John Noonan

Shutdown Planning

Process:

Work Requests

- Access approval
- Radiation Safety System (RSS) control
- Configuration Control Work Permit

Coordination

- Weekly meetings
- Multi-group coordination
- RSS integration

Schedule

- Available on-line

http://www.aps4.anl.gov/rmanagers/sdeffort.pdf
(also accessible through the AOD logbook and schedules web page)

Radiation Safety System

Work Requests

Work on radiation safety systems continues to have major scrutiny

ALL work on RSS devices require an approved work request and an approved Configuration Control Work Permit (CCWP).

The CCWP has been used for beamline work. There will be CCWP's for front ends and the accelerator enclosure also.

BEWARE OF SCOPE CREEP

Major Tasks for January Shutdown

Preventive maintenance is the major effort

- **Obsolescence and Damage**
  - **Storage ring ion pump replacement**
  - **Power cable radiation damage**

Repair

- **Power coupler replacement in sector 37 RF cavities**
- **Booster dipole power supply**

Upgrades and new installations:

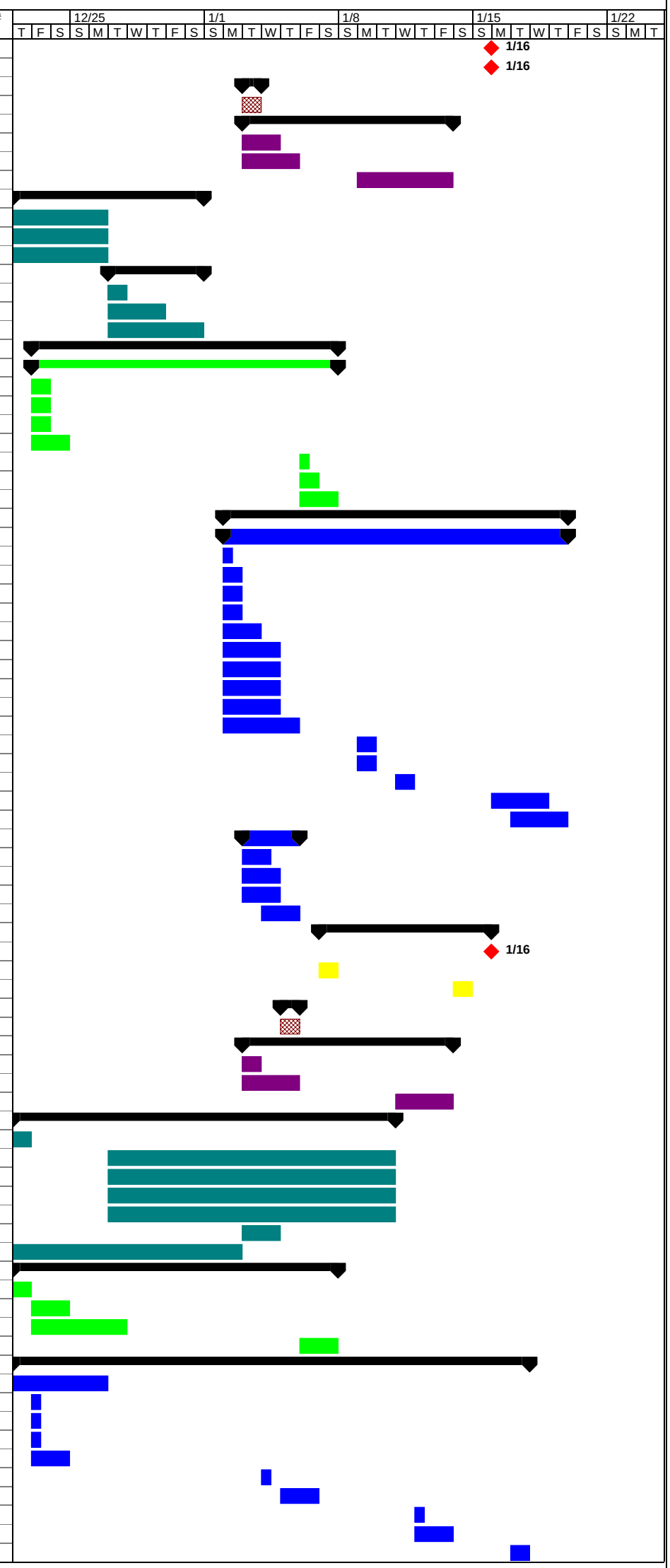
- **Install a new 3.5 cm undulator in sector 4**
- **Replace ID vacuum chamber in sector 14**
- **Storage ring septum power supplies**

Validations

- **ACIS**
- **PSS for numerous beamlines**
- **RSS equipment return to service**

