SPS Software Test Report
PFS-SPS-LAMTRE1074

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1 Version and Changelog

The version of this document is **1.0** .

Version	Date	Author	Description
1.0	2020-06-17	H Siddiqui	Added reference to test case description doc
0.1	2020-06-08	A Le Fur	First draft of test report - post software migration

2 Introduction

This document presents the overall findings of the software test campaign for the SPS SM1 module following the software migration effort at Subaru during May and June 2020.

The aim of these tests are to ensure that there is no significant changes in terms of operating the SPS software as a consequence of the software migration.

The tests performed where based on the test cases provided in [1].

3 Executive Summary

Table 3 summarizes the results of the individual tests. See [1] for test case details.

Test Case	Pass/FAIL	Comments
SPS-ALERT-TRIGGER-010	NA	See report section 5.1
SPS-ALERT-INVALID-020	NA	See report section 5.2
SPS-ALERT-TIMEOUT-030	NA	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	Pass	See report section 5.19
SPS-TEMPS-200	Pass	See report section 5.20
SPS-IIS-210	Pass	See report section 5.21

3.1 Discussion

While SPS-ALERT-TRIGGER-010, SPS-ALERT-INVALID-020, SPS-ALERT-TIMEOUT-030, SPS-LOG-120 and SPS-IO-130 were not executed, other tests conducted have demonstrated the purpose of these tests well in our opinion, in that there were no major problems introduced as part of the software migration. Interaction with the operational database has revealed no problems.

4 Conclusions

The test campaign is considered overall as **successful**, and that the software migration can be considered complete.

5 Additional notes

5.1 SPS-ALERT-TRIGGER-010

alertsActor has been running for six months, no further test is required.

5.2 SPS-ALERT-INVALID-020

alertsActor has been running for six months, no further test is required.

5.3 SPS-ALERT-TIMEOUT-030

alertsActor has been running for six months, no further test is required.

5.4 SPS-XCU-PCM-040

test=`b1,power,OK`

```
testsActor-log  2020-05-28T18:01:00.560 sent tests power cam=b1
testsActor-log  2020-05-28T18:01:00.575 tests i text="starting b1 power test"
testsActor-log  2020-05-28T18:01:00.577 tests i text="checking pcm tcp server"
testsActor-log  2020-05-28T18:01:01.098 tests i text="power status OK, retrieving data ..."
testsActor-log  2020-05-28T18:01:13.154 tests i b1__24vupsvolts=28.1667,0.0288675
testsActor-log  2020-05-28T18:01:13.158 tests i b1__24vupscurrent=1.28333,0.0208167
testsActor-log  2020-05-28T18:01:13.158 tests i b1__24vupspower=36.1473,0.612539
testsActor-log  2020-05-28T18:01:13.169 tests i b1__24vauxvolts=24.5333,0.0288675
testsActor-log  2020-05-28T18:01:13.170 tests i b1__24vauxcurrent=0.26,0
testsActor-log  2020-05-28T18:01:13.170 tests i b1__24vauxpower=6.37867,0.00750555
testsActor-log  2020-05-28T18:01:13.178 tests i b1__motorsvolts=24.4833,0.0288675
testsActor-log  2020-05-28T18:01:13.178 tests i b1__motorscurrent=0.176667,0.0057735
testsActor-log  2020-05-28T18:01:13.179 tests i b1__motorspower=4.32667,0.135769
testsActor-log  2020-05-28T18:01:13.182 tests i b1__gaugevolts=28.1833,0.0288675
testsActor-log  2020-05-28T18:01:13.188 tests i b1__gaugecurrent=0.09,1.69967e-17
testsActor-log  2020-05-28T18:01:13.192 tests i b1__gaugepower=2.53667,0.0057735
testsActor-log  2020-05-28T18:01:13.219 tests i b1__coolervolts=28.2667,0.0288675
testsActor-log  2020-05-28T18:01:13.220 tests i b1__coolercurrent=0.06,0
testsActor-log  2020-05-28T18:01:13.220 tests i b1__coolerpower=1.69333,0.0057735
testsActor-log  2020-05-28T18:01:13.221 tests i b1__tempsvolts=28.25,0
testsActor-log  2020-05-28T18:01:13.221 tests i b1__tempscurrent=0.153333,0.0057735
testsActor-log  2020-05-28T18:01:13.221 tests i b1__tempspower=4.33333,0.161658
testsActor-log  2020-05-28T18:01:13.222 tests i b1__beevolts=28.15,4.35117e-15
testsActor-log  2020-05-28T18:01:13.222 tests i b1__beecurrent=0.59,0.01
testsActor-log  2020-05-28T18:01:13.222 tests i b1__beepower=16.61,0.28
testsActor-log  2020-05-28T18:01:13.224 tests i b1__feevolts=28.2167,0.0288675
testsActor-log  2020-05-28T18:01:13.225 tests i b1__feecurrent=0.31,0
testsActor-log  2020-05-28T18:01:13.227 tests i b1__feepower=8.74667,0.011547
```

```
testsActor-log  2020-05-28T18:01:13.243 tests i b1__interlockvolts=28.15,4.35117e-15
testsActor-log  2020-05-28T18:01:13.244 tests i b1__interlockcurrent=0,0
testsActor-log  2020-05-28T18:01:13.244 tests i b1__interlockpower=0,0
testsActor-log  2020-05-28T18:01:13.244 tests i b1__heatersvolts=28.25,0
testsActor-log  2020-05-28T18:01:13.245 tests i b1__heaterscurrent=0.00333333,0.0057735
testsActor-log  2020-05-28T18:01:13.246 tests i b1__heaterspower=0.0933333,0.161658
testsActor-log  2020-05-28T18:01:13.257 tests : test=b1,power,OK
```

