

Jefferson Lab Electronic Logbook

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November 19-22, 2002

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History

- **First instituted at the lab in 1996.**
- **Variously used**
 - * **Record of Operations for DOE**
 - * **Knowledge repository**
 - * **Bulletin board to pass info among shifts/teams**
- **Heavily Used**
 - * **~35,000 entries/year in main ops logbook**
 - * **400 MB/year in main ops logbook**
 - * **Other logbooks for Software, FEL, etc.**



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Old logbook “home page”

OPERATIONS Logbook - Netscape
File Edit View Go Communicator Help
Location: http://opweb/internal/ops/daily_activity_log/html/logdir.html

Jefferson Lab OPERATIONS Logbook

Make An [ENTRY](#) [Scrollable logbook](#) [Preview Entries](#)
Logbooks: [FLOG](#) / [CLOG](#) / [SLOG](#) / [SADLOG](#) / [POLOG](#) / [BDLOG](#)
[FLOG](#) / [FUNLOG](#) / [HALOG](#) / [HBLOG](#) / [HCLOG](#)

Other Links:
[Pager](#) [Beam Charts](#) [FEL shift plans](#)
[New elog \(beta\) and OPS-PR](#) [SWIS](#) [FEL Schedule](#)
[Old News \(read-only\)](#) [Accelerator Test Plan](#) [FEL config](#)
[ACE-PR](#) [Approved Sweepers List](#) [FEL Approved Users](#)
[PD Shift Plans](#) [Ops Documentation](#) [FEL Limits](#)
[Run Coord Weekly Report](#) [Ops Reconfiguration Plans](#) [FEL Bugger Log](#)
[Whiteboard Schedule](#) [Hall Line Optics](#)
[Experiment Schedule](#) [Software Documentation](#) [FEL shift logs](#)

Wednesday

- [182065 05/15/02 15:10:03 J Ludwig 930MeV/pass Reconfiguration continues... Downtime Entry](#)
- [182064 05/15/02 15:05:47 alarms BOOM Day Shift Status Summary](#)
- [182063 05/15/02 15:02:24 alarms System Status Report](#)
- [182062 05/15/02 15:02:21 alarms MAX JUICE - Day Shift Summary](#)
- [182061 05/15/02 14:42:37 M Bickley Tested bugfixed medm, which will not hang on viewer adl files](#)
- [182060 05/15/02 14:39:00 R Housman FSD Masks have been set for beam delivery to BSY](#)
- [182059 05/15/02 14:22:19 K Surles-Law AutoLog - Masked SL Fls](#)
- [182058 05/15/02 14:22:16 K Surles-Law AutoLog - Unmasked SL Fls](#)
- [182057 05/15/02 14:22:12 K Surles-Law AutoLog - Masked SL Fls](#)
- [182056 05/15/02 14:05:31 G Lahti RF3Laser - prebuncher gain vs current](#)
- [182055 05/15/02 13:30:43 R Housman Bad comm on Arc 3 Orbit Lock Downtime Entry](#)
- [182054 05/15/02 13:02:02 R Housman](#)

