

Web Applications for APS Operation Management

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Contents

- Introduction
- APS Operation Statistics
- Statistics Tools
- Operations Logbook
- RMD Report
- Downtime Report
- Work Request System
- On-line Information for Operators

Introduction

- Many Web-based software tools are developed for APS operations.
- Utilization of these tools:
 - *Improves control room productivity and consistency*
 - *Enhances the tracking of machine faults*
 - *Helps to communicate machine status to operations staffs and other system groups*
 - *Contributes to the improvement of user beam availability and reliability*

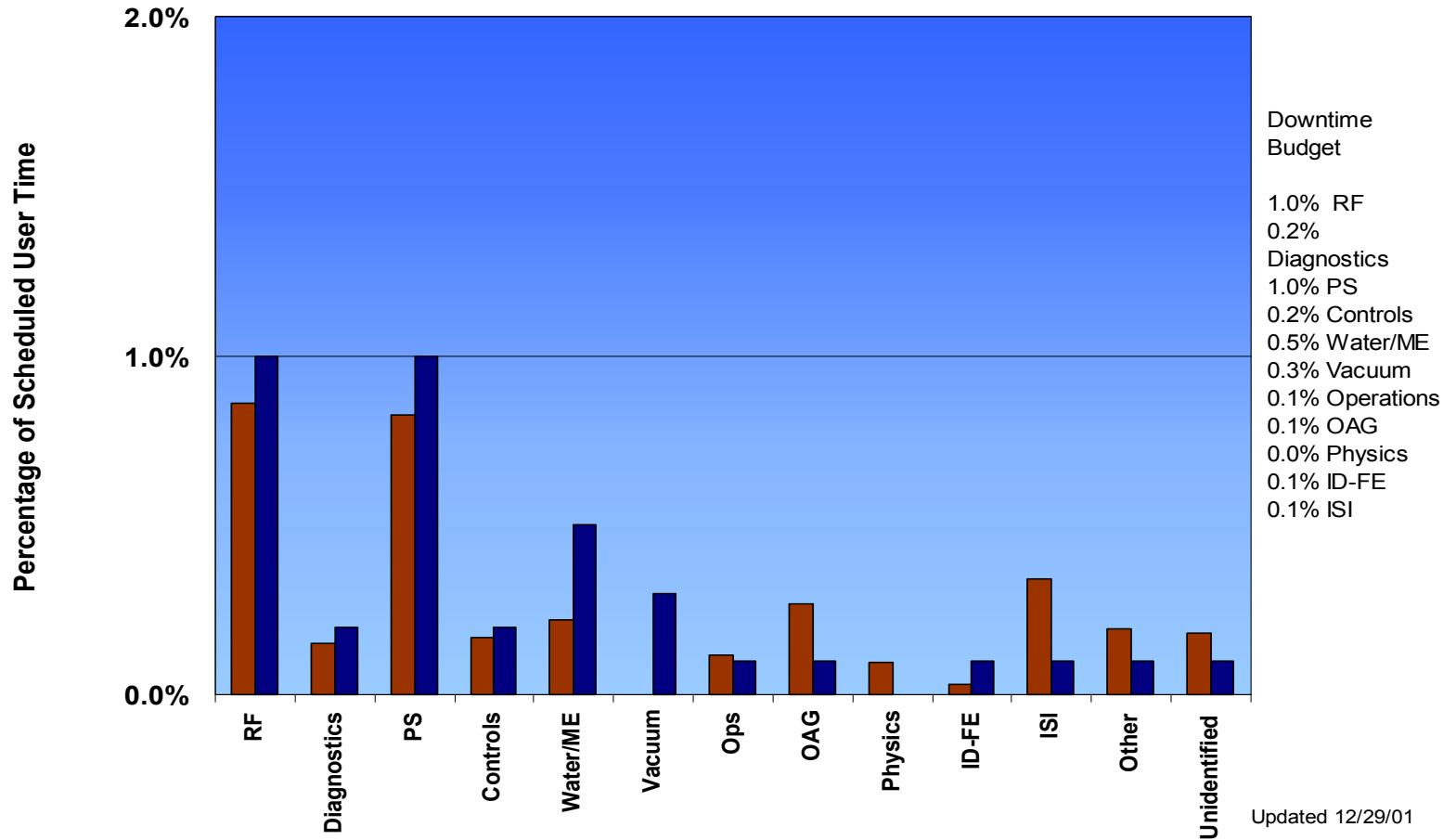
APS Operation Statistics

- APS Operational Statistics are compiled by the Operations Group throughout each run
- There is a dispute period to allow groups to challenge the fault and downtime analysis
- Overall performance is calculated based on user beam downtime
- System performance is based on system downtime
- Each group is allocated a FY downtime goal or “budget” and a MTBF goal