test=r1,power,OK

```
testsActor-log  2020-05-28T18:09:45.062 sent tests power cam=r1
testsActor-log  2020-05-28T18:09:45.090 tests i text="connecting model for actor xcu_r1"
testsActor-log  2020-05-28T18:09:45.144 tests i text="starting r1 power test"
testsActor-log  2020-05-28T18:09:45.144 tests i text="checking pcm tcp server"
testsActor-log  2020-05-28T18:09:45.660 tests i text="power status OK, retrieving data ..."
testsActor-log  2020-05-28T18:09:56.114 tests i r1__24vupsvolts=28.3,0
testsActor-log  2020-05-28T18:09:56.115 tests i r1__24vupscurrent=1.26667,0.0057735
testsActor-log  2020-05-28T18:09:56.122 tests i r1__24vupspower=35.8467,0.16339
testsActor-log  2020-05-28T18:09:56.124 tests i r1__24vauxvolts=24.65,4.35117e-15
testsActor-log  2020-05-28T18:09:56.128 tests i r1__24vauxcurrent=0.28,0
testsActor-log  2020-05-28T18:09:56.129 tests i r1__24vauxpower=6.902,0
testsActor-log  2020-05-28T18:09:56.136 tests i r1__motorsvolts=24.65,4.35117e-15
testsActor-log  2020-05-28T18:09:56.140 tests i r1__motorscurrent=0.17,0
testsActor-log  2020-05-28T18:09:56.141 tests i r1__motorspower=4.19,0
testsActor-log  2020-05-28T18:09:56.147 tests i r1__gaugevolts=28.3167,0.0288675
testsActor-log  2020-05-28T18:09:56.147 tests i r1__gaugecurrent=0.0833333,0.0057735
testsActor-log  2020-05-28T18:09:56.154 tests i r1__gaugepower=2.35667,0.167432
testsActor-log  2020-05-28T18:09:56.157 tests i r1__coolervolts=28.3333,0.0288675
testsActor-log  2020-05-28T18:09:56.158 tests i r1__coolercurrent=0.0466667,0.0057735
testsActor-log  2020-05-28T18:09:56.166 tests i r1__coolerpower=1.32333,0.167432
testsActor-log  2020-05-28T18:09:56.167 tests i r1__tempsvolts=28.25,0
testsActor-log  2020-05-28T18:09:56.172 tests i r1__tempscurrent=0.15,0.01
testsActor-log  2020-05-28T18:09:56.173 tests i r1__tempspower=4.24,0.28
testsActor-log  2020-05-28T18:09:56.181 tests i r1__beevolts=28.25,0
testsActor-log  2020-05-28T18:09:56.181 tests i r1__beecurrent=0.61,0.01
testsActor-log  2020-05-28T18:09:56.187 tests i r1__beepower=17.2333,0.285015
testsActor-log  2020-05-28T18:09:56.191 tests i r1__feevolts=28.2667,0.0288675
testsActor-log  2020-05-28T18:09:56.195 tests i r1__feecurrent=0.306667,0.0057735
testsActor-log  2020-05-28T18:09:56.196 tests i r1__feepower=8.67,0.155885
testsActor-log  2020-05-28T18:09:56.203 tests i r1__interlockvolts=28.3833,0.0288675
testsActor-log  2020-05-28T18:09:56.205 tests i r1__interlockcurrent=0,0
testsActor-log  2020-05-28T18:09:56.209 tests i r1__interlockpower=0,0
testsActor-log  2020-05-28T18:09:56.212 tests i r1__heatersvolts=28.35,4.35117e-15
testsActor-log  2020-05-28T18:09:56.216 tests i r1__heaterscurrent=0,0
testsActor-log  2020-05-28T18:09:56.217 tests i r1__heaterspower=0,0
testsActor-log  2020-05-28T18:09:56.227 tests : test=r1,power,OK
```

5.5   SPS-XCU-GATEVALVE-050

test=b1,gatevalve,OK

```
testsActor-log  2020-05-28T18:01:15.237 sent tests gatevalve cam=b1
testsActor-log  2020-05-28T18:01:15.248 tests i text="starting b1 gatevalve test"
testsActor-log  2020-05-28T18:01:15.728 tests i b1__gatevalve=Closed,Closed
testsActor-log  2020-05-28T18:01:15.728 tests i text="gatevalve status OK, retrieving data ..."
testsActor-log  2020-05-28T18:01:28.365 tests i b1__cryostatpressure=0,0
testsActor-log  2020-05-28T18:01:28.367 tests i b1__roughingpressure=0,0
testsActor-log  2020-05-28T18:01:28.421 tests : test=b1,gatevalve,OK
```

test=r1,gatevalve,OK

```
testsActor-log  2020-05-28T18:09:58.180 sent tests gatevalve cam=r1
testsActor-log  2020-05-28T18:09:58.194 tests i text="starting r1 gatevalve test"
testsActor-log  2020-05-28T18:09:58.683 tests i r1__gatevalve=Closed,Closed
testsActor-log  2020-05-28T18:09:58.691 tests i text="gatevalve status OK, retrieving data ..."
testsActor-log  2020-05-28T18:10:10.988 tests i r1__cryostatpressure=0,0
testsActor-log  2020-05-28T18:10:10.990 tests i r1__roughingpressure=0,0
testsActor-log  2020-05-28T18:10:11.045 tests : test=r1,gatevalve,OK
```

