019-10-09T18:09:45.973 tests i w_visit="23247"
testsActor-log 2019-10-09T18:09:45.974 tests : test=dark-b1,OK

```

test=dark-r1,OK

```

testsActor-log 2019-10-09T18:07:56.683 sent tests dark cam=r1
testsActor-log 2019-10-09T18:07:56.688 tests i text="starting r1 dark test"
testsActor-log 2019-10-09T18:09:01.052 tests i filepath="/data/pfs/pfs/2019-10-09/PFLA02324614.fits"
testsActor-log 2019-10-09T18:09:01.053 tests i simple="True"
testsActor-log 2019-10-09T18:09:01.053 tests i bitpix="16"
testsActor-log 2019-10-09T18:09:01.053 tests i naxis="2"
testsActor-log 2019-10-09T18:09:01.054 tests i naxis1="4416"
testsActor-log 2019-10-09T18:09:01.054 tests i naxis2="4300"
testsActor-log 2019-10-09T18:09:01.054 tests i headers="1"
testsActor-log 2019-10-09T18:09:01.056 tests i specnum="1"
testsActor-log 2019-10-09T18:09:01.056 tests i dewarnam="red"
testsActor-log 2019-10-09T18:09:01.057 tests i arm="red"
testsActor-log 2019-10-09T18:09:01.057 tests i detnum="2"
testsActor-log 2019-10-09T18:09:01.057 tests i imagetyp="dark"
testsActor-log 2019-10-09T18:09:01.057 tests i exptime="10.0"
testsActor-log 2019-10-09T18:09:01.057 tests i darktime="10.0"
testsActor-log 2019-10-09T18:09:01.057 tests i w_pfdsgn="72057594037927936"
testsActor-log 2019-10-09T18:09:01.059 tests i w_visit="23246"
testsActor-log 2019-10-09T18:09:01.059 tests : test=dark-r1,OK

```

5.16 SPS-SHUTTER-160

test=shutters-sm1,OK

```

testsActor-log 2019-10-09T18:38:39.707 sent tests shutters sm1
testsActor-log 2019-10-09T18:38:39.710 tests i text="starting shutters-sm1 test"
testsActor-log 2019-10-09T18:38:47.836 tests i text="shutters status OK, testing exposure..."
testsActor-log 2019-10-09T18:38:50.840 tests i text="testing shutter"
testsActor-log 2019-10-09T18:38:56.366 tests i text="exptime error = 0.001 s"
testsActor-log 2019-10-09T18:38:59.370 tests i text="testing blue shutter"
testsActor-log 2019-10-09T18:39:04.798 tests i text="exptime error = 0.003 s"
testsActor-log 2019-10-09T18:39:07.802 tests i text="testing red shutter"
testsActor-log 2019-10-09T18:39:13.321 tests i text="exptime error = 0.001 s"
testsActor-log 2019-10-09T18:39:13.322 tests : test=shutters-sm1,OK

```

5.17 SPS-SLIT-170

test=slit-sm1,OK

```

testsActor-log 2019-10-09T18:32:27.758 sent tests slit sm1
testsActor-log 2019-10-09T18:32:27.762 tests i text="starting slit-sm1 test"
testsActor-log 2019-10-09T18:32:34.395 tests i text="slit status OK, testing motion..."
testsActor-log 2019-10-09T18:32:37.399 tests i text="moving to X=1.0 Y=0.0 Z=0.0 U=0.0 V=0.0 W=0.0"
testsActor-log 2019-10-09T18:32:38.113 tests i text="cumulate error=3.99999999997449e-05"
testsActor-log 2019-10-09T18:32:41.117 tests i text="moving to X=0.0 Y=1.0 Z=0.0 U=0.0 V=0.0 W=0.0"
testsActor-log 2019-10-09T18:32:42.065 tests i text="cumulate error=9.9999999995449e-06"
testsActor-log 2019-10-09T18:32:45.069 tests i text="moving to X=0.0 Y=0.0 Z=1.0 U=0.0 V=0.0 W=0.0"
testsActor-log 2019-10-09T18:32:46.733 tests i text="cumulate error=1.9999999995449e-05"
testsActor-log 2019-10-09T18:32:49.738 tests i text="moving to home"
testsActor-log 2019-10-09T18:32:50.899 tests : test=slit-sm1,OK

```

5.18 SPS-REXM-180

test=rexm-sm1,OK

```

testsActor-log 2019-10-09T18:32:52.796 sent tests rexm sm1
testsActor-log 2019-10-09T18:32:52.799 tests i text="starting rexm-sm1 test"
testsActor-log 2019-10-09T18:33:24.903 tests i text="rexm status OK, testing motion..."
testsActor-log 2019-10-09T18:33:27.907 tests i text="going to med position"
testsActor-log 2019-10-09T18:36:00.927 tests i text="rexm motion completed in 152.7 s"
testsActor-log 2019-10-09T18:36:03.931 tests i text="going to low position"
testsActor-log 2019-10-09T18:38:37.352 tests i text="rexm motion completed in 153.1 s"
testsActor-log 2019-10-09T18:38:37.353 tests : test=rexm-sm1,OK

```

5.19 SPS-BIA-190

test=bia-sm1,FAILED