Run 2001-4 Downtime by System October 31 through December 23, 2001

Scheduled User Time = 1120.0 hours
User Downtime = 38.5 hours

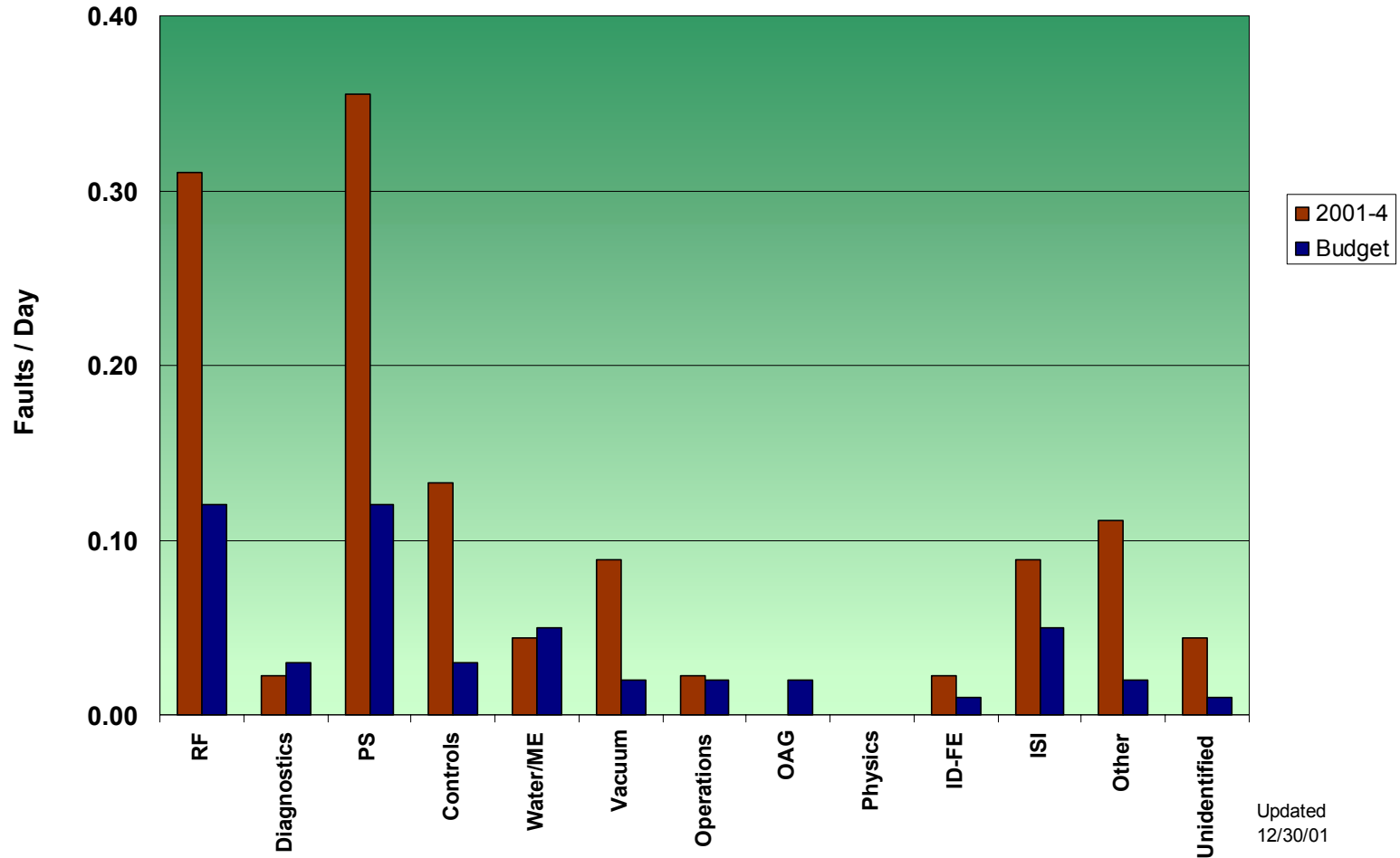
■ Run 2001-4
■ Budget



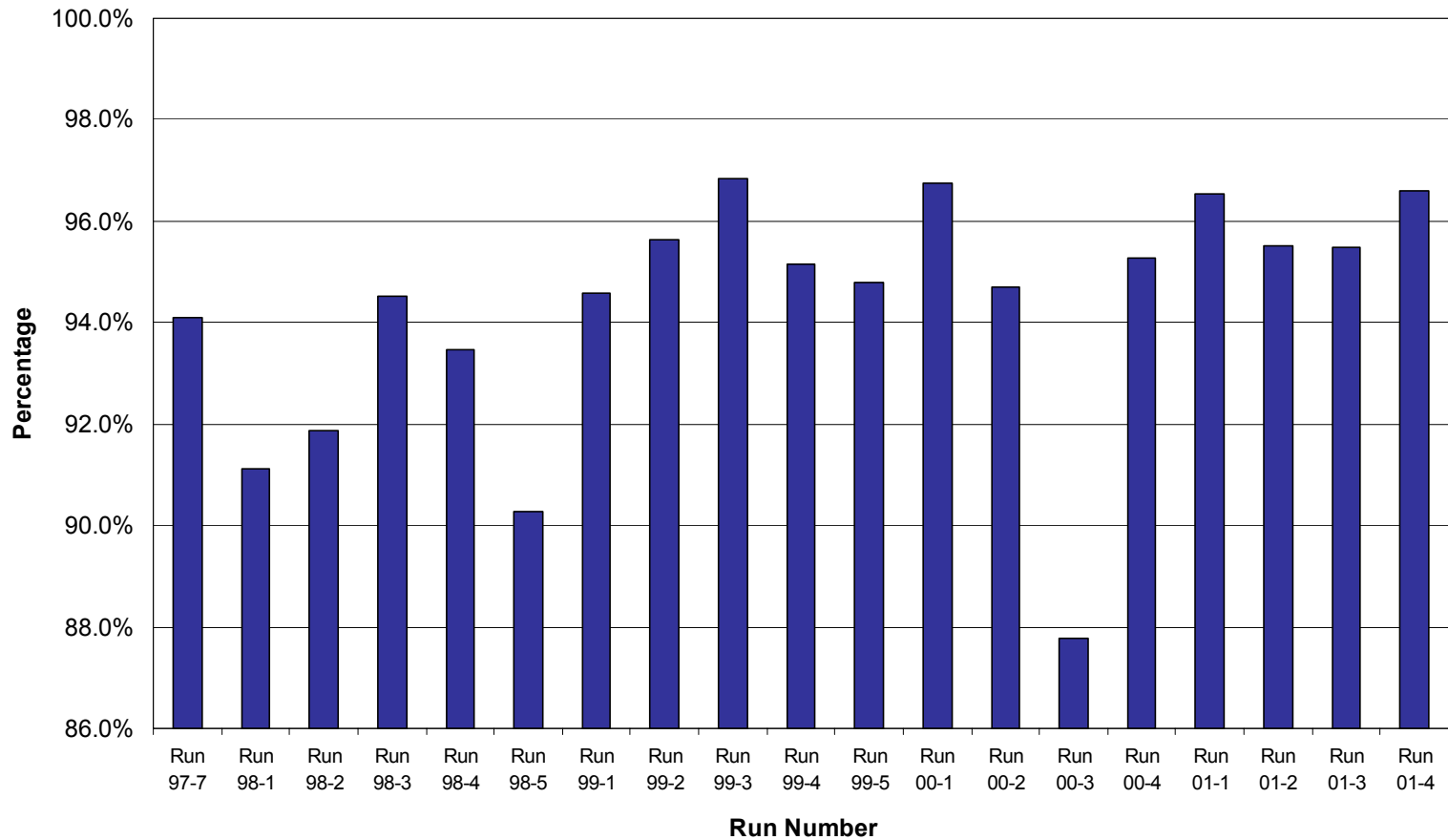
Run 2001-4 Faults Per Day By System

October 30 through December 23, 2001

User Beam Days = 46.7

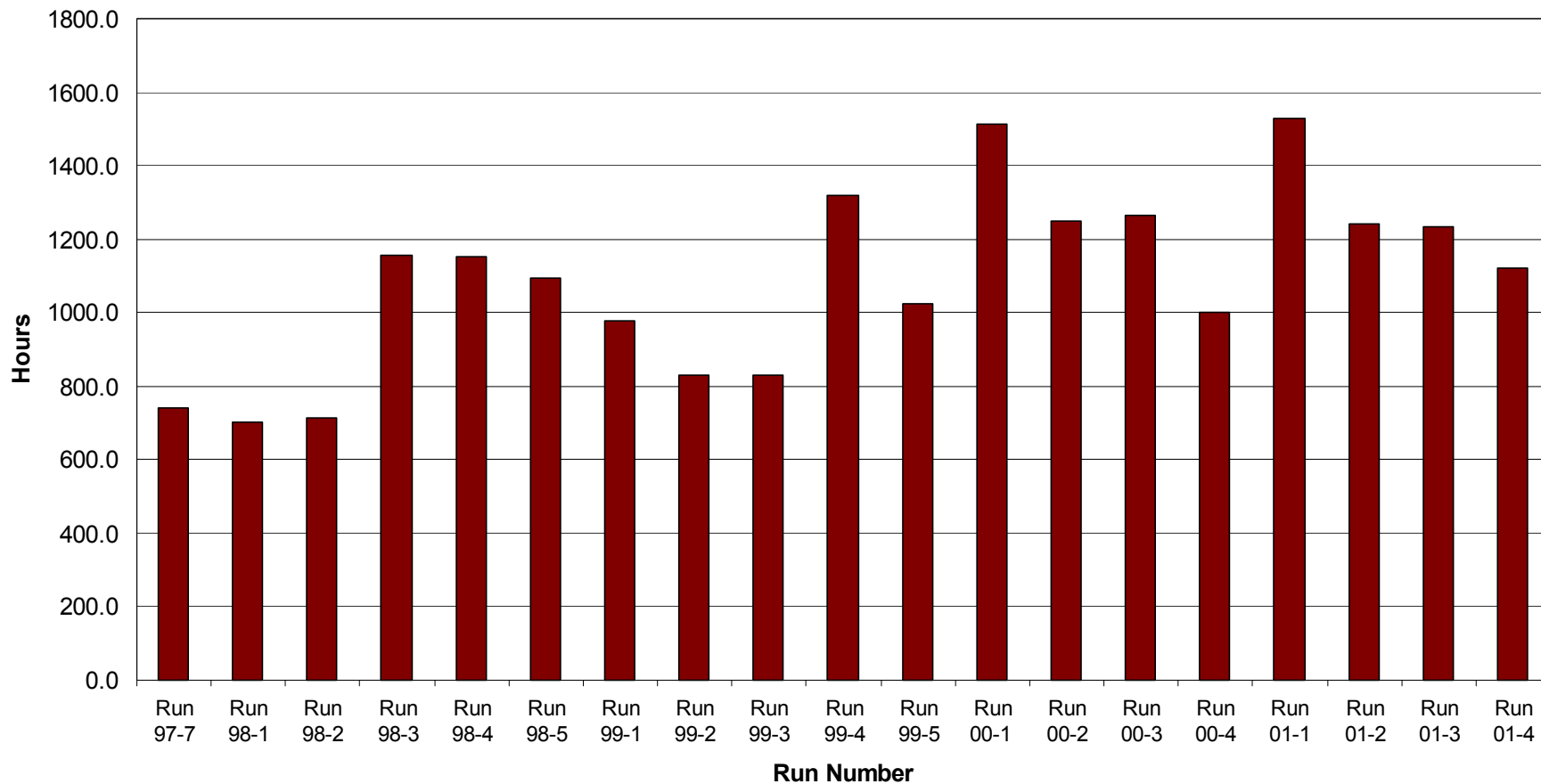


**APS Run History Operational Statistics
X-ray Availability