5.6   SPS-XCU-TURBO-060

test=b1,turbo,OK

```
testsActor-log  2020-05-28T18:01:30.373 sent tests turbo cam=b1
testsActor-log  2020-05-28T18:01:30.383 tests i text="starting b1 turbo test"
testsActor-log  2020-05-28T18:01:30.385 tests i text="connecting turbo controller"
testsActor-log  2020-05-28T18:01:30.598 tests i text="turbo status OK, retrieving data ..."
testsActor-log  2020-05-28T18:01:40.352 tests i b1__turbospeed=0,0
testsActor-log  2020-05-28T18:01:40.354 tests i b1__turbovolts=24.0667,0.057735
testsActor-log  2020-05-28T18:01:40.359 tests i b1__turbocurrent=0,0
testsActor-log  2020-05-28T18:01:40.363 tests i b1__turbopower=0.9,0
testsActor-log  2020-05-28T18:01:40.363 tests i b1__turbobodytemp=10,0
testsActor-log  2020-05-28T18:01:40.363 tests i b1__turbocontrollertemp=17.6667,0.57735
testsActor-log  2020-05-28T18:01:40.417 tests : test=b1,turbo,OK
```

test=r1,turbo,OK

```
testsActor-log  2020-05-28T18:10:12.994 sent tests turbo cam=r1
testsActor-log  2020-05-28T18:10:13.010 tests i text="starting r1 turbo test"
testsActor-log  2020-05-28T18:10:13.015 tests i text="connecting turbo controller"
testsActor-log  2020-05-28T18:10:13.215 tests i text="turbo status OK, retrieving data ..."
testsActor-log  2020-05-28T18:10:22.974 tests i r1__turbospeed=0,0
testsActor-log  2020-05-28T18:10:22.976 tests i r1__turbovolts=24.3,0
testsActor-log  2020-05-28T18:10:22.976 tests i r1__turbocurrent=0.2,3.39935e-17
testsActor-log  2020-05-28T18:10:22.988 tests i r1__turbopower=3.9,0
testsActor-log  2020-05-28T18:10:22.989 tests i r1__turbobodytemp=9,0
testsActor-log  2020-05-28T18:10:22.989 tests i r1__turbocontrollertemp=16,0
testsActor-log  2020-05-28T18:10:23.045 tests : test=r1,turbo,OK
```

5.7   SPS-XCU-IONPUMP-070

test=b1,ionpump,OK

```
testsActor-log  2020-05-28T18:01:42.330 sent tests ionpump cam=b1
testsActor-log  2020-05-28T18:01:42.351 tests i text="starting b1 ionpump test"
testsActor-log  2020-05-28T18:01:57.375 tests i text="connecting ionpump controller"
testsActor-log  2020-05-28T18:01:58.867 tests i text="ionpump status OK, retrieving data ..."
testsActor-log  2020-05-28T18:02:09.469 tests i b1__ionpump1volts=5000,0
testsActor-log  2020-05-28T18:02:09.470 tests i b1__ionpump1current=9.83333e-06,5.7735e-08
testsActor-log  2020-05-28T18:02:09.477 tests i b1__ionpump1temps=17,0
testsActor-log  2020-05-28T18:02:09.480 tests i b1__ionpump1pressure=2.3e-08,4.05234e-24
testsActor-log  2020-05-28T18:02:09.480 tests i b1__ionpump2volts=5100,0
testsActor-log  2020-05-28T18:02:09.481 tests i b1__ionpump2current=9.76667e-06,5.7735e-08
testsActor-log  2020-05-28T18:02:09.482 tests i b1__ionpump2temps=18,0
testsActor-log  2020-05-28T18:02:09.491 tests i b1__ionpump2pressure=2.2e-08,0
testsActor-log  2020-05-28T18:02:17.065 tests : test=b1,ionpump,OK
```

test=r1,ionpump,OK

```
testsActor-log  2020-05-28T18:10:25.008 sent tests ionpump cam=r1
testsActor-log  2020-05-28T18:10:25.046 tests i text="starting r1 ionpump test"
testsActor-log  2020-05-28T18:10:40.116 tests i text="connecting ionpump controller"
testsActor-log  2020-05-28T18:10:41.563 tests i text="ionpump status OK, retrieving data ..."
testsActor-log  2020-05-28T18:10:52.063 tests i r1__ionpump1volts=5000,0
testsActor-log  2020-05-28T18:10:52.064 tests i r1__ionpump1current=1.5e-05,0
testsActor-log  2020-05-28T18:10:52.070 tests i r1__ionpump1temps=18,0
testsActor-log  2020-05-28T18:10:52.070 tests i r1__ionpump1pressure=3.2e-08,0
testsActor-log  2020-05-28T18:10:52.073 tests i r1__ionpump2volts=5100,0
testsActor-log  2020-05-28T18:10:52.077 tests i r1__ionpump2current=1.5e-05,0
testsActor-log  2020-05-28T18:10:52.078 tests i r1__ionpump2temps=18,0
testsActor-log  2020-05-28T18:10:52.082 tests i r1__ionpump2pressure=3.2e-08,0
testsActor-log  2020-05-28T18:10:59.657 tests : test=r1,ionpump,OK
```