```
testsActor-log 2019-10-09T18:39:15.187 sent tests bia sm1
testsActor-log 2019-10-09T18:39:15.190 tests i text="starting bia-sm1 test"
testsActor-log 2019-10-09T18:39:23.051 tests i text="bia status OK, turning it on ..."
testsActor-log 2019-10-09T18:39:32.448 tests i sm1__biaphoto1=0,0
testsActor-log 2019-10-09T18:39:32.449 tests i sm1__biaphoto2=0,0
testsActor-log 2019-10-09T18:39:32.518 tests w test=bia-sm1,FAILED
testsActor-log 2019-10-09T18:39:32.520 tests f text="command failed: RuntimeError('sm1__biaPhoto1 is not detecting light',) in bia()
at /software/mhs/devel/ics_testsActor/python/testsActor/Controllers/enu.py:119"
```

BIA was not wired in, the test failed but it was expected .

5.20 SPS-TEMPS-200

test=temps-sm1,FAILED

```
testsActor-log 2019-10-09T18:32:02.112 sent tests temps sm1
testsActor-log 2019-10-09T18:32:02.117 tests i text="starting temps-sm1 test"
testsActor-log 2019-10-09T18:32:10.288 tests i text="temps status OK, retrieving data ..."
testsActor-log 2019-10-09T18:32:25.923 tests i sm1__motor_rda=31.455,0.049689
testsActor-log 2019-10-09T18:32:25.925 tests w sm1__motor_shutter_b=nan,nan
testsActor-log 2019-10-09T18:32:25.925 tests w sm1__motor_shutter_r=nan,nan
testsActor-log 2019-10-09T18:32:25.926 tests w sm1__bia_box_upper=nan,nan
testsActor-log 2019-10-09T18:32:25.927 tests w sm1__bia_box_lower=nan,nan
testsActor-log 2019-10-09T18:32:25.928 tests i sm1__fiber_unit_bench_level=19.3143,0.00057735
testsActor-log 2019-10-09T18:32:25.929 tests w sm1__fiber_unit_hexapod_top=nan,nan
testsActor-log 2019-10-09T18:32:25.930 tests w sm1__fiber_unit_fiber_frame_top=nan,nan
testsActor-log 2019-10-09T18:32:25.930 tests i sm1__collimator_frame_bench_level=19.0467,0.00208167
testsActor-log 2019-10-09T18:32:25.931 tests i sm1__collimator_frame_top=19.1497,0.00208167
testsActor-log 2019-10-09T18:32:25.932 tests i sm1__bench_left_top=19.0403,0.00057735
testsActor-log 2019-10-09T18:32:25.933 tests i sm1__bench_left_bottom=19.0867,0.00152753
testsActor-log 2019-10-09T18:32:25.934 tests i sm1__bench_right_top=19.1527,0.00208167
testsActor-log 2019-10-09T18:32:25.934 tests i sm1__bench_right_bottom=19.4223,0.00057735
testsActor-log 2019-10-09T18:32:25.935 tests i sm1__bench_far_top=18.9313,0.00057735
testsActor-log 2019-10-09T18:32:25.936 tests i sm1__bench_far_bottom=19.1127,0.00404145
testsActor-log 2019-10-09T18:32:25.937 tests i sm1__bench_near_top=19.403,0.001
testsActor-log 2019-10-09T18:32:25.938 tests i sm1__bench_near_bottom=19.8817,0.00152753
testsActor-log 2019-10-09T18:32:25.938 tests i sm1__bench_central_bottom=19.116,0
testsActor-log 2019-10-09T18:32:25.939 tests w test=temps-sm1,FAILED
testsActor-log 2019-10-09T18:32:25.940 tests f text="command failed: RuntimeError('sm1__MOTOR_SHUTTER_B, sm1__MOTOR_SHUTTER_R, sm1__BIA_BOX_UPPER,
sm1__BIA_BOX_LOWER, sm1__FIBER_UNIT_HEXAPOD_TOP, sm1__FIBER_UNIT_FIBER_FRAME_TOP are invalid',) in genSample() at python/testsActor/main.py:89"
```

when FCA3 was replaced by FCA2, some sensors has been disconnected but never been connected again. As a result the test failed

5.21 SPS-IIS-210

test=iis-sm1,OK

```
testsActor-log 2019-10-09T18:39:34.369 sent tests iis sm1
testsActor-log 2019-10-09T18:39:34.373 tests i text="starting iis-sm1 test"
testsActor-log 2019-10-09T18:39:39.818 tests i text="iis status OK, warming up lamp..."
testsActor-log 2019-10-09T18:40:10.424 tests i sm1__iishgarvolts=239.74,0.155242
testsActor-log 2019-10-09T18:40:10.425 tests i sm1__iishgarcurrent=0.07,0
testsActor-log 2019-10-09T18:40:10.428 tests i sm1__iishgarpower=4.18667,0.080829
testsActor-log 2019-10-09T18:40:10.753 tests : test=iis-sm1,OK
```

Acronyms

SPS Spectrograph System.

Glossary

Spectrograph System The software which commands cobra motions.