Data from FY1998 through Present**



APS Run History Operational Statistics

Scheduled User Hours



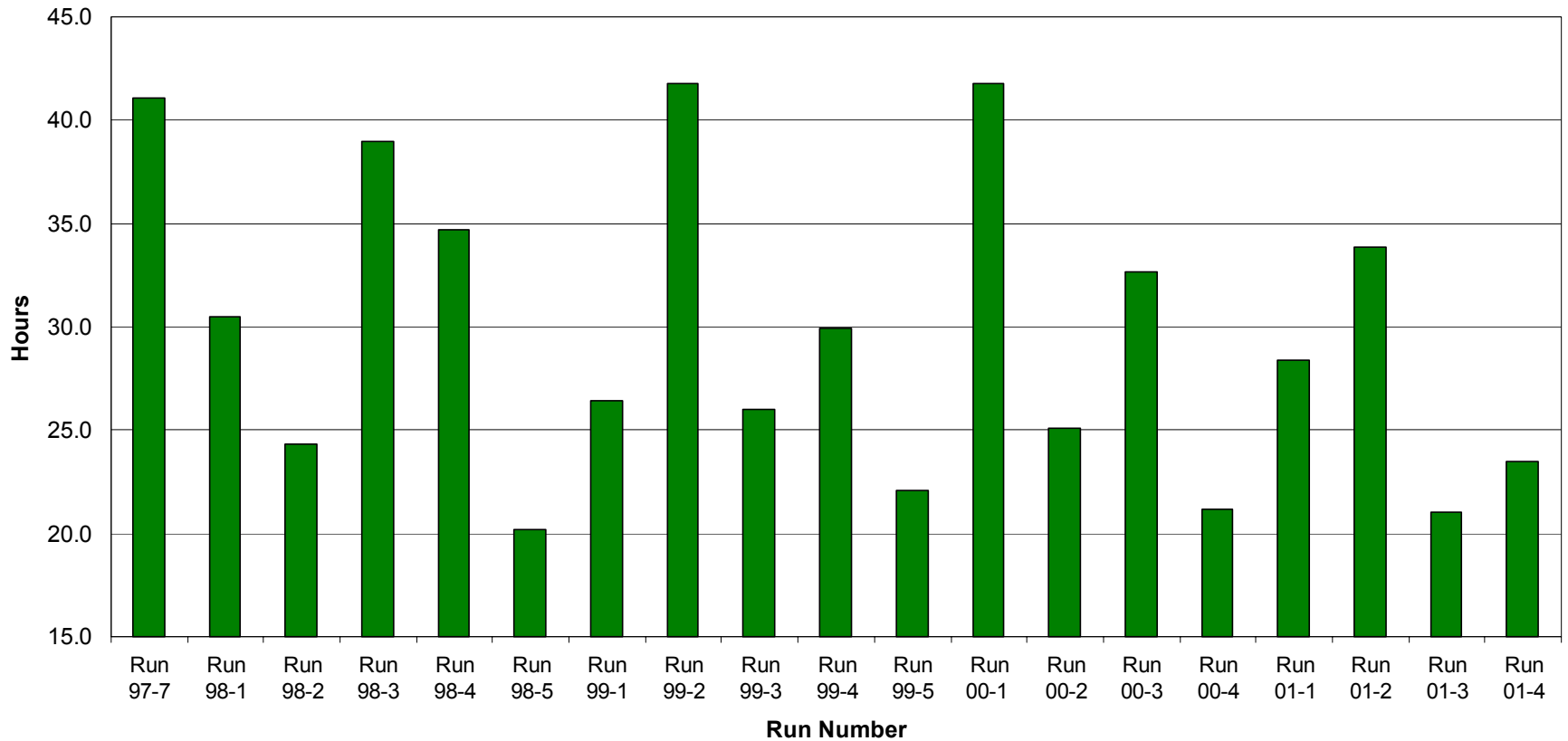
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APS Run History Operational Statistics

Average Fill Duration Without a Fault (MTBF)

Data from FY 1998 through Present



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APS Running Statistics; FY98 to Present