MAINTENANCE SCHEDULE for Dec '05-Jan. 2006 Shutdown

ID	Rev	Task Name	Duration	Start	Finish	Rad Safet	Risk	WR #
1		**LINAC/PAR SCHEDULE [Dec-Jan 2006]**	**0 days**	**1/16**	**1/16**			
2		LINAC Secure	0 days	1/16	1/16			
3		**Controls [LINAC/PAR Dec-Jan 2006]**	**1 day**	**1/3**	**1/3**			
4		Upgrade IOCLID3 from an mv167 to an mv2100	1 day	1/3	1/3			19324
5		**Diagnostics [LINAC/PAR Dec-Jan 2006]**	**11 days**	**1/3**	**1/13**			
6		Reroute phase detector cables-LINAC gallery	2 days	1/3	1/4			19412
7		Remove decommissioned loss monitor gas system	3 days	1/3	1/5			19441
8		Install YAG calibration mask in St. 3 imaging station	5 days	1/9	1/13			19265
9		**Mechanical [LINAC/PAR Dec-Jan 2006]**	**10 days**	**12/22**	**12/31**			
10		Remove in-line filters in tunnel	5 days	12/22	12/26			
11		Repair water leaks (L5:AS1, L5:AS2)	5 days	12/22	12/26			
12		Fix ACIS door in the injector test stand area	5 days	12/22	12/26			
13		**PAR**	**5 days**	**12/27**	**12/31**			
14		Install Allen-Bradley panel view touch screens-PAF	1 day	12/27	12/27			19218
15		Install thermocouples on septum	3 days	12/27	12/29			
16		Support fundamental cavity work	5 days	12/27	12/31			
17		**Power Supplies [LINAC/PAR Dec-Jan 2006]**	**16 days**	**12/23**	**1/7**			
18		**PAR**	**16 days**	**12/23**	**1/7**			
19		PAR dipole maintenance	1 day	12/23	12/23			19425
20		Investigate bypass interface boards +5V PS	1 day	12/23	12/23			19429
21		PAR septum maintenance	1 day	12/23	12/23			19433
22		PAR kicker PS P1,P2 & P4EK maintenance	2 days	12/23	12/24			19422
23		LOTO & Keeper PAR kicker magnet	0.5 days	1/6	1/6			19428
24		Investigate fluctuating P1:H1 PS output current	1 day	1/6	1/6			19427
25		Kicker thyratron tank maintenance/verify docs	2 days	1/6	1/7			19424
26		**RF [LINAC/PAR Dec-Jan 2006]**	**18 days**	**1/2**	**1/19**			
27		**LINAC Modulators**	**18 days**	**1/2**	**1/19**			
28		**Install repaired EMI HV power supply in L2**	**0.5 days**	**1/2**	**1/2**	**Y**	**L**	**19300**
29		L1-L5 HV cable PD test	1 day	1/2	1/2			19305
30		Clean modulator filters in L1-L5	1 day	1/2	1/2			19306
31		Inspect thyratrons in L1-L5	1 day	1/2	1/2			19307
32		Inspect summing boxes in L1-L5	2 days	1/2	1/3			19301
33		**Modify klystron lead shielding in L4**	**3 days**	**1/2**	**1/4**	**Y**	**L**	**19311**
34		Process/test klystron tank oil in L1-L5	3 days	1/2	1/4			19302
35		Inspect oil tank enclosure in L1-L5	3 days	1/2	1/4			19303
36		Inspect PFN cabinets, check L1-5 connections	3 days	1/2	1/4			19304
37		Replace klystron/thyratron supply cooling fans-L1-5	4 days	1/2	1/5			19299
38		Create filament charts for klystrons in L1-L5	1 day	1/9	1/9			19308
39		LLRF routine maintenance	1 day	1/9	1/9			19313
40		Inventory/inspect/modify/reinstall VXI modules	1 day	1/11	1/11			19314
41		Check/calibrate mod readbacks/interlocks in L1-L5	3 days	1/16	1/18			19309
42		Startup/condition modulators & klystrons in L1-L5	3 days	1/17	1/19			19310
43		**PAR**	**3 days**	**1/3**	**1/5**			
44		Remove fundamental PAR inerface box & torque c	1.5 days	1/3	1/4			19453
45		Measure/change fundamental PAR digitizers polari	2 days	1/3	1/4			19370
46		Routine RF maintenance - fundamental & harmonic	2 days	1/3	1/4			19371
47		Install/check bunch cleaning mixer chassis	2 days	1/4	1/5			19315
48		**BOOSTER SCHEDULE [Dec-Jan 2006]**	**9 days**	**1/7**	**1/16**			
49		Booster Secure	0 days	1/16	1/16			
50		Switchgear maintenance	1 day	1/7	1/7			
51		Switchgear maintenance	1 day	1/14	1/14			
52		**Controls [BOOSTER Dec-Jan 2006]**	**1 day**	**1/5**	**1/5**			
53		Upgrade LLRF feedback mods @ cavity systems	1 day	1/5	1/5			19325
54		**Diagnostics [BOOSTER Dec-Jan 2006]**	**11 days**	**1/3**	**1/13**			
55		Move wall phone downstream 40 ft at BTX	1 day	1/3	1/3			19260
56		Remove decommissioned loss monitor gas system	3 days	1/3	1/5			19441
57		Reinstall ODR A1 blade into ODR cube	3 days	1/11	1/13			19372
58		**Mechanical [BOOSTER Dec-Jan 2006]**	**20 days**	**12/22**	**1/10**			
59		Install lead shielding around septum microphones	1 day	12/22	12/22			
60		RF coupler contact ring maintenance	15 days	12/27	1/10			19423
61		RF cavity tuner maintenance	15 days	12/27	1/10			19435
62		Replace all air blower filters on RF cavities	15 days	12/27	1/10			19444
63		Recalibrate/replace infrared thermometers on Cav. 1&2	15 days	12/27	1/10			19446
64		Install new cavity flow meters	2 days	1/3	1/4			19337
65		Install magnet drip shields	12 days	12/22	1/2			
66		**Power Supplies [BOOSTER Dec-Jan 2006]**	**17 days**	**12/22**	**1/7**			
67		Install 3 480 vac maters in dipole & quad supplies	1 day	12/22	12/22			
68		Septum PS general maintenance	2 days	12/23	12/24			19431
69		PS general maintenance	5 days	12/23	12/27			19432
70		Kicker maintenance	2 days	1/6	1/7			19430
71		**RF [BOOSTER Dec-Jan 2006]**	**27 days**	**12/22**	**1/17**			
72		Klystrons RF1-5 maintenance	5 days	12/22	12/26			
73		RF5 UVC PS to klystron cable/socket maintenance	0.5 days	12/23	12/23			19274
74		Hi-Pot RF5 crowbar ignitron stack & ind. stack compone	0.5 days	12/23	12/23			19276
75		Calibrate RF5 UVC ps analog readbacks	0.5 days	12/23	12/23			19278
76		RF5 UVC maintenance, oil processing, tetrode inspect	2 days	12/23	12/24			19272
77		RF5 crowbar cabinet VESDA maintenance/calib/valid	0.5 days	1/4	1/4			19270
78		Tuner maintenance	2 days	1/5	1/6			19286
79		**RF5 personnel safety pre-startup checklist**	**0.5 days**	**1/12**	**1/12**	**Y**	**L**	**19298**
80		LLRF maintenance	2 days	1/12	1/13			19288
81		RF5 safety,klystron&RF interlock,UVC pre-start-up chec	1 day	1/17	1/17			19280