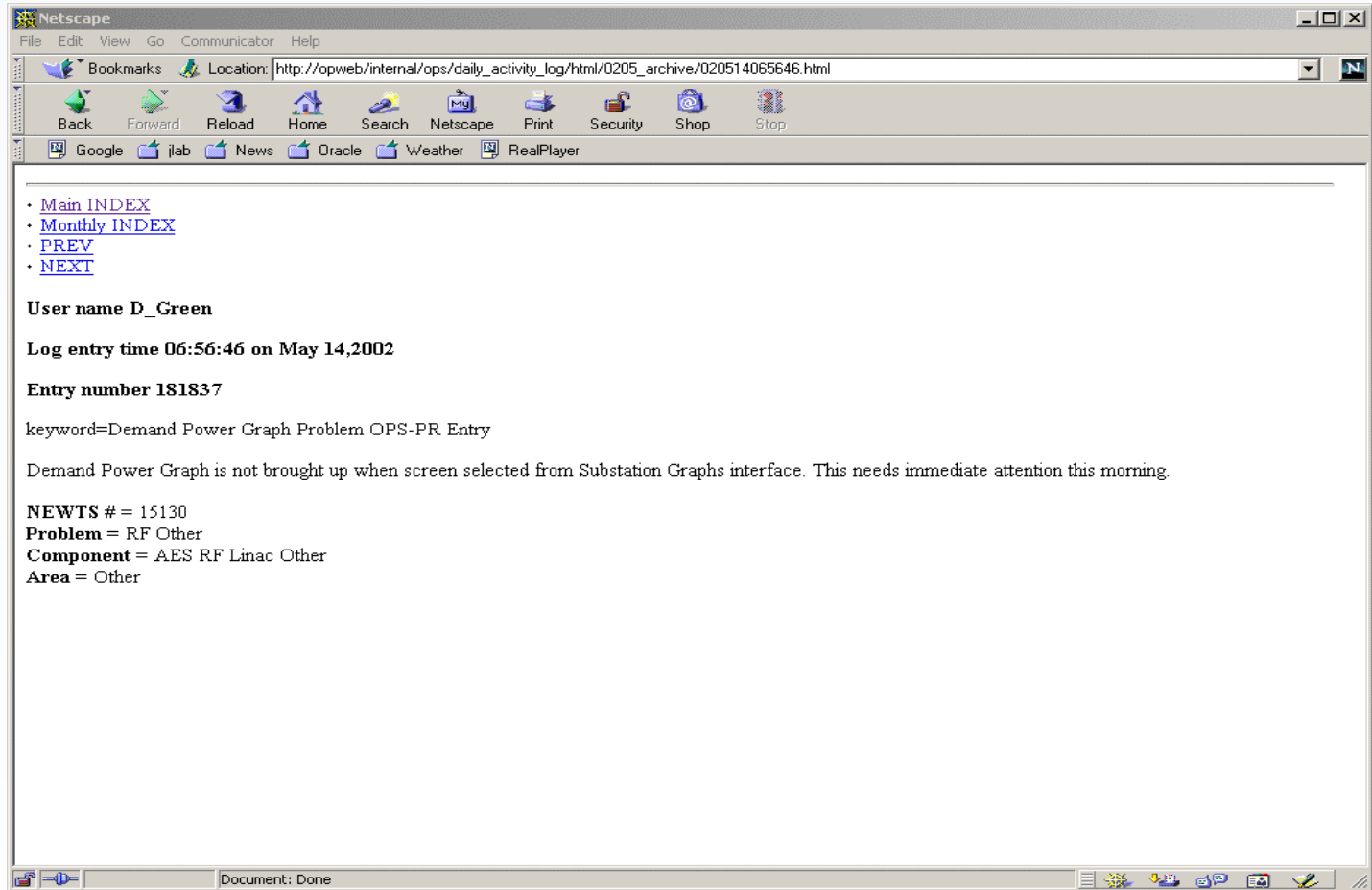


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Old log entry



Shortcomings

- **Reliance on static html files – 100,000's**
 - * **Sheer number a headache to manage**
 - * **The html mingling of content and formatting makes data searching and extraction difficult**
- **Every program (60+ of them) responsible for number assignment, content formatting, not clobbering other entries. Little consistency.**

Components of an Entry

➤ Required

- * **Keywords/Title, Timestamps (create, commit), Logbook(s), Entry-type**

➤ Optional

- * **Attachment(s) (screenshots, documents, etc.)**
- * **Downtime information**
- * **References to other logs (backward/forward)**
- * **Problem-Tracking History**

New Version

- **Summer 2002.**
- **Addresses shortcomings**
 - * **RDBMS replaces files.**
 - * **Dynamic Scripting replaces static HTML**
 - * **APIs shield apps from entry-making details**
- **New Features**
 - * **Integrated problem tracking**
 - * **Threaded/linked entries**



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Underpinnings

- **Relational Database (Oracle)**
- **Web Application Server (Apache + PHP)**
- **Libraries for programs that make entries**
 - * **Tcl Package**
 - * **Perl Module**
 - * **C++ Library**
 - * **HTTP API**



Make an Entry - Tcl

```
package require logXml
```

```
...
```

```
set logXml(logbooks) {elog slog}
```

```
set logXml(entry_type) "LOGENTRY"
```

```
set logXml(title) "A brief log message"
```

```
logXml_write logXml
```