| | Scheduled User Hours | Storage Ring Availability (hours) | Storage Ring Availability (%) | X-ray Availability (hours) | X-ray Availability (%) | Faults | Average Fill Duration without a Fault (hours) | Faults Per Day of Delivered Beam | Delivered Integrated Current (A- hr) | Average Current (ma) |
|--------------|-------------------------|--|--|----------------------------------|------------------------------|------------|--|---|---|----------------------------|
| Run 97-7 | 741.9 | 722.6 | 97.4% | 698.2 | 94.1% | 17 | 41.1 | 0.58 | 52.9 | 75.8 |
| Run 98-1 | 703.1 | 668.0 | 95.0% | 640.6 | 91.1% | 21 | 30.5 | 0.79 | 48.7 | 76.1 |
| Run 98-2 | 714.5 | 683.3 | 95.6% | 656.4 | 91.9% | 27 | 24.3 | 0.99 | 50.3 | 76.6 |
| Run 98-3 | 1154.2 | 1110.2 | 96.2% | 1091.1 | 94.5% | 28 | 39.0 | 0.62 | 85.1 | 78.0 |
| Run 98-4 | 1152.2 | 1100.6 | 95.5% | 1076.9 | 93.5% | 31 | 34.7 | 0.69 | 84.2 | 78.2 |
| Run 98-5 | 1093.6 | 1014.8 | 92.8% | 987.4 | 90.3% | 49 | 20.2 | 1.19 | 79.3 | 80.3 |
| Run 99-1 | 976.6 | 941.2 | 96.4% | 923.6 | 94.6% | 35 | 26.4 | 0.91 | 75.3 | 81.5 |
| Run 99-2 | 831.2 | 806.3 | 97.0% | 794.9 | 95.6% | 19 | 41.8 | 0.57 | 65.1 | 81.9 |
| Run 99-3 | 832.0 | 812.6 | 97.7% | 805.6 | 96.8% | 31 | 26.0 | 0.92 | 58.5 | 72.6 |
| Run 99-4 | 1320.0 | 1269.6 | 96.2% | 1256.2 | 95.2% | 42 | 29.9 | 0.80 | 102.5 | 81.6 |
| Run 99-5 | 1024.0 | 983.0 | 96.0% | 970.8 | 94.8% | 44 | 22.1 | 1.09 | 82.0 | 84.5 |
| Run 00-1 | 1511.0 | 1474.0 | 97.6% | 1461.8 | 96.7% | 35 | 41.8 | 0.57 | 119.5 | 81.7 |
| Run 00-2 | 1248.0 | 1198.7 | 96.1% | 1181.7 | 94.7% | 47 | 25.1 | 0.95 | 99.5 | 84.2 |
| Run 00-3 | 1264.2 | 1161.0 | 91.8% | 1109.5 | 87.8% | 34 | 32.6 | 0.74 | 89.2 | 80.4 |
| Run 00-4 | 1000.1 | 963.6 | 96.4% | 953.0 | 95.3% | 45 | 21.2 | 1.13 | 79.2 | 83.1 |
| Run 01-1 | 1528.2 | 1487.7 | 97.4% | 1475.2 | 96.5% | 52 | 28.4 | 0.85 | 124.9 | 84.7 |
| Run 01-2 | 1240.0 | 1195.4 | 96.4% | 1184.3 | 95.5% | 35 | 33.8 | 0.71 | 101.5 | 85.7 |
| Run 01-3 | 1232.0 | 1187.6 | 96.4% | 1176.2 | 95.5% | 56 | 21.0 | 1.14 | 104.2 | 88.6 |
| Run 01-4 | 1120.0 | 1094.6 | 97.7% | 1081.4 | 96.6% | 46 | 23.5 | 1.02 | 101.3 | 93.7 |
| TOTAL | 20686.8 | 18780.2 | 90.8% | 19524.75 | 94.4% | 694 | 28.1 | 0.85 | 1603.2 | 82.1 |

Through 12/23/2001, the end of Run 2001-4

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Statistics Tools

Operational Statistics are compiled based mainly on three data sources:

- Fill history
- Downtime log
- Operations logbook

Fill History

- A data logger process records beam current, operation mode, beamline shutter enable status, etc. every 30 seconds
- The fill history application calculates storage ring downtime, injector downtime and faults based on the logged data
- Any closure of the shutters during user operation will be logged and counted as a fault
- All beam losses and faults are analyzed by operations staff and their causes are entered daily
- The program runs every hour and posts a fill history page on the Web

Listing of Statistics for Run4-2001 (Created Thu Nov 29 14:06:24 CST 2001)

Total Amount of User Time in this interval 598.05 Hours

User periods in this interval

10/31/2001 08:00 To 11/06/2001 08:00 143.99 Hours, Delivered Beam: 140.88 Hours, 4 Fault(s), 35.22 MTBF, 97.84% of Sched. Time
11/06/2001 16:00 To 11/12/2001 08:00 135.99 Hours, Delivered Beam: 124.18 Hours, 13 Fault(s), 9.55 MTBF, 91.31% of Sched. Time
11/14/2001 08:00 To 11/21/2001 24:00 183.99 Hours, Delivered Beam: 181.68 Hours, 5 Fault(s), 36.34 MTBF, 98.74% of Sched. Time
11/23/2001 08:00 To 11/26/2001 24:00 87.99 Hours, Delivered Beam: 84.92 Hours, 2 Fault(s), 42.46 MTBF, 96.51% of Sched. Time
11/27/2001 16:00 To 11/29/2001 14:05 46.08 Hours, Delivered Beam: 43.18 Hours, 2 Fault(s), 21.59 MTBF, 93.71% of Sched. Time

Delivered Beam 574.84 Hours
Percentage of Scheduled Time 96.12 %
Downtime During Period 23.22 Hours
Percentage of scheduled time SR current > 10 ma 97.41 %
Average Delivered Current During This Period 95.80 ma
Total integrated Current During This Period 55.07 A-hr

Mean Fill Duration in Period 21.29 Hours
Mean Fill Duration from Poisson Fit 28.30 Hours
Mean Time Between Faults (MTBF) 22.11 Hours
Faults per Day of Delivered Beam 1.09

| Valid fills Beginning in this Time Interval | | | | Reason for | Length | Downtime is associated with the end of a fill. |
|---|-------------|----------------|----------|--------------------------|----------|--|
| Fill# | Start | End | Duration | Fill Termination | of | The first fill of a period will have any |
| | | | | | Downtime | downtime before the fill on the line above. |
| | | | | | 0.05 | |
| # 1 | 10/31 08:03 | To 10/31 08:33 | 0.51 | 3ID FE EPS trip [BO] | 0.34 | refill |
| # 2 | 10/31 08:53 | To 11/04 09:58 | 97.08 | RF2 modAnode trip [RF] | 0.49 | Refill |
| # 11 | 11/04 10:27 | To 11/04 22:08 | 11.68 | RF2 modAnode trip [RF] | 0.31 | refill |
| # 13 | 11/04 22:26 | To 11/05 11:20 | 12.90 | RF2 Cir.Flow trip [ME] | 1.94 | Investigate, refill |
| # 16 | 11/05 13:16 | To 11/06 07:59 | 18.72 | Int Dump: End of Period | 0.00 | |
| | | | | | 1.80 | Complete lattice changeover |
| # 18 | 11/06 17:48 | To 11/06 20:15 | 2.46 | Rad.Mon. trip [OPS] | 0.46 | Refill |
| # 19 | 11/06 20:42 | To 11/07 00:20 | 3.63 | RF2 LLRF loss [RF] | 0.86 | Rad.Mon.alarm, refill |
| # 20 | 11/07 01:11 | To 11/07 05:22 | 4.18 | Unknown trip @inj. [UKN] | 0.55 | RG2 trip, Rad.Mon.alarm, refill |
| # 21 | 11/07 05:55 | To 11/07 20:40 | 14.75 | Unknown RF trip [RF] | 0.43 | Refill |
| # 22 | 11/07 21:05 | To 11/08 08:34 | 11.47 | Unknown RF trip [RF] | 0.54 | Refill |
| # 24 | 11/08 09:06 | To 11/08 18:30 | 9.39 | Unknown BPLD trip [UKN] | 2.99 | RG2 HVPS Investigation |
| # 25 | 11/08 21:29 | To 11/09 12:03 | 14.56 | Unknown BPLD trip [UKN] | 0.37 | refill |
| # 28 | 11/09 12:25 | To 11/09 13:12 | 0.79 | S5AS3 trip [PS] | 1.67 | RF2 drive fix, refill |
| # 29 | 11/09 14:53 | To 11/10 13:23 | 22.51 | RF2 HVPS trip [RF] | 0.36 | refill |
| # 30 | 11/10 13:45 | To 11/11 01:06 | 11.35 | S21AQ2 glitch [PS] | 0.37 | refill |
| # 31 | 11/11 01:28 | To 11/11 03:31 | 2.05 | S21AQ2 glitch [PS] | 0.36 | refill |
| # 32 | 11/11 03:52 | To 11/11 05:57 | 2.07 | RF2 PM fault [RF] | 0.42 | Refill |
| # 33 | 11/11 06:22 | To 11/11 19:34 | 13.20 | RF2 modAnode trip [RF] | 0.65 | refill |
| # 34 | 11/11 20:13 | To 11/12 07:59 | 11.77 | Int Dump: End of Period | 0.00 | |