Rev. 1 (12/7/05)

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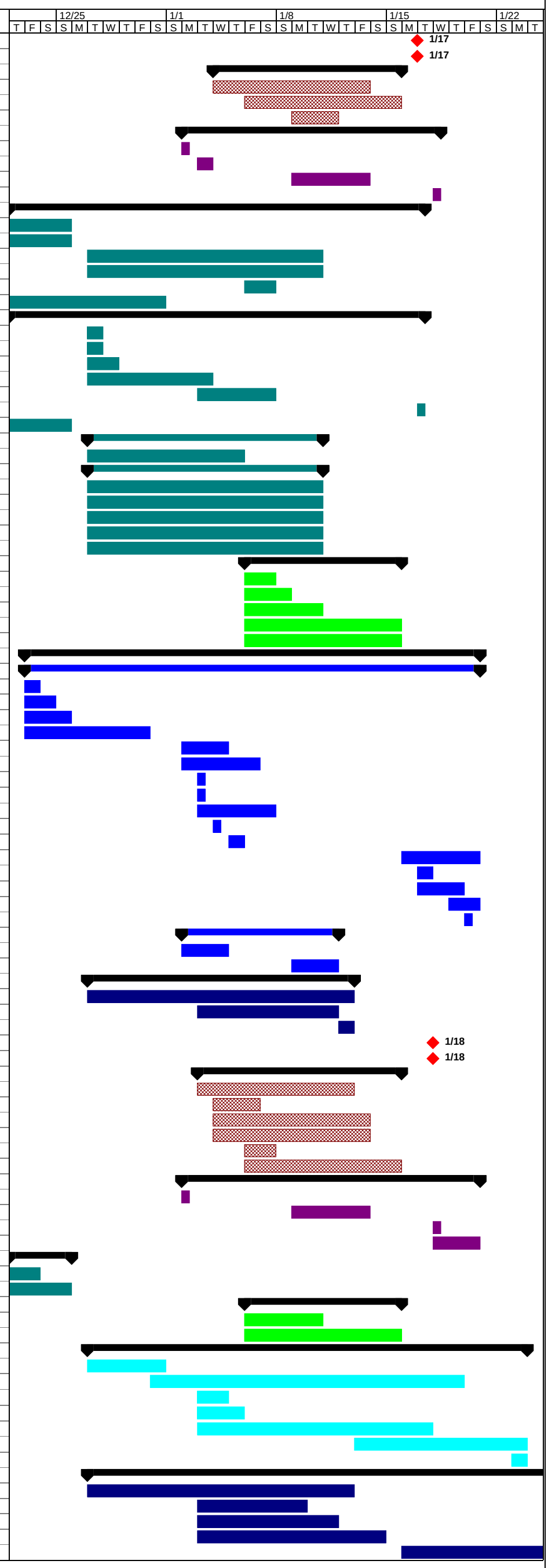
MAINTENANCE SCHEDULE for Dec '05-Jan. 2006 Shutdown