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Make an Entry - perl

```
use Jlab::logXml;  
  
...  
  
@logbooks = qw(elog slog);  
$logXml{'logbooks'} = \@logbooks;  
$logXml{'entry_type'} = "LOGENTRY";  
$logXml{'title'} = "A brief log entry";  
  
logXml_write(\%logXml);
```



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New logbook “home page”

The screenshot shows a Mozilla browser window titled "Electronic Logbook & OPS-PR System - Mozilla {Build ID: 2002053012}". The address bar shows the URL "http://devsrv-e.acc.jlab.org/elog02/wbin/elog.php". The page content includes a navigation menu with links for "Logbooks" (ELOG, CLOG, SLOG, SABLOG, POLOG, BBLOG, FLOG, FUNLOG, EHSLOG, GOLOG, HBLOG, HBLG, HCLG, TLOG) and "actions" (Make an Entry, Logbook prefs, Scrollable/printable logbook, Pending entries, Administer). There are also "Other Links" and a search box. The main content area displays a logbook table with columns for number, date, name, type, and title. The table is filtered for the date "Tuesday" and shows a list of log entries from 1125030 to 1125045. The status bar at the bottom indicates "Document: Done (2.503 secs)".

Electronic Logbook & OPS-PR System - Mozilla {Build ID: 2002053012}

File Edit View Go Bookmarks Tools Window Help

Back Forward Reload Stop Search Print

Home Bookmarks Google jlab News Oracle Weather Reference PHP TreeMenu Demo...

Jefferson Lab Operations Logbook

Logbooks: [ELOG](#) | [CLOG](#) | [SLOG](#) | [SABLOG](#) | [POLOG](#) | [BBLOG](#) | [FLOG](#) | [FUNLOG](#) | [EHSLOG](#) | [GOLOG](#)
[HBLOG](#) | [HBLG](#) | [HCLG](#) | [TLOG](#)

actions: [Make an Entry](#) | [Logbook prefs](#) | [Scrollable/printable logbook](#) | [Pending entries](#) | [Administer](#)

Other Links:

Start Date: End Date:

Logbook: Entry Type: Sort Order: Source:

Search():

| <u>number</u> | <u>date</u> | <u>name</u> | <u>type</u> | <u>title</u> |
|----------------|-----------------|-------------|-------------|---|
| Tuesday | | | | |
| • 1125045 | 12-Nov-02 10:40 | T Southern | LOGENTRY | AutoLog - Masking Hall C Target Movement |
| • 1125044 | 12-Nov-02 10:34 | M Epps | LOGENTRY | AutoLog - Masking Hall A Target Movement |
| • 1125043 | 12-Nov-02 10:17 | D Green | LOGENTRY | Hall C to 2uA and Hall A: PZT to 5.0 |
| • 1125041 | 12-Nov-02 09:58 | R Angello | LOGENTRY | ITV10D00 (Hall A dump) viewer inoperable |
| • 1125039 | 12-Nov-02 09:46 | S Suhring | LOGENTRY | Hall A and Hall C BCM Loss |
| • 1125038 | 12-Nov-02 09:33 | S Suhring | LOGENTRY | 16uA to Hall C, Hall A OFF |
| • 1125037 | 12-Nov-02 09:30 | S Suhring | LOGENTRY | New BCM Plot 100uA to A |
| • 1125036 | 12-Nov-02 09:25 | D Green | LOGENTRY | Vacuum Status whenramping A from 50 to 100 uA |
| • 1125035 | 12-Nov-02 09:15 | J Benesch | OPS-PR | prebuncher unarchived. |
| • 1125034 | 12-Nov-02 09:08 | T Southern | LOGENTRY | Changed Hall A PZTX from 5 to 9 |
| • 1125033 | 12-Nov-02 08:51 | T Southern | LOGENTRY | Changed Hall A PZTX from 9 to 5 |
| • 1125031 | 12-Nov-02 08:48 | D Green | LOGENTRY | Machine Update |
| • 1125030 | 12-Nov-02 08:41 | A Bogacz | LOGENTRY | QuickPic - EOP Plots |