Top-Up Mode Statistics

Target Current = 102.0, Range +/- 1.0, Minimum Injector Downtime = 8.0 minutes

Total

Current in Range 91.44 %
Injector Availability 90.80 %

Period Beginning 11/06/2001 16:00

Current in Range 84.04 %
Injector Availability 83.00 %

| | | | | | |
|--------------------|---------------------|----|---------------------|---|--------------------|
| Out of Range at: | 11/06/2001 20:45:32 | to | 11/06/2001 21:20:45 | : | 35.22 minutes |
| Injector downtime: | 11/06/2001 20:40:37 | to | 11/06/2001 21:20:40 | : | 40.05 minutes |
| Out of Range at: | 11/07/2001 01:11:49 | to | 11/07/2001 01:38:38 | : | 26.82 minutes |
| Injector downtime: | 11/07/2001 01:06:54 | to | 11/07/2001 01:38:33 | : | 31.65 minutes |
| Out of Range at: | 11/07/2001 04:38:14 | to | 11/07/2001 05:22:40 | : | 44.43 minutes |
| Injector downtime: | 11/07/2001 04:33:19 | to | 11/07/2001 05:22:35 | : | 49.27 minutes |
| Out of Range at: | 11/07/2001 06:00:54 | to | 11/07/2001 06:05:05 | : | 4.18 minutes |
| Injector downtime: | 11/07/2001 05:55:54 | to | 11/07/2001 06:00:54 | : | 5.00 minutes (est) |
| Out of Range at: | 11/07/2001 08:40:53 | to | 11/07/2001 08:43:04 | : | 2.18 minutes |
| Injector downtime: | 11/07/2001 08:35:53 | to | 11/07/2001 08:40:53 | : | 5.00 minutes (est) |
| Out of Range at: | 11/07/2001 09:39:03 | to | 11/07/2001 09:39:03 | : | 0.00 minutes |
| Injector downtime: | 11/07/2001 09:34:03 | to | 11/07/2001 09:39:03 | : | 5.00 minutes (est) |
| Out of Range at: | 11/07/2001 10:18:48 | to | 11/07/2001 10:18:58 | : | 0.17 minutes |
| Injector downtime: | 11/07/2001 10:13:48 | to | 11/07/2001 10:18:48 | : | 5.00 minutes (est) |
| Out of Range at: | 11/07/2001 10:22:59 | to | 11/07/2001 10:27:01 | : | 4.03 minutes |
| Out of Range at: | 11/07/2001 16:04:59 | to | 11/07/2001 16:04:59 | : | 0.00 minutes |
| Injector downtime: | 11/07/2001 15:59:59 | to | 11/07/2001 16:04:59 | : | 5.00 minutes (est) |
| Out of Range at: | 11/07/2001 16:41:21 | to | 11/07/2001 17:19:15 | : | 37.90 minutes |
| Injector downtime: | 11/07/2001 16:36:26 | to | 11/07/2001 17:14:54 | : | 38.47 minutes |
| Out of Range at: | 11/07/2001 21:05:55 | to | 11/07/2001 22:31:05 | : | 85.17 minutes |
| Injector downtime: | 11/07/2001 21:01:00 | to | 11/07/2001 22:22:42 | : | 81.70 minutes |

Downtime Report Tool

- A manual downtime entry system, which collects operator's input for beam losses or system faults.
- Any system fault that causes beam loss will automatically receive up to 0.5 hr user downtime for refilling.
- A subsequent fault that prevents beam store will get exact amount of downtime for the fault.
- If more than one system fault exists, they share the user downtime.
- Operations Group receives downtime for any recovery time longer than 0.5 hr.

Downtime Types

- Store lost
- Inhibits beam to user
- Inhibits beam to user, shared downtime
- No impact to user beam
- Injector downtime
- Intentional dump

On-line Downtime Entry Program

Currently Open Downtime Incidents

| DIN | Date | Time | Fill # | Machine | Group | Downtime Type | Description |
|-----|------|------|--------|---------|-------|---------------|-------------|
|-----|------|------|--------|---------|-------|---------------|-------------|

Date: Time: Fill Number: Machine: Group: Type: Description:

Press to submit entry:

Recently Closed Downtime Incidents

| DIN | Date | Time | Fill # | Machine | Group | Downtime Type | Description |
|------------------------|----------|-------|--------|---------|-------|-----------------------|---|
| 104022 | 11/29/01 | 12:42 | 54 | SR | HP | Store Lost | Beam lost due to a failed rad. monitor at ID 14. |
| 104021 | 11/29/01 | 05:34 | 53 | SR | CTL | Store Lost | Fill #53 was lost when the MPS tripped on an S38 Water/Vac Fault. SR Vacuum Gate Valve VM-37-VV02 had closed generating the above MPS trip. |
| 104020 | 11/28/01 | 16:19 | 52 | SR | CTL | Store Lost | Fill #52 was lost when the MPS tripped on an S39 Water/Vac Fault. SR Vacuum Gate Valve VM-38-VV02 had closed generating the above MPS trip. |
| 104019 | 11/28/01 | 05:01 | 52 | LINAC | CTL | Injector downtime | We are dropping below 101mA again due to poor beam current in the PTB. |
| 104018 | 11/28/01 | 01:36 | 51 | LINAC | CTL | Injector downtime | We are dropping below 101mA of stored beam while tuning up injectors. |
| 104017 | 11/27/01 | 16:15 | 51 | LINAC | DIAG | Injector downtime | We have dropped below 101 mA during recovery from an LTP Beam Toroid trip. |
| 104016 | 11/27/01 | 11:00 | | LINAC | OAG | Inhibits Beam to User | RG-1 to RG-2 switchover |
| 104015 | 11/27/01 | 09:58 | | PAR | PS | Inhibits Beam to User | PTB:Q10 does show a current readback. |
| 104014 | 11/26/01 | 13:16 | 45 | SR | RF | Store Lost | Stored beam was lost due to a 13ID BPLD trip. |

[Newest](#) [Newer](#) [Older](#)

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Downtime Incident #104022

| Entry # | Date | Time | Fill # | Machine | Group | Downtime Type | Description |
|----------------------------------|----------|-------|--------|---------|-------|--|---|
| <input type="button" value="0"/> | 11/29/01 | 12:42 | 54 | SR | HP | Store Lost | Beam lost due to a failed rad. monitor at ID 14. |
| <input type="button" value="1"/> | 11/29/01 | 13:20 | 54 | SR | DIAG | Inhibits Beam to User, shared downtime | The BPMs for sector 29 kept walking out. |
| <input type="button" value="2"/> | 11/29/01 | 13:44 | 54 | SR | DIAG | End of repair | OPS has ramped the horizontal corrector setpoints back from |
| <input type="button" value="3"/> | 11/29/01 | 13:44 | 54 | SR | HP | Close Downtime | |

 Date:

 Time:

 Fill Number:

 Machine:

 Group:

 Type:

 Description:

Press to submit entry:

Electronic Logbook

- The benefit of electronic logbook:
 - *Saves time for writing, editing and bookkeeping*
 - *Instant communication to:*
 - Operations personnel
 - Management
 - Supporting personnel
 - Beamline users
 - *Readability*
- In order to comply with DOE guidance, hard copies of the e-logbook are kept for record.