ID	Rev	Task Name	Duration	Start	Finish	Rad Safet	Risk	WR #
82		**ZONE F SCHEDULE [Dec-Jan 2006]**	**0 days**	**1/17**	**1/17**			
83		Zone F (S36-1) Secure	0 days	1/17	1/17			
84		**Controls [SR F Dec-Jan 2006]**	**12 days**	**1/4**	**1/15**			
85		Reconfigure BUG's with vac controls - S7,8,35,36	10 days	1/4	1/13			19413
86		Install 4 new vacuum valve controllers-S7,8,35,36	10 days	1/6	1/15			19409
87		Upgrade LLRF feedback mods @ RF cavities&klystrons	3 days	1/9	1/11			19326
88		**Diagnostics [SR F Dec-Jan 2006]**	**16.5 days**	**1/2**	**1/18**			
89		Support bakeout - S5,6,35,36	0.5 days	1/2	1/2			19426
90		Investigate/repair S36BP1	1 day	1/3	1/3			19377
91		Test SR bpm's	5 days	1/9	1/13			19414
92		Run bpm self-test(AP2's-BP2's)-All sectors except S38	0.5 days	1/18	1/18			19416
93		**Mechanical [SR F Dec-Jan 2006]**	**26.5 days**	**12/22**	**1/17**			
94		Change RF coupler in S37 C4	4 days	12/22	12/25			
95		Modify piping in FE-ID1	4 days	12/22	12/25			15634
96		Calibrate/replace all coupler infrared thermom-S36&37	15 days	12/27	1/10			19445
97		Replace all air blower filters on SR kicker/pinger magne	15 days	12/27	1/10			19439
98		Vibration testing-Girders in RF S36-38,40	2 days	1/6	1/7			19348
99		Support bakeouts	10 days	12/22	12/31			
100		**Mechanical Mezzanine**	**26.5 days**	**12/22**	**1/17**			
101		Replace motor bearings on VC cooling skid-S15,16	1 day	12/27	12/27			19141
102		Replace motor bearings on VC cooling skid-S27,28	1 day	12/27	12/27			19142
103		Routine process water pump maintenance	2 days	12/27	12/28			19258
104		Replace 3 piece coupling sleeve w/ 1 piece sleeve	8 days	12/27	1/3			19203
105		Install new bypass valve in 2nd water sys-P-SR-36	5 days	1/3	1/7			19335
106		Check motor electrical phase imbalance-P-VC-20B	0.5 days	1/17	1/17			19143
107		Measure resistance of parallel thermal switches	4 days	12/22	12/25			
108		**Other Storage Ring/Bldg. 420 Work**	**15 days**	**12/27**	**1/10**			
109		Install new control valve, modify piping-P-RF4 pum	10 days	12/27	1/5			19336
110		**RF maintenance**	**15 days**	**12/27**	**1/10**			
111		RF coupler maintenance	15 days	12/27	1/10			19421
112		RF tuner maintenance	15 days	12/27	1/10			19437
113		Replace all air blower filters on 352 MHz klystr	15 days	12/27	1/10			19447
114		352 MHz RF/TR nitrogen blanket qualitrol valv	15 days	12/27	1/10			19448
115		Replace all air blower filters on SR RF cavities	15 days	12/27	1/10			19442
116		**Power Supplies [SR F Dec-Jan 2006]**	**10 days**	**1/6**	**1/15**			
117		SR dipole PS general maintenance	2 days	1/6	1/7			19436
118		Kicker PS general maintenance	3 days	1/6	1/8			19440
119		Replace rad damaged converter interlock cables-correc	5 days	1/6	1/10			19443
120		Raw power supply general maintenance	10 days	1/6	1/15			19434
121		Septum PS maintenance/install septum reg upgrades	10 days	1/6	1/15			19438
122		**RF [SR F Dec-Jan 2006]**	**29 days**	**12/23**	**1/20**			
123		**Storage Ring UVC Power Supplies**	**29 days**	**12/23**	**1/20**			
124		RF1-4 UVC PS to klystron cable/socket maintenan	1 day	12/23	12/23			19273
125		Hi-Pot RF1-4 crowbar ignitron stack&ind. stack con	2 days	12/23	12/24			19275
126		Calibrate RF1-4 UVC ps analog readbacks	3 days	12/23	12/25			19277
127		RF1-4 UVC HV power supply maintenance	8 days	12/23	12/30			19271
128		**Replace input coupler-S37 Cav 4**	**3 days**	**1/2**	**1/4**	**Y**	**M**	**19292**
129		Replace/calibrate S36 & S340 power monitor syste	5 days	1/2	1/6			19294
130		**Replace rf load at S40/Hybrid #1&2**	**0.5 days**	**1/3**	**1/3**	**Y**	**L**	**19293**
131		**Replace rf load at S40/Hybrid #3**	**0.5 days**	**1/3**	**1/3**	**Y**	**L**	**19450**
132		RF1-5 klystron maintenance	5 days	1/3	1/7			19376
133		RF1-4 crowbar cabinet VESDA maint/calib/valid	0.5 days	1/4	1/4			19269
134		**Replace RF system rad monitors**	**1 day**	**1/5**	**1/5**	**Y**	**L**	**19405**
135		Update meters at RF1-4	5 days	1/16	1/20			19291
136		**RF1-4 personnel safety pre-startup checklist**	**1 day**	**1/17**	**1/17**	**Y**	**L**	**19297**
137		Perform RF1-4 pre-startup check list	3 days	1/17	1/19			19279
138		Interlock testing prior to startup	2 days	1/19	1/20			19289
139		Perform heater emission test on RF4 klystron	0.5 days	1/20	1/20			19295
140		**352MHz LLRF**	**10 days**	**1/2**	**1/11**			
141		Tuner Maintenance	3 days	1/2	1/4			19285
142		Low level maintenance	3 days	1/9	1/11			19287
143		**XFE [SR F Dec-Jan 2006]**	**17 days**	**12/27**	**1/12**			
144		Install additional encoder rad shielding on ID's	17 days	12/27	1/12			19393
145		Check/tighten ID control cabinet cable connections	9 days	1/3	1/11			19394
146		Routine maintenance/calibration of ID	1 day	1/12	1/12			19391
147		**ZONE A SCHEDULE [Dec-Jan 2006]**	**0 days**	**1/18**	**1/18**			
148		Zone A (S2-1) Secure	0 days	1/18	1/18			
149		**Controls [SR A Dec-Jan 2006]**	**13 days**	**1/3**	**1/15**			
150		Load FEEPS EPICS db's. Reboot IOC's-FE2,5,6,8,9	10 days	1/3	1/12			19358
151		Remove 4ID control sys/install a 2 motor ID control sys	3 days	1/4	1/6			19357
152		Reconfigure BUG's with vac controls - S7,8,35,36	10 days	1/4	1/13			19413
153		Install 2 new terminal block strips - S7&35	10 days	1/4	1/13			19417
154		Rewire input signams to MPS latch card connect.-S5-8	2 days	1/6	1/7			19420
155		Install 4 new vacuum valve controllers-S7,8,35,36	10 days	1/6	1/15			19409
156		**Diagnostics [SR A Dec-Jan 2006]**	**19 days**	**1/2**	**1/20**			
157		Support bakeout - S5,6,35,36	0.5 days	1/2	1/2			19426
158		Test SR bpm's	5 days	1/9	1/13			19414
159		Run bpm self-test(AP2's-BP2's)-All sectors except S38	0.5 days	1/18	1/18			19416
160		Install test equipment in P zero test rack - S2	3 days	1/18	1/20			19467
161		**Mechanical [SR A Dec-Jan 2006]**	**4 days**	**12/22**	**12/25**			
162		Replace sextupole magnet hoses - S1,2,5,6	2 days	12/22	12/23			
163		Measure resistance of parallel thermal switches	4 days	12/22	12/25			
164		**Power Supplies [SR A Dec-Jan 2006]**	**10 days**	**1/6**	**1/15**			
165		Replace rad damaged converter interlock cables-correc	5 days	1/6	1/10			19443
166		Raw power supply general maintenance	10 days	1/6	1/15			19434
167		**SI [SR A Dec-Jan 2006]**	**28 days**	**12/27**	**1/23**			
168		Replace LOVE controllers in FEEPS PLC-2,9,12,20BM	5 days	12/27	12/31			19398
169		**PSS PLC shelf inventories-8BM**	**20 days**	**12/31**	**1/19**	**Y**	**M**	**19373**
170		**Validate 8BM PSS**	**2 days**	**1/3**	**1/4**	**Y**	**M**	**19458**
171		**Validate 9ID PSS**	**3 days**	**1/3**	**1/5**	**Y**	**M**	**19459**
172		Replace LOVE controllers in FEEPS PLC-2,5,6,8,9ID	15 days	1/3	1/17			19399
173		**SS2 support maintenance work - 8ID**	**11 days**	**1/13**	**1/23**	**Y**	**M**	**19332**
174		Perform pre-run ops test of FE & BL shutters & vac valv	1 day	1/23	1/23			19407
175		**XFE [SR A Dec-Jan 2006]**	**30 days**	**12/27**	**1/25**			
176		Install additional encoder rad shielding on ID's	17 days	12/27	1/12			19393
177		General ID maintenance	7 days	1/3	1/9			19386
178		Check/tighten ID control cabinet cable connections	9 days	1/3	1/11			19394
179		Install 3.5 period ID - S4	12 days	1/3	1/14			19383
180		**Vent P6 integral shutter in the 2BM-A hutch**	**10 days**	**1/16**	**1/25**	**Y**	**H**	**19366**