5.8   SPS-XCU-GAUGE-080

test=b1,gauge,OK

```
testsActor-log  2020-05-28T18:02:19.274 sent tests gauge cam=b1
testsActor-log  2020-05-28T18:02:19.319 tests i text="starting b1 gauge test"
testsActor-log  2020-05-28T18:02:19.321 tests i text="checking pcm tcp server"
testsActor-log  2020-05-28T18:02:21.171 tests i text="gauge status OK, retrieving data ..."
testsActor-log  2020-05-28T18:02:30.514 tests i b1__gauge=3.71856e-08,0
testsActor-log  2020-05-28T18:02:30.569 tests : test=b1,gauge,OK
```

test=r1,gauge,OK

```
testsActor-log  2020-05-28T18:11:01.957 sent tests gauge cam=r1
testsActor-log  2020-05-28T18:11:01.968 tests i text="starting r1 gauge test"
testsActor-log  2020-05-28T18:11:01.970 tests i text="checking pcm tcp server"
testsActor-log  2020-05-28T18:11:02.057 tests i text="gauge status OK, retrieving data ..."
testsActor-log  2020-05-28T18:11:11.499 tests i r1__gauge=5.63112e-08,0
testsActor-log  2020-05-28T18:11:11.557 tests : test=r1,gauge,OK
```

5.9 SPS-XCU-COOLER-090

test=b1,cooler,OK

```
testsActor-log  2020-05-28T18:02:32.581 sent tests cooler cam=b1
testsActor-log  2020-05-28T18:02:32.602 tests i text="starting b1 cooler test"
testsActor-log  2020-05-28T18:02:32.609 tests i text="checking cooler tcp server"
testsActor-log  2020-05-28T18:02:32.609 tests i text="connecting cooler controller"
testsActor-log  2020-05-28T18:02:33.001 tests i text="cooler status OK, retrieving data ..."
testsActor-log  2020-05-28T18:02:43.479 tests i b1__coolersetpoint=123,0
testsActor-log  2020-05-28T18:02:43.481 tests i b1__coolerreject=15.73,2.17558e-15
testsActor-log  2020-05-28T18:02:43.482 tests i b1__coolertip=122.997,0.0057735
testsActor-log  2020-05-28T18:02:43.485 tests i b1__coolerpower=73.9767,0.0321455
testsActor-log  2020-05-28T18:02:43.537 tests : test=b1,cooler,OK
```

test=r1,cooler,OK

```
testsActor-log  2020-05-28T18:11:13.511 sent tests cooler cam=r1
testsActor-log  2020-05-28T18:11:13.521 tests i text="starting r1 cooler test"
testsActor-log  2020-05-28T18:11:13.522 tests i text="checking cooler tcp server"
testsActor-log  2020-05-28T18:11:13.527 tests i text="connecting cooler controller"
testsActor-log  2020-05-28T18:11:13.915 tests i text="cooler status OK, retrieving data ..."
testsActor-log  2020-05-28T18:11:25.792 tests i r1__coolersetpoint=123,0
testsActor-log  2020-05-28T18:11:25.794 tests i r1__coolerreject=15.73,2.17558e-15
testsActor-log  2020-05-28T18:11:25.794 tests i r1__coolertip=123,0
testsActor-log  2020-05-28T18:11:25.796 tests i r1__coolerpower=74.1567,0.011547
testsActor-log  2020-05-28T18:11:25.849 tests : test=r1,cooler,OK
```

5.10 SPS-XCU-TEMPS-100

test=b1,temps,OK

```
testsActor-log  2020-05-28T18:02:45.448 sent tests temps cam=b1
testsActor-log  2020-05-28T18:02:45.467 tests i text="starting b1 temps test"
testsActor-log  2020-05-28T18:02:45.468 tests i text="checking temps tcp server"
testsActor-log  2020-05-28T18:02:45.475 tests i text="connecting temps controller"
testsActor-log  2020-05-28T18:02:45.554 tests i text="temps status OK, retrieving data ..."
testsActor-log  2020-05-28T18:02:54.726 tests i b1__detectorbox=149.129,0.00252389
testsActor-log  2020-05-28T18:02:54.727 tests i b1__mangin=277.236,0.000251661
testsActor-log  2020-05-28T18:02:54.727 tests i b1__spider=140.936,0.000321455
testsActor-log  2020-05-28T18:02:54.735 tests i b1__thermalspreader=132.617,0.000655744
testsActor-log  2020-05-28T18:02:54.735 tests i b1__frontring=279.21,0.000173205
testsActor-log  2020-05-28T18:02:54.735 tests i b1__detectorstrap1=158.812,0.0199001
testsActor-log  2020-05-28T18:02:54.743 tests i b1__detectorstrap2=159.764,0.0197008
testsActor-log  2020-05-28T18:02:54.796 tests : test=b1,temps,OK
```