Logbook Page Format

1. Date/shift
2. General
3. Initial Machine Status
4. Shifts Events
5. Downtime and Reason
6. Shift Summary
7. Daily Orders
8. Operator Aids

Logbook Editor

- Adobe FrameMaker® was selected as editing tool for its availability on Sun/Unix, its look and feel, graphic ability, ease of editing, and the freeware conversion tool.
- Template files are used for different shift schedule to keep consistency of format.
- Autosave feature of FrameMaker is enabled to save every 10 minutes.

Logcron

- A cron process that converts FrameMaker file into html files
- Runs every 20 minutes
- Updates the logbook directory page
- Updates and maintains the archive file directory

Logbook Search Tool

- A simple string search tool to provide fast search capability
- Mainly used for staff members to perform research and investigate past events

[Latest Logbook Entry](#)**Thursday**

- [11/29/01 07:00 to 15:00](#)
- [11/28/01 23:00 to 07:00](#)

Wednesday

- [11/28/01 15:00 to 23:00](#)
- [11/28/01 07:00 to 15:00](#)
- [11/27/01 23:00 to 07:00](#)

Tuesday

- [11/27/01 15:00 to 23:00](#)
- [11/27/01 07:00 to 15:00](#)
- [11/26/01 23:00 to 07:00](#)

Monday

- [11/26/01 15:00 to 23:00](#)
- [11/26/01 07:00 to 15:00](#)
- [11/25/01 23:00 to 07:00](#)

Sunday

- [11/25/01 11:00 to 23:00](#)
- [11/24/01 23:00 to 11:00](#)

Saturday

- [11/24/01 11:00 to 23:00](#)
- [11/23/01 23:00 to 11:00](#)

Friday

- [11/23/01 15:00 to 23:00](#)
- [11/23/01 07:00 to 15:00](#)

[November 2001 Archive](#)[October 2001 Archive](#)



Shift Summary

Date: Monday 11/26/01, 15:00–23:00

Table of Contents

- [1.0 General](#)
 - [2.0 Initial Machine Status](#)
 - [3.0 Shift Events](#)
 - [4.0 Approximate Downtime and Reasons](#)
 - [5.0 Shift Summary](#)
 - [6.0 Daily Orders](#)
 - [7.0 Operator Aids](#)
-

1.0 General

Shift Personnel: S. Jones, K. Schroeder & A. Hill

Type of Shift: User Operations.

Shift Objective:

2.0 Initial Machine Status

Linac: RG2 190mA L1,L2,L4&L5RF providing, L3 is under Stan Pasky's control.

PAR: Providing beam.

LEUTL: Authorized Access – doors locked.

Booster: Providing beam.

Storage Ring: ~102mA stored in fill #46. Top-up ongoing.

SRF systems: RF2&4 providing, RF3 is in diode mode. RF1 under control of the RF Group.

3.0 Shift Events

3.0 Shift Events

15:00 – Assumed shift from R. Flood, B. Oakley & D. Ronzhin.

15:15 – A check of the IOC and the Data Loggers revealed no problems.

15:24 – Routine Saves of the Injectors were completed.

15:38 – S. Pasky returned control of L3 back to OPs. We will be conditioning L3 RF to 21MW Klystron FWD PWR.

15:56 – L6 RF has been returned to OPs until tomorrow morning.

15:58 – S25A:V2 corrector range error is periodically going into minor alarm.

16:00 – Mark Gibson has returned control of L1:RG1:QM1:PS back to OPS.

16:01 – Ernie Cherbak has returned control of SRF1 back to OPS. It is currently in Diode Mode.

16:13 – S24A:V2 corrector range error is periodically going into minor alarm.

19:07 – A few minutes ago the CPU current was ramped. This generated SR horizontal beam motion. The SR orbit did not re-converge at S22 leaving a 40um horizontal orbit bump. We have run SR Horizontal Expert Orbit Correction to correct this problem.

20:31 – S4A:V2 corrector range error is periodically going into minor alarm.

20:50 – An area check was completed. No problems were found.

20:52 – We had a large amount of SR Beam Motion that seems to correlate with a step change in the CPU H-coil current. We are running SR Horizontal Expert Orbit Correction to reduce a horizontal Orbit bump left in S29.

20:55 – We had a large amount of SR Beam Motion that seems to correlate with a step change in the CPU H-coil current. We are running SR Horizontal Expert Orbit Correction to reduce horizontal Orbit bump left in S22 & S29.

21:06 – We had a large amount of SR Beam Motion that seems to correlate with a step change in the CPU H-coil current. We are running SR Horizontal Expert Orbit Correction to reduce horizontal Orbit bump left in S24/25 & S29.

22:21 – An area check was completed. No problems were found.

22:46 – We have conditioned L3RF and the PCgun up to a KLY FWD PWR of 21MW. We have had twelve VSWR #3 trips during the shift.



4.0 Approximate Downtime and Reasons

5.0 Shift Summary

The shift went well. L3RF was conditioned up to 21MW. We had a few episodes of SR Horizontal Beam Motion that we believe were caused by the CPU.

6.0 Daily Orders

11/26/01 – Per Alex Lumpkin: After checking SR Bunch Purity move the Detector to 0.0mm in both the X & Y planes. The detector position for checking Bunch Purity is: X = 40mm & Y = 20mm.

11/26/01 – Per S. Biedron: Please have LEUTL in beam permit by 19:00 on 30 November in preparation for power supply testing on 3 December and LEUTL system check-out on 4 December.

11/20/01 – Per J. Gagliano; S37 & S40 turbo valves for the RF cavities shall remain closed until further notice.

11/19/01 – Per Michael Borland: The Operator Preferred file for RG1 yields 2.4nC in the PTB, compared to a requirement of about 1.6nC for Top-Up. If Top-Up downtime is experienced due to RG2, switching to RG1 is an option.

11/19/01 – Per Gian Trento: After every Beam is lost condition, save the traces, then reset the scopes at the following locations: A014 rack 9, RF4 LL rack 3 scope and UVC, RF2 LL rack 3, UVC and RF2 Infimum. During working hours contact the RF EIC.

11/15/01 – Per Mike Borland: Mike installed new versions of software related to top-up. We should see no change in the behavior of the software, except that the problem of timing out of the bucket assignment script should be alleviated. Mike has requested that we page him if there is a problem with the script.

11/13/01 – Per C.Y., the SR B/A phase is now 15 degrees, +/- 5 degrees.