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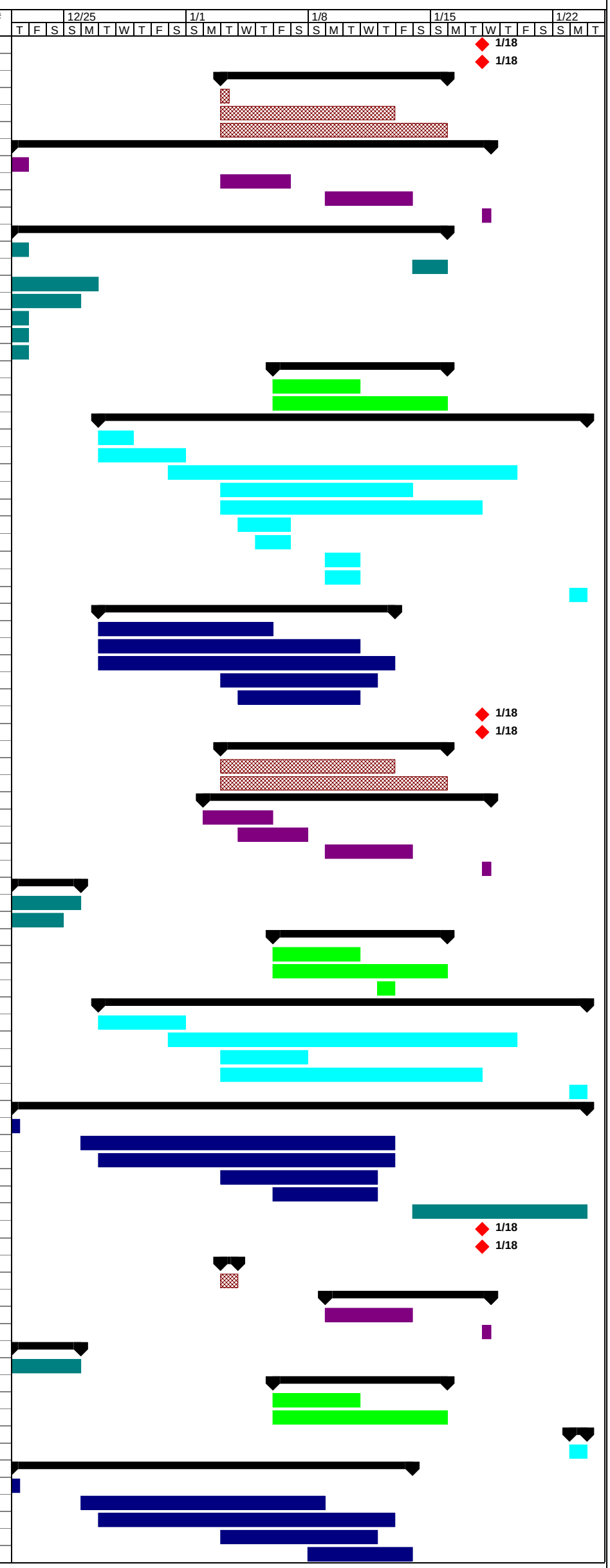
MAINTENANCE SCHEDULE for Dec '05-Jan. 2006 Shutdown