test=r1,temps,OK

```
testsActor-log  2020-05-28T18:11:27.788 sent tests temps cam=r1
testsActor-log  2020-05-28T18:11:27.808 tests i text="starting r1 temps test"
testsActor-log  2020-05-28T18:11:27.810 tests i text="checking temps tcp server"
testsActor-log  2020-05-28T18:11:27.811 tests i text="connecting temps controller"
testsActor-log  2020-05-28T18:11:27.898 tests i text="temps status OK, retrieving data ..."
testsActor-log  2020-05-28T18:11:37.054 tests i r1__detectorbox=154.539,0.00245832
testsActor-log  2020-05-28T18:11:37.055 tests i r1__mangin=276.886,0.000208167
testsActor-log  2020-05-28T18:11:37.057 tests i r1__spider=149.244,0.000818535
testsActor-log  2020-05-28T18:11:37.063 tests i r1__thermalspreader=134.008,0.000264575
testsActor-log  2020-05-28T18:11:37.067 tests i r1__frontring=278.946,0.00023094
testsActor-log  2020-05-28T18:11:37.067 tests i r1__detectorstrap1=157.618,0.0172541
testsActor-log  2020-05-28T18:11:37.071 tests i r1__detectorstrap2=157.703,0.0171677
testsActor-log  2020-05-28T18:11:37.124 tests : test=r1,temps,OK
```

5.11 SPS-XCU-HEATERS-110

test=b1,heaters,OK

```
testsActor-log  2020-05-28T18:02:56.716 sent tests heaters cam=b1
testsActor-log  2020-05-28T18:02:56.727 tests i text="starting b1 heaters test"
testsActor-log  2020-05-28T18:02:56.765 tests i text="heaters status OK, retrieving data ..."
testsActor-log  2020-05-28T18:03:06.170 tests i b1__heatersccdenabled=1,0
testsActor-log  2020-05-28T18:03:06.171 tests i b1__heatersspreaderenabled=0,0
testsActor-log  2020-05-28T18:03:06.174 tests i b1__heatersccdfraction=0.64,0
testsActor-log  2020-05-28T18:03:06.180 tests i b1__heatersspreaderfraction=0,0
testsActor-log  2020-05-28T18:03:06.233 tests : test=b1,heaters,OK
```

```
test=r1,heaters,OK
```

```
testsActor-log  2020-05-28T18:11:39.086 sent tests heaters cam=r1
testsActor-log  2020-05-28T18:11:39.104 tests i text="starting r1 heaters test"
testsActor-log  2020-05-28T18:11:39.150 tests i text="heaters status OK, retrieving data ..."
testsActor-log  2020-05-28T18:11:48.776 tests i r1__heatersccdenabled=1,0
testsActor-log  2020-05-28T18:11:48.777 tests i r1__heatersspreaderenabled=0,0
testsActor-log  2020-05-28T18:11:48.780 tests i r1__heatersccdfraction=0.66,0
testsActor-log  2020-05-28T18:11:48.782 tests i r1__heatersspreaderfraction=0,0
testsActor-log  2020-05-28T18:11:48.841 tests : test=r1,heaters,OK
```

5.12   SPS-LOG-120

NOT IMPLEMENTED: However the majority of tests conducted do write log files and demonstrate the purpose of this test case.

5.13   SPS-IO-130

NOT IMPLEMENTED: SPS-BIAS-140 and SPS-DARK-150 partly cover it, because they create new files onto `/data`