11/08/01 – Per B. Kudirka: When the LINAC is racked out, the MPEOB will still remove power from the heater PS for L1:RG1:HTR and L1:RG2:HTR. When the LINAC SGR is racked out, power will not be removed from the heaters by the LINAC SGR LOTO. The gray cord for the RG1 heater is plugged into the emergency power receptacle in L1:RG1:RA:1. The gray cord for the RG2 heater is plugged into the emergency power receptacle in L1:RG2:RA:4. The gray cord is marked Temporary 120V feed for RG1/RG2 heater power supply. The cord will have to be unplugged to remove power and the end LOTO'ed. Making this change poses no safety threat.

11/03/01 – Per Sandra Biedron: Condition L3 modulator to have a kly fwd pwr of 20MW. If it trips, reset the trip and condition back up to 20MW.

7.0 Operator Aids

11/14/01 – The current SR pulse magnet PS setpoints are as follows: All fills S:IS2:PS = 537V, Fill From Zero S:IS1:PS = 640.5V, TopUp 120Sec interval S:IS1:PS = 637V, TopUp 240Sec interval S:IS1:PS = 635V. The Kicker and S:IS2:PS setpoints do not have to be changed when switching between TopUp and Fills from zero.

10/22/01 – J. Gagliano raised the trip limit for S36 cavities to $5e-7$ for RF conditioning.

**Last Update: 22:55

LOGBOOK SEARCH

Operations Group

Search by Contents

You may enter "|" or "&&" for OR and AND Operators between fields in Search Text.

Start Date(mm/dd/yy):
End Date(mm/dd/yy):
Search Text:

Operations Log Book Search

Search for "circulator && lost beam" from 11/05/01 to 11/06/01

[ops_log/200111_archive/011105_0700-1500.frame.html](#)

1>>11:20 - We have lost beam due to a RF2 trip due to a circulator trip. We are resetting and contacting Bernie Kudirka to get back RG2 PSs working. We are also contacting RF Group to get back RF5.

2>>12:05 - Lost beam due to a RF2 circulator trip. We are contacting Doug Horan.

3>>It was a busy Monday shift. PAR RF was adjusted for normal injection current levels. The morning fill on fill was delayed due to L1 RF modulator and VSWR trips. The fill was slow due to radiation levels at 2,3IDs. Shutters were enabled for fill #14. S9A:P3 was found to be bad. This had prevented Global Orbit correction from starting correctly. There was a problem with SR orbit motion that was traced to S9A:H3. This corrector was then taken out of the RT FB configuration. LINAC phase was changed throughout to get L4,5 RF systems away from 180deg. and improve RF stability. This was successful. PS Group troubleshoot problems we have

RM&D Report

- RM&D (Repair, Maintenance and Development) Report tool mainly serves as a fault reporting tool.
- Its is a Web-based entry tool.
- A report is submitted when a system deficiency or fault is found.
- E-mail notifications are sent to system managers and selected members of system groups.
- A member of system group may enter responses after investigation or repair.
- System manager closes a report when the correction/repair is done and verified.

Online RMD Report Home Page for RMD Manager

APS Operations Group, May 1996

- [View Most Recent RMD Reports](#)
- [Submit RMD report](#)
- [View RMD Lists](#)
- [Response to RMD](#)
- [Modify RMD](#)
- [Delete RMD Record](#)
- [RMD History](#)

cyao@aps.anl.gov (C-YYao)
Last updated: 10/18/99

Most Recent RMD Report

(Latest listed first)

11-29-01 14:55

[Back to Home Page](#)

Total: 20

| RMD NO. | NAME | STATUS | SUBMIT DATE | DESCRIPTION | MACHINE | RSP COUNT |
|-----------------------|---------------------|------------------|-------------|---|---------|-----------|
| 03121 | KEYSER, CHARLES | New Report | 11-29-01 | Stored beam was dumped due to VM-37-VV02 gate valve closing. | ring | 0 |
| 03120 | SCHROEDER, KAREN | New Report | 11-28-01 | VM-38-VV02 Closed and dumped beam. | ring | 0 |
| 03119 | FLOOD, RANDY | Work In Progress | 11-27-01 | BPLD's and DBPLD's are not labeled in the crate. This makes loading BPLD limits very difficult | ring | 1 |
| 03117 | EDWARDS, GREGORY A. | Work In Progress | 11-27-01 | Louis Emery has discovered that the S4CPU correctors are railed at maximum current. They are not following their ramps and one is beyond its thermal limit. This needs to be investigated right away. Louis is reducing BX below its thermal limit. | ring | 1 |
| 03116 | EDWARDS, GREGORY A. | Work In Progress | 11-27-01 | Louis Emery has discovered that the S4CPU correctors are railed at maximum current. They are not following their ramps and are beyond their thermal limit. This needs to be investigated right away. | ring | 1 |
| 03115 | EDWARDS, GREGORY A. | Work In Progress | 11-27-01 | Louis Emery has discovered that the S4CPU correctors are railed at maximum current. They are not following their ramps and are beyond their thermal limit. This needs to be investigated right away. | ring | 1 |
| 03114 | EDWARDS, GREGORY A. | Work In Progress | 11-27-01 | Louis Emery has discovered that the S4CPU correctors are railed at maximum current. They are not following their ramps and are beyond their thermal limit. This needs to be investigated right away. | ring | 1 |
| 03113 | JONES, STEVEN J. | New Report | 11-26-01 | We had several large SR Horizontal Orbit Glitches at around 21:00 that we believe were caused by the CPU. Some of these glitches recorded horizontal Beam Motion that approached 20umRMS. The SR Orbit Glitch Logger did not capture any of these events. | ring | 0 |

Work Request System

- Purpose: a work management tool for:
 - *Scheduling*
 - *Coordination*
 - *Communication*
 - *Assisting LOTO, Tunnel Access activities*
 - *Equipment control during user run*
- Any one who performs work in controlled area must have an approved work request.
- Machine Managers and Chiefs of Operations approve work.

Work Request System

- System managers complete work requests after verification/confirmation.
- All work during user run period needs approval of responsible operations staff.
- All employees can submit a work request through a “Public” page.
- A requestor can also make a query or modify his/her own newly submitted requests.

Work Request System

- E-mail notifications are sent to machine managers for approval.
- E-mail notifications are sent to system managers for cross checking or possible follow-up action, such as system validation, radiation shielding verification, etc.
- An “Approver” page is used for approval and modification of work requests. A password is required to access the page.

Work Request Implementation

- The work request system is implemented as an Oracle[®] database application.
- It is basically maintenance free and reconfigurable.
- All requests are grouped by machines: Linac, PAR, Booster, SR, Exp. Floor, and other.
- Fields and attributes can be customized for each machine.
- E-mail notification and approval authorization can be reconfigured online.