ID	Rev	Task Name	Duration	Start	Finish	Rad Safet	Risk	WR #
181		**ZONE B SCHEDULE [Dec-Jan 2006]**	**0 days**	**1/18**	**1/18**			
182		Zone B (S10-17) Secure	0 days	1/18	1/18			
183		**Controls [SR B Dec-Jan 2006]**	**13 days**	**1/3**	**1/15**			
184		Check fiber optic cable from 14ID FEEPS to MPS syste	0.5 days	1/3	1/3			19360
185		Load FEEPS EPICS db's. Reboot IOC's-FE12,13,15,16	10 days	1/3	1/12			19358
186		Upgrade network connections-IOC's to 100Mb-ID11-17	13 days	1/3	1/15			19361
187		**Diagnostics [SR B Dec-Jan 2006]**	**27.5 days**	**12/22**	**1/18**			
188		Support IDVC work; remove Cerenkov detector & hardli	1 day	12/22	12/22			19455
189		Replace Xbpm 10IDP2 w/ new type(B1-71)	4 days	1/3	1/6			19222
190		Test SR bpm's	5 days	1/9	1/13			19414
191		Run bpm self-test(AP2's-BP2's)-All sectors except S38	0.5 days	1/18	1/18			19416
192		**Mechanical [SR B Dec-Jan 2006]**	**25 days**	**12/22**	**1/15**			
193		Replace magnet hoses in S13 & 14	1 day	12/22	12/22			
194		Install piping for laser cooling - S14	2 days	1/14	1/15			19338
195		Remove AL water from vacuum chamber - S14ID	5 days	12/22	12/26			
196		Measure resistance of parallel thermal switches	4 days	12/22	12/25			
197		Convert BL 10ID, 15ID & 17ID to Yokogawa	1 day	12/22	12/22			
198		Install water for BL11	1 day	12/22	12/22			
199		Re-plumb sector 12BM with stainless tubing	1 day	12/22	12/22			
200		**Power Supplies [SR B Dec-Jan 2006]**	**10 days**	**1/6**	**1/15**			
201		Replace rad damaged converter interlock cables-correc	5 days	1/6	1/10			19443
202		Raw power supply general maintenance	10 days	1/6	1/15			19434
203		**SI [SR B Dec-Jan 2006]**	**28 days**	**12/27**	**1/23**			
204		**Validate 17BM PSS**	**2 days**	**12/27**	**12/28**	**Y**	**M**	**19464**
205		Replace LOVE controllers in FEEPS PLC-2,9,12,20BM	5 days	12/27	12/31			19398
206		**PSS PLC shelf inventories-13,14,17BM, 16ID**	**20 days**	**12/31**	**1/19**	**Y**	**M**	**19373**
207		**SS2 support maintenance work - 13BM**	**11 days**	**1/3**	**1/13**	**Y**	**M**	**19340**
208		Replace LOVE controllers in FEEPS PLC-12,13,15ID	15 days	1/3	1/17			19399
209		**Validate 11ID PSS**	**3 days**	**1/4**	**1/6**	**Y**	**M**	**19460**
210		**Validate 13BM PSS**	**2 days**	**1/5**	**1/6**	**Y**	**M**	**19461**
211		**Validate 14BM PSS**	**2 days**	**1/9**	**1/10**	**Y**	**M**	**19462**
212		**Validate 16ID PSS**	**2 days**	**1/9**	**1/10**	**Y**	**M**	**19463**
213		Perform pre-run ops test of FE & BL shutters & vac valv	1 day	1/23	1/23			19407
214		**XFE [SR B Dec-Jan 2006]**	**17 days**	**12/27**	**1/12**			
215		Replace IDVC in S14	10 days	12/27	1/5			19319
216		Remove/reinstall downstream ID - S14	15 days	12/27	1/10			19319
217		Install additional encoder rad shielding on ID's	17 days	12/27	1/12			19393
218		Check/tighten ID control cabinet cable connections	9 days	1/3	1/11			19394
219		Routine maintenance of ID	7 days	1/4	1/10			19387
220		**ZONE C SCHEDULE [Dec-Jan 2006]**	**0 days**	**1/18**	**1/18**			
221		Zone C (S112-23) Secure	0 days	1/18	1/18			
222		**Controls [SR C Dec-Jan 2006]**	**13 days**	**1/3**	**1/15**			
223		Load FEEPS EPICS db's. Reboot IOC's-FE18,19,20,22	10 days	1/3	1/12			19358
224		Upgrade network connections-IOC to 100Mb-FE&ID18-:	13 days	1/3	1/15			19361
225		**Diagnostics [SR C Dec-Jan 2006]**	**16.5 days**	**1/2**	**1/18**			
226		Replace Xbpm 18IDP2 w/ new type(B1-71)	4 days	1/2	1/5			19223
227		Replace 10-blade dual-canted Xbpm w/4 blade P1-21ID	4 days	1/4	1/7			19138
228		Test SR bpm's	5 days	1/9	1/13			19414
229		Run bpm self-test(AP2's-BP2's)-All sectors except S38	0.5 days	1/18	1/18			19416
230		**Mechanical [SR C Dec-Jan 2006]**	**4 days**	**12/22**	**12/25**			
231		Measure resistance of parallel thermal switches	4 days	12/22	12/25			
232		Support 23BM bakeout	3 days	12/22	12/24			
233		**Power Supplies [SR C Dec-Jan 2006]**	**10 days**	**1/6**	**1/15**			
234		Replace rad damaged converter interlock cables-correc	5 days	1/6	1/10			19443
235		Raw power supply general maintenance	10 days	1/6	1/15			19434
236		Hookup and test S21 canted corrector power supplies	1 day	1/12	1/12			19451
237		**SI [SR C Dec-Jan 2006]**	**28 days**	**12/27**	**1/23**			
238		Replace LOVE controllers in FEEPS PLC-2,9,12,20BM	5 days	12/27	12/31			19398
239		**PSS PLC shelf inventories-19,20BM,19,22,23ID**	**20 days**	**12/31**	**1/19**	**Y**	**M**	**19373**
240		**Remove/re-install 21ID FE shutter wiring**	**5 days**	**1/3**	**1/7**	**Y**	**L**	**19397**
241		Replace LOVE controllers in FEEPS PLC-18&20ID	15 days	1/3	1/17			19399
242		Perform pre-run ops test of FE & BL shutters & vac valv	1 day	1/23	1/23			19407
243		**XFE [SR C Dec-Jan 2006]**	**33 days**	**12/22**	**1/23**			
244		Remove upstream ID - S21	0.5 days	12/22	12/22			19380
245		Install upstream & downstream ID's - S21	18 days	12/26	1/12			19382
246		Install additional encoder rad shielding on ID's	17 days	12/27	1/12			19393
247		Check/tighten ID control cabinet cable connections	9 days	1/3	1/11			19394
248		Routine ID maintenance	6 days	1/6	1/11			19388
249		**Change slow valve in 23BM-FE**	**10 days**	**1/14**	**1/23**	**Y**	**M**	**19321**
250		**ZONE D SCHEDULE [Dec-Jan 2006]**	**0 days**	**1/18**	**1/18**			
251		Zone D (S24-21) Secure	0 days	1/18	1/18			
252		**Controls [SR D Dec-Jan 2006]**	**1 day**	**1/3**	**1/3**			
253		Complete install of 2nd ID control system - 26ID	1 day	1/3	1/3			19355
254		**Diagnostics [SR D Dec-Jan 2006]**	**9.5 days**	**1/9**	**1/18**			
255		Test SR bpm's	5 days	1/9	1/13			19414
256		Run bpm self-test(AP2's-BP2's)-All sectors except S38	0.5 days	1/18	1/18			19416
257		**Mechanical [SR D Dec-Jan 2006]**	**4 days**	**12/22**	**12/25**			
258		Measure resistance of parallel thermal switches	4 days	12/22	12/25			
259		**Power Supplies [SR D Dec-Jan 2006]**	**10 days**	**1/6**	**1/15**			
260		Replace rad damaged converter interlock cables-correc	5 days	1/6	1/10			19443
261		Raw power supply general maintenance	10 days	1/6	1/15			19434
262		**SI [SR D Dec-Jan 2006]**	**1 day**	**1/23**	**1/23**			
263		Perform pre-run ops test of FE & BL shutters & vac valv	1 day	1/23	1/23			19407
264		**XFE [SR D Dec-Jan 2006]**	**23 days**	**12/22**	**1/13**			
265		Remove downstream ID - S26	0.5 days	12/22	12/22			19378
266		Install upstream & downstream ID's - S26	14 days	12/26	1/8			19381
267		Install additional encoder rad shielding on ID's	17 days	12/27	1/12			19393
268		Check/tighten ID control cabinet cable connections	9 days	1/3	1/11			19394
269		Routine ID maintenance	6 days	1/8	1/13			19389