5.14   SPS-BIAS-140

```
test=b1,bias,OK
```

```
testsActor-log  2020-05-27T20:47:57.112 sent tests bias cam=b1
testsActor-log  2020-05-27T20:47:57.124 tests i text="connecting model for actor ccd_b1"
testsActor-log  2020-05-27T20:47:57.202 tests i text="starting b1 bias test"
testsActor-log  2020-05-27T20:48:48.625 tests i filepath="/data/raw/2020-05-27/sps/PFSA01778511.fits"
testsActor-log  2020-05-27T20:48:48.628 tests i simple="True"
testsActor-log  2020-05-27T20:48:48.629 tests i bitpix="16"
testsActor-log  2020-05-27T20:48:48.630 tests i naxis="0"
testsActor-log  2020-05-27T20:48:48.631 tests i detector="b1"
testsActor-log  2020-05-27T20:48:48.635 tests i w_visit="17785"
testsActor-log  2020-05-27T20:48:48.636 tests i w_arm="1"
testsActor-log  2020-05-27T20:48:48.636 tests i w_spmod="1"
testsActor-log  2020-05-27T20:48:48.637 tests i w_site="S"
testsActor-log  2020-05-27T20:48:48.637 tests i exptime="0.0"
testsActor-log  2020-05-27T20:48:48.637 tests i darktime="0.0"
testsActor-log  2020-05-27T20:48:48.637 tests i w_pfdsgn="1099528409104"
testsActor-log  2020-05-27T20:48:48.638 tests i w_rvxcu="1.9.7"
testsActor-log  2020-05-27T20:48:48.638 tests i w_rvccd="1.6.2"
testsActor-log  2020-05-27T20:48:48.638 tests i w_rvenu="1.0.4"
testsActor-log  2020-05-27T20:48:48.661 tests i text="opDB book-keeping OK"
testsActor-log  2020-05-27T20:48:48.661 tests : test=b1,bias,OK
```

```
test=r1,bias,OK
```

```
testsActor-log  2020-05-27T20:44:26.073 sent tests bias cam=r1
testsActor-log  2020-05-27T20:44:26.098 tests i text="connecting model for actor ccd_r1"
testsActor-log  2020-05-27T20:44:26.155 tests i text="starting r1 bias test"
testsActor-log  2020-05-27T20:45:17.584 tests i filepath="/data/raw/2020-05-27/sps/PFSA01778312.fits"
testsActor-log  2020-05-27T20:45:17.585 tests i simple="True"
testsActor-log  2020-05-27T20:45:17.585 tests i bitpix="16"
testsActor-log  2020-05-27T20:45:17.585 tests i naxis="0"
testsActor-log  2020-05-27T20:45:17.586 tests i detector="r1"
testsActor-log  2020-05-27T20:45:17.586 tests i w_visit="17783"
testsActor-log  2020-05-27T20:45:17.589 tests i w_arm="2"
testsActor-log  2020-05-27T20:45:17.589 tests i w_spmod="1"
testsActor-log  2020-05-27T20:45:17.590 tests i w_site="S"
testsActor-log  2020-05-27T20:45:17.590 tests i exptime="0.0"
testsActor-log  2020-05-27T20:45:17.590 tests i darktime="0.0"
testsActor-log  2020-05-27T20:45:17.599 tests i w_pfdsgn="1099528409104"
testsActor-log  2020-05-27T20:45:17.599 tests i w_rvxcu="1.9.7"
testsActor-log  2020-05-27T20:45:17.600 tests i w_rvccd="1.6.2"
testsActor-log  2020-05-27T20:45:17.601 tests i w_rvenu="1.0.4"
testsActor-log  2020-05-27T20:45:17.623 tests i text="opDB book-keeping OK"
testsActor-log  2020-05-27T20:45:17.623 tests : test=r1,bias,OK
```

5.15 SPS-DARK-150

test=b1,dark,OK

```
testsActor-log  2020-05-27T20:48:50.611 sent tests dark cam=b1
testsActor-log  2020-05-27T20:48:50.625 tests i text="starting b1 dark test"
testsActor-log  2020-05-27T20:49:52.034 tests i filepath="/data/raw/2020-05-27/sps/PFSA01778611.fits"
testsActor-log  2020-05-27T20:49:52.035 tests i simple="True"
testsActor-log  2020-05-27T20:49:52.035 tests i bitpix="16"
testsActor-log  2020-05-27T20:49:52.035 tests i naxis="0"
testsActor-log  2020-05-27T20:49:52.036 tests i detector="b1"
testsActor-log  2020-05-27T20:49:52.036 tests i w_visit="17786"
testsActor-log  2020-05-27T20:49:52.036 tests i w_arm="1"
testsActor-log  2020-05-27T20:49:52.043 tests i w_spmod="1"
testsActor-log  2020-05-27T20:49:52.044 tests i w_site="S"
testsActor-log  2020-05-27T20:49:52.044 tests i exptime="10.001"
testsActor-log  2020-05-27T20:49:52.044 tests i darktime="10.001"
testsActor-log  2020-05-27T20:49:52.045 tests i w_pfdsgn="1099528409104"
testsActor-log  2020-05-27T20:49:52.045 tests i w_rvxcu="1.9.7"
testsActor-log  2020-05-27T20:49:52.045 tests i w_rvccd="1.6.2"
testsActor-log  2020-05-27T20:49:52.045 tests i w_rvenu="1.0.4"
testsActor-log  2020-05-27T20:49:52.068 tests i text="opDB book-keeping OK"
testsActor-log  2020-05-27T20:49:52.070 tests : test=b1,dark,OK
```

test=r1,dark,OK

```
testsActor-log  2020-05-27T20:45:19.647 sent tests dark cam=r1
testsActor-log  2020-05-27T20:45:19.653 tests i text="starting r1 dark test"
testsActor-log  2020-05-27T20:46:21.065 tests i filepath="/data/raw/2020-05-27/sps/PFSA01778412.fits"
testsActor-log  2020-05-27T20:46:21.066 tests i simple="True"
testsActor-log  2020-05-27T20:46:21.067 tests i bitpix="16"
testsActor-log  2020-05-27T20:46:21.067 tests i naxis="0"
testsActor-log  2020-05-27T20:46:21.075 tests i detector="r1"
testsActor-log  2020-05-27T20:46:21.076 tests i w_visit="17784"
testsActor-log  2020-05-27T20:46:21.076 tests i w_arm="2"
testsActor-log  2020-05-27T20:46:21.076 tests i w_spmod="1"
testsActor-log  2020-05-27T20:46:21.077 tests i w_site="S"
testsActor-log  2020-05-27T20:46:21.077 tests i exptime="10.0"
testsActor-log  2020-05-27T20:46:21.077 tests i darktime="10.0"
testsActor-log  2020-05-27T20:46:21.080 tests i w_pfdsgn="1099528409104"
testsActor-log  2020-05-27T20:46:21.080 tests i w_rvxcu="1.9.7"
testsActor-log  2020-05-27T20:46:21.080 tests i w_rvccd="1.6.2"
testsActor-log  2020-05-27T20:46:21.080 tests i w_rvenu="1.0.4"
testsActor-log  2020-05-27T20:46:21.100 tests i text="opDB book-keeping OK"
testsActor-log  2020-05-27T20:46:21.102 tests : test=r1,dark,OK
```