Work Request System

Select an Item

[Submit Request](#)

[Query Request](#)

[Modify Work Request](#)

[WRQ User Guide \(PDF\)](#)

===

[Questions/Comments](#) | [Security/Privacy Notice](#)

Log Out

Work Order Request System - Submit

APS

APS

APS



Badge No:

Group:

Machine
Affected:

- Linac Leutl Par Booster Sr Ring Other Exp Floor Mis Test



Estimated
Duration:

Days Hours

Priority:

- Urgent As Time Permits Notify for Access Next Shutdown Next Access Scheduled
Maintenance

Work
Description:

Safety
Concerns:

Next

Clear

[Main Menu](#)

[Query Request](#)

[Modify Request](#)

Work Order Request System - Submit Step Two

Badge Info: 46942 - YAO, CHIH-YUAN - AOD-OPS
Designated Group:
Estimated Duration: 1 Day(s) 0 hours
Work Description: Test
Safety Concerns: None
Priority: **As Time Permits**
Machine: Sr Ring

Requested Start Date: (MM/DD/YYYY)
Requested Start Time: (HH24:MM)

SYSTEMS AFFECTED

- ACIS BL OPERATION COMPRESSED AIR COMPUTER/NETWORK CONTROLS
- HARDWARE DIAG EPICS FE EPS FE OPERATION ID OPERATION INTERLOCK
- MECH MPS POWER SUPPLY PSS RF SOFTWARE TIMING VACUUM
- WATER PFS NONE

SYSTEMS REQUIRED

- AC POWER WATER COMPRESSED AIR VACUUM ACIS
- COMPUTER/NETWORK MPS PSS TIMING POWER SUPPLY EPICS FE EPS
- PFS NONE

WORKING HOT PERMIT REQUIRED

PERMIT NUMBER

REVISION OF PROCEDURE REQUIRED

PROCEDURE NUMBER

ACCESS TO SECURED AREA REQUIRED

- NO ACCESS ZONE-A ZONE-B ZONE-C ZONE-D ZONE-E ZONE-F

BEAM OFF REQUIRED



Enter Search Criteria:

Work Request No:

 *

Badge No:

 *

Group:

Requestor's Name:

Work Description:

 * %

Safety Concerns:

 * %

Additional Comments:

 * %

Machine:

Status:

Schedule Period:

Priority:

Beamline:

Sector:

Station:

Access to Secured Area Required:

Systems Affected:

Systems Required:

Submission Date: [From]

[To]

* (e.g. 12/23/2000)

* blank means "Do Not Care". Wildcard is "%".

[Main Menu](#)

[Submit Request](#)

Work Order Request System - Query Results

Total Rows = 655

| WRQ NO | SUBMISSION DATE | STATUS | SCHEDULE PERIOD | MACHINE | ESTIMATED DURATION | DESCRIPTION | REQUESTOR |
|-----------------------|---------------------|----------|-----------------|--------------|----------------------|---|----------------------|
| 11565 | 12/21/2001 09:59 | APPROVED | DEC01/JAN02SD | Par | 0 Day(s) 3 Hours | REMOVE COVERS AND VISUALLY INSPECT PAR KICKER MAGNETS | Putnam, Cedric C. |
| 11564 | 12/21/2001 09:57 | APPROVED | DEC01/JAN02SD | SR RING | 7 Day(s) 0 Hours | REPLACE GRISWOLD UNITS WITH SS TUBING COILS IN THE ABSORBER CIRCUITS | Putnam, Cedric C. |
| 11563 | 12/21/2001 09:22 | APPROVED | DEC01/JAN02SD | SR RING | 15 Day(s) 0 Hours | connect FE valve headers to main SR DI Water headers. connect air and water to component tables. | Conley, Craig |
| 11562 | 12/21/2001 09:16 | APPROVED | DEC01/JAN02SD | EXP FLOOR | 15 Day(s) 0 Hours | fix leaks, Change bearings on cryogenic pumps | Conley, Craig |
| 11561 | 12/21/2001 09:13 | APPROVED | DEC01/JAN02SD | SR RING | 15 Day(s) 0 Hours | citranox various front end heat exchangers | Conley, Craig |
| | | | | | | Check 400W Amplifiers for infant mortality degradation not easy to observe in | |

Work Order Request System

WORK REQUEST NO: 11565

Badge Info: 12956 - Putnam, Cedric C. - ASD-ME **Designated Group:** ASD-ME
Submission Date: 12/21/2001 09:59 **Estimated Duration:** 0 Day(s) 3 hours
Work Description: REMOVE COVERS AND VISUALLY INSPECT PAR KICKER MAGNETS
Safety Concerns:
Priority: **Next Shutdown** **Machine:** **Par**
Status: **APPROVED**
Requested Start Date: 01/02/2002 06:00 **Scheduled Date:**
Systems Affected: NONE
Systems Required: NONE
Working Hot Permit Required: NO
Revision Of Procedure Required: NO
Access To Secured Area Required: LINAC/PAR
Beam Off Required: NO
Shielding Change/Removed: NO
Realignment Required: NO
T&M Contractor Required: NO
Loto Requirement: MCR+INDIVIDUAL
Schedule Period: DEC01/JAN02SD
Approved by: Banks, Gregory on: 12/21/2001 10:01
Comments:

Print WRQ Details Report

Print WRQ Details with LOTO

[Main Menu](#)

[Query Request](#)

[Submit Request](#)

[Modify Request](#)

[Click here to send comments or suggestions to WRQ Administrator](#)

[Click here to Log Out](#)



Work Request System Main Menu

Select an Item

[Submit Request](#)

[Query Request](#)

[Modify Work Request / Approve / Complete](#)

[Machine Setup](#)

[Task Setup](#)

[Machine/Task Configuration](#)

[Email Configuration](#)

[System Setup Privileges](#)

[Archive Configuration](#)

[WRQ Admin User Guide \(PDF\)](#)

Online Operations Info

Many Web pages are developed to provide information or assistance to the control room crew. These include:

- SR beam status display: beam current, lifetime, machine mode,...
- RMS beam motion and emittance display
- Timely Order
- Standing Order
- Operations FAQ
- Procedures
- Call-in lists
- Mail notification archive
- FY user beam schedule, shutdown maintenance schedule...

**ADMINISTRATIVE
RESOURCES**

- [OPS Group Policies](#)
- [Timely Orders](#)
- [Standing Orders](#)
- [OPS Group minutes](#)
- [Personnel Schedule](#)
- [Operator Qualification](#)
- [Operational FAQ](#)
- [Operations Group Mail Archive](#)
- [APS Emergency Notification](#)
- [APS Power Outage Notification](#)

OPERATIONS TOOLS

- [Work Requests \(approver\)](#)
- [RMD Reports](#)
- [Downtime Reports](#)
- [Ops Power Supply Fault Report](#)
- [Access Authorization Check](#)
- [VESDA log](#)
- [Logbook Search Tool](#)
- Phone search:
- [Wrq Snapshot \(valid 2300 to 0500\)](#)
- [Wrq System\(public\)](#)

APS PROCEDURES

- [Conduct of Operations](#)
- [APS Procedures](#)
- [ACIS Help](#)
- [Fire Alarm Response](#)
- [Tornado Warning Response](#)
- [Operator Qualification Procedure](#)
- [Studies Log Search Tool](#)
- Find Procedure#:
- [Call in Lists](#)

RELATED LINKS

- [Schedule and Logbooks](#)
- [APS Operational Statistics](#)
- [APS Operations Division \(AOD\)](#)
- [Operations Analysis Group \(OAG\)](#)
- [Beam Properties](#)
- [Advanced Photon Source Home Page](#)

OPERATIONS IMAGES

- [Ops Gallery](#)
- [Rendered Control Room Picture](#)
- [Real Control Room Picture](#)
- [Organizational Chart](#)

LOCAL OPERATIONAL AIDS

- [LINAC](#)
- [PAR](#)
- [BOOSTER](#)
- [STORAGE RING](#)
- [LEUTL](#)

MISCELLANEOUS

- [IOC Reboot procedures](#)
- [ASD TOM reports](#)
- [APS Startup Schedule](#)
- [ACIS Checksums](#)
- [APS Bunch Patterns](#)
- [IOC names and functions](#)

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