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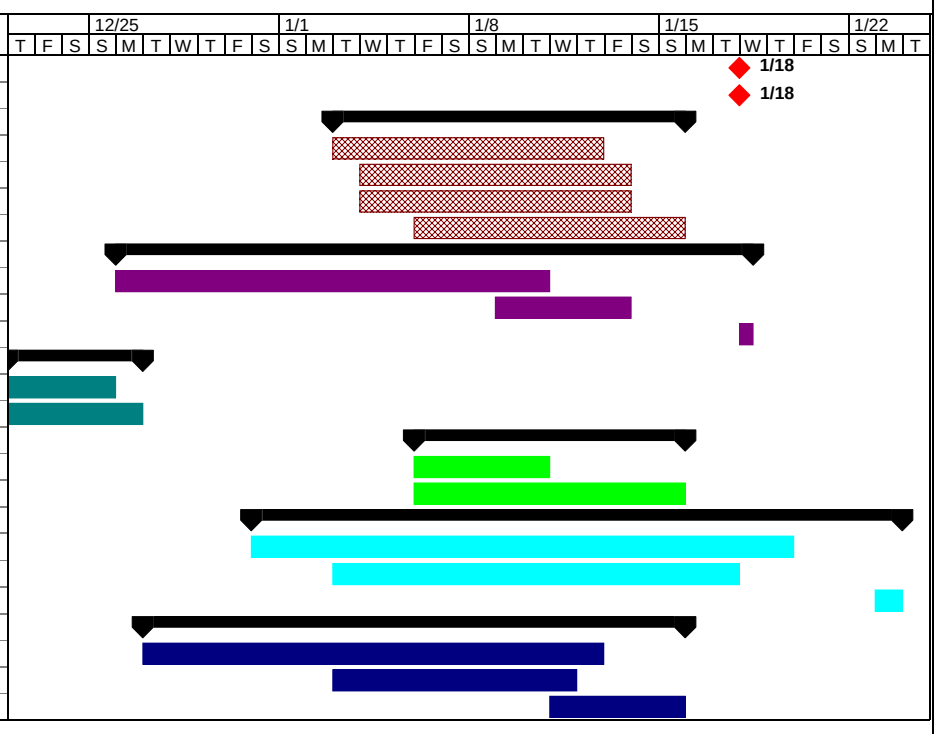
MAINTENANCE SCHEDULE for Dec '05-Jan. 2006 Shutdown