5.16 SPS-SHUTTER-160

test=sm1,shutters,OK

```
testsActor-log  2020-05-28T15:49:15.181 sent tests shutters sm1
testsActor-log  2020-05-28T15:49:15.190 tests i text="starting shutters-sm1 test"
testsActor-log  2020-05-28T15:49:23.309 tests i text="shutters status OK, testing exposure..."
testsActor-log  2020-05-28T15:49:26.311 tests i text="testing  shutter"
testsActor-log  2020-05-28T15:49:31.843 tests i text="exptime error = 0.003 s"
testsActor-log  2020-05-28T15:49:34.842 tests i text="testing blue shutter"
testsActor-log  2020-05-28T15:49:40.327 tests i text="exptime error = 0.001 s"
testsActor-log  2020-05-28T15:49:43.321 tests i text="testing red shutter"
testsActor-log  2020-05-28T15:49:48.857 tests i text="exptime error = 0.002 s"
testsActor-log  2020-05-28T15:49:48.857 tests i text="Exposure OK, testing interlock..."
testsActor-log  2020-05-28T15:49:51.858 tests i text="opening  shutter"
testsActor-log  2020-05-28T15:49:52.317 tests i text="turning BIA ON"
testsActor-log  2020-05-28T15:49:52.344 tests w text="enu_sm1 bia failed: FysomError('event bia_on inappropriate in current state EXPOSING',) in fn() at /softwar
testsActor-log  2020-05-28T15:49:52.344 tests i text="INTERLOCK OK"
testsActor-log  2020-05-28T15:49:55.799 tests i text="opening blue shutter"
testsActor-log  2020-05-28T15:49:56.190 tests i text="turning BIA ON"
testsActor-log  2020-05-28T15:49:56.230 tests w text="enu_sm1 bia failed: FysomError('event bia_on inappropriate in current state OPENBLUE',) in fn() at /softwar
testsActor-log  2020-05-28T15:49:56.230 tests i text="INTERLOCK OK"
testsActor-log  2020-05-28T15:49:59.610 tests i text="opening red shutter"
testsActor-log  2020-05-28T15:50:00.072 tests i text="turning BIA ON"
testsActor-log  2020-05-28T15:50:00.118 tests w text="enu_sm1 bia failed: FysomError('event bia_on inappropriate in current state OPENRED',) in fn() at /software
testsActor-log  2020-05-28T15:50:00.119 tests i text="INTERLOCK OK"
testsActor-log  2020-05-28T15:50:00.712 tests : test=sm1,shutters,OK
```

5.17 SPS-SLIT-170

test=sm1,slit,OK

```
testsActor-log  2020-05-28T15:43:03.718 sent tests slit sm1
testsActor-log  2020-05-28T15:43:03.761 tests i text="starting slit-sm1 test"
testsActor-log  2020-05-28T15:43:35.782 tests i text="slit status OK, testing motion ..."
testsActor-log  2020-05-28T15:43:38.790 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  2020-05-28T15:43:39.550 tests i text="cumulate error=1e-05"
testsActor-log  2020-05-28T15:43:42.554 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  2020-05-28T15:43:43.557 tests i text="cumulate error=9.99999999995449e-06"
testsActor-log  2020-05-28T15:43:46.561 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  2020-05-28T15:43:48.282 tests i text="cumulate error=1e-05"
testsActor-log  2020-05-28T15:43:51.279 tests i text="moving to home"
testsActor-log  2020-05-28T15:43:52.469 tests : test=sm1,slit,OK
```

5.18   SPS-REXM-180

test=`sm1,rexm,OK`

```
testsActor-log  2020-05-28T15:43:54.936 sent tests rexm sm1
testsActor-log  2020-05-28T15:43:54.959 tests i text="starting rexm-sm1 test"
testsActor-log  2020-05-28T15:44:19.825 tests i text="rexm status OK, testing motion..."
testsActor-log  2020-05-28T15:44:22.825 tests i text="going to med position"
testsActor-log  2020-05-28T15:46:46.346 tests i text="rexm motion completed in 143.2 s"
testsActor-log  2020-05-28T15:46:49.343 tests i text="going to low position"
testsActor-log  2020-05-28T15:49:12.427 tests i text="rexm motion completed in 142.8 s"
testsActor-log  2020-05-28T15:49:12.428 tests : test=sm1,rexm,OK
```