ID	Rev	Task Name	Duration	Start	Finish	Rad Safet	Risk	WR #
270		**ZONE E SCHEDULE [Dec-Jan 2006]**	**0 days**	**1/18**	**1/18**			
271		Zone E (S30-35) Secure	0 days	1/18	1/18			
272		**Controls [SR E Dec-Jan 2006]**	**13 days**	**1/3**	**1/15**			
273		Load FEEPS EPICS db's. Reboot IOC's-FE33	10 days	1/3	1/12			19358
274		Reconfigure BUG's with vac controls - S7,8,35,36	10 days	1/4	1/13			19413
275		Install 2 new terminal block strips - S7&35	10 days	1/4	1/13			19417
276		Install 4 new vacuum valve controllers-S7,8,35,36	10 days	1/6	1/15			19409
277		**Diagnostics [SR E Dec-Jan 2006]**	**23.5 days**	**12/26**	**1/18**			
278		Replace pinhole slits on VC - S35	16 days	12/26	1/10			19411
279		Test SR bpm's	5 days	1/9	1/13			19414
280		Run bpm self-test(AP2's-BP2's)-All sectors except S38	0.5 days	1/18	1/18			19416
281		**Mechanical [SR E Dec-Jan 2006]**	**5 days**	**12/22**	**12/26**			
282		Measure resistance of parallel thermal switches	4 days	12/22	12/25			
283		Support bakeouts	5 days	12/22	12/26			
284		**Power Supplies [SR E Dec-Jan 2006]**	**10 days**	**1/6**	**1/15**			
285		Replace rad damaged converter interlock cables-correc	5 days	1/6	1/10			19443
286		Raw power supply general maintenance	10 days	1/6	1/15			19434
287		**SI [SR E Dec-Jan 2006]**	**24 days**	**12/31**	**1/23**			
288		**PSS PLC shelf inventories-31ID**	**20 days**	**12/31**	**1/19**	**Y**	**M**	**19373**
289		Replace LOVE controllers in FEEPS PLC-33ID	15 days	1/3	1/17			19399
290		Perform pre-run ops test of FE & BL shutters & vac valv	1 day	1/23	1/23			19407
291		**XFE [SR E Dec-Jan 2006]**	**20 days**	**12/27**	**1/15**			
292		Install additional encoder rad shielding on ID's	17 days	12/27	1/12			19393
293		Check/tighten ID control cabinet cable connections	9 days	1/3	1/11			19394
294		Routine ID maintenance	5 days	1/11	1/15			19390



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