5.19   SPS-BIA-190

test=`sm1,bia,OK`

```
testsActor-log  2020-05-28T15:50:02.710 sent tests bia sm1
testsActor-log  2020-05-28T15:50:02.733 tests i text="starting bia-sm1 test"
testsActor-log  2020-05-28T15:50:13.507 tests i text="bia status OK, turning it on ..."
testsActor-log  2020-05-28T15:50:23.006 tests i sm1__biaphoto1=945.667,3.51188
testsActor-log  2020-05-28T15:50:23.007 tests i sm1__biaphoto2=965.333,1.52753
testsActor-log  2020-05-28T15:50:23.007 tests i text="BIA OK, testing interlock..."
testsActor-log  2020-05-28T15:50:26.009 tests i text="opening  shutter"
testsActor-log  2020-05-28T15:50:26.041 tests w text="enu_sm1 shutters failed: FysomError('event shut_open inappropriate in current state BIA',) in fn() at /soft
testsActor-log  2020-05-28T15:50:26.041 tests i text="INTERLOCK OK"
testsActor-log  2020-05-28T15:50:29.032 tests i text="opening blue shutter"
testsActor-log  2020-05-28T15:50:29.046 tests w text="enu_sm1 shutters failed: FysomError('event blue_open inappropriate in current state BIA',) in fn() at /soft
testsActor-log  2020-05-28T15:50:29.047 tests i text="INTERLOCK OK"
testsActor-log  2020-05-28T15:50:32.052 tests i text="opening red shutter"
testsActor-log  2020-05-28T15:50:32.076 tests w text="enu_sm1 shutters failed: FysomError('event red_open inappropriate in current state BIA',) in fn() at /softw
testsActor-log  2020-05-28T15:50:32.076 tests i text="INTERLOCK OK"
testsActor-log  2020-05-28T15:50:32.193 tests : test=sm1,bia,OK
```

5.20   SPS-TEMPS-200

test=`sm1,temps,OK`

```
testsActor-log  2020-05-28T15:42:34.772 sent tests temps sm1
testsActor-log  2020-05-28T15:42:34.800 tests i text="connecting model for actor enu_sm1"
testsActor-log  2020-05-28T15:42:34.875 tests i text="starting temps-sm1 test"
testsActor-log  2020-05-28T15:42:46.532 tests i text="temps status OK, retrieving data ..."
testsActor-log  2020-05-28T15:43:01.682 tests i sm1__motor_rda=4.458,0.001
testsActor-log  2020-05-28T15:43:01.682 tests i sm1__motor_shutter_b=4.896,0.00173205
testsActor-log  2020-05-28T15:43:01.683 tests i sm1__motor_shutter_r=4.62033,0.00152753
testsActor-log  2020-05-28T15:43:01.683 tests i sm1__bia_box_top=4.628,0.001
testsActor-log  2020-05-28T15:43:01.683 tests i sm1__bia_box_bottom=4.69133,0.00057735
testsActor-log  2020-05-28T15:43:01.685 tests i sm1__fiber_unit_hexapod_bottom=4.532,0.001
testsActor-log  2020-05-28T15:43:01.687 tests i sm1__fiber_unit_hexapod_top=4.535,0.001
testsActor-log  2020-05-28T15:43:01.689 tests i sm1__fiber_unit_fiber_frame_top=4.53433,0.00057735
testsActor-log  2020-05-28T15:43:01.690 tests i sm1__collimator_frame_bottom=4.222,0.001
testsActor-log  2020-05-28T15:43:01.693 tests i sm1__collimator_frame_top=4.328,0.001
testsActor-log  2020-05-28T15:43:01.695 tests i sm1__bench_left_top=4.38333,0.00152753
testsActor-log  2020-05-28T15:43:01.696 tests i sm1__bench_left_bottom=4.32033,0.00057735
testsActor-log  2020-05-28T15:43:01.698 tests i sm1__bench_right_top=4.43733,0.00152753
testsActor-log  2020-05-28T15:43:01.703 tests i sm1__bench_right_bottom=4.93967,0.00152753
testsActor-log  2020-05-28T15:43:01.703 tests i sm1__bench_far_top=4.265,0.00173205
testsActor-log  2020-05-28T15:43:01.703 tests i sm1__bench_far_bottom=4.432,0
testsActor-log  2020-05-28T15:43:01.708 tests i sm1__bench_near_top=4.395,0.001
testsActor-log  2020-05-28T15:43:01.708 tests i sm1__bench_near_bottom=4.602,0.001
testsActor-log  2020-05-28T15:43:01.710 tests i sm1__bench_central_top=4.50067,0.00057735
testsActor-log  2020-05-28T15:43:01.711 tests : test=sm1,temps,OK
```

5.21   SPS-IIS-210

test=`sm1,iis,OK`

```
testsActor-log  2020-05-28T18:21:59.599 sent tests iis sm1
testsActor-log  2020-05-28T18:21:59.610 tests i text="starting iis-sm1 test"
testsActor-log  2020-05-28T18:22:09.875 tests i text="iis status OK, warming up lamp..."
testsActor-log  2020-05-28T18:22:42.212 tests i sm1__iishgarvolts=119.86,0.0655744
testsActor-log  2020-05-28T18:22:42.213 tests i sm1__iishgarcurrent=0.13,0
testsActor-log  2020-05-28T18:22:42.218 tests i sm1__iishgarpower=13.11,0
testsActor-log  2020-05-28T18:22:46.009 tests : test=sm1,iis,OK
```

Acronyms

SPS Spectrograph System.

Glossary

Spectrograph System The software which commands cobra motions.

References

[1] A. LeFur and H. Siddiqui, "SPS software test cases," tech. rep., LAM, 2019. https://sumire.pbworks.com/w/file/136708941/PFS-SPS-LAMPRC1072_SW-TestCases.pdf.