Document: Done (2.503 secs)



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Alternative Look

Jefferson Lab Unified Logbook - Netscape

File Edit View Go Communicator Help

Bookmarks Location: http://devsrv-e.acc.jlab.org/elog02/wbin/viewer_main.php

Back Forward Reload Home Search Netscape Print Security Shop Stop

Google jlab News Oracle Weather RealPlayer

Start Date: May 8 2002 End Date: May 15 2002 Title Search:

Logbook: ELOG Entry Type: ALL Sort Order: DESCENDING Source: ALL LOGS

| <u>number</u> | <u>date</u> | <u>name</u> | <u>type</u> | <u>title</u> |
|------------------|-----------------|--------------|-------------|---|
| Wednesday | | | | |
| * 1101889 | 15-May-02 15:10 | J Ludwig | DOWNTIME | 930MeV/pass Reconfiguration continues... |
| * 1101888 | 15-May-02 15:03 | Alarms | LOGENTRY | BOOM Day Shift Status Summary |
| * 1101887 | 15-May-02 15:00 | Alarms | LOGENTRY | System Status Report |
| * 1101886 | 15-May-02 15:00 | Alarms | LOGENTRY | MAX JUICE - Day Shift Summary |
| * 1101885 | 15-May-02 14:42 | M Bickley | LOGENTRY | Tested bugfixed medm, which will not hang on viewer adl |
| * 1101884 | 15-May-02 14:35 | R Housman | LOGENTRY | FSD Masks have been set for beam delivery to BSY |
| * 1101883 | 15-May-02 14:21 | K Surles-law | LOGENTRY | AutoLog - Masked SL Pis |
| * 1101882 | 15-May-02 14:20 | K Surles-law | LOGENTRY | AutoLog - Unmasked SL Pis |
| * 1101881 | 15-May-02 14:19 | K Surles-law | LOGENTRY | AutoLog - Masked SL Pis |
| * 1101880 | 15-May-02 14:05 | G Lahti | LOGENTRY | RF3Laser - prebuncher gain vs current |
| * 1101879 | 15-May-02 13:30 | R Housman | DOWNTIME | Bad comm on Arc 3 Orbit Lock |
| * 1101878 | 15-May-02 13:23 | R Housman | LOGENTRY | EES investigating BPM problem |
| * 1101876 | 15-May-02 13:15 | I Carlino | LOGENTRY | Screen News:Prebuncher settings |
| * 1101875 | 15-May-02 13:02 | C Slominski | LOGENTRY | Orbit lock on-call request |
| * 1101874 | 15-May-02 12:51 | J Ludwig | LOGENTRY | 1A/2A SLM DogBones |
| * 1101873 | 15-May-02 12:50 | K Surles-law | LOGENTRY | Orbit Correction Needed After LEM |
| * 1101872 | 15-May-02 12:34 | K Surles-law | OPS-PR | Some Funky-ness at SLM |
| * 1101871 | 15-May-02 12:28 | R Housman | DOWNTIME | 2L09-3 CWWT fault |
| * 1101870 | 15-May-02 12:24 | K Surles-law | LOGENTRY | Autolog LEM |
| * 1101869 | 15-May-02 12:11 | Alarms | LOGENTRY | Krest Stopped |
| * 1101868 | 15-May-02 12:10 | K Surles-law | LOGENTRY | Autolog LEM |

Quick Links

Document: Done



New trouble report entry

45MeV In-line dump will not insert. - Mozilla (Build ID: 2002053012)

File Edit View Go Bookmarks Tools Window Help

Back Forward Reload Stop http://devsrv-e.acc.jlab.org/elog02/wbin/elog_item.php?elog_id=1124721 Search Print

Home Bookmarks Google Jlab News Oracle Weather Reference PHP TreeMenu Demo...

INDEX

1124721 45MeV In-line dump will not insert. ELOG
09-Nov-02 20:48 R_Adams

EOC informed and is on the way in. This is preventing CW injector work now, but vacuum recovery (arc 2) still in progress. This also is preventing Hall C requested injector studies. This may be related to pneumatics being disabled off of some west arc valves due to vacuum recovery work. (valves and 45MeV dump controlled off of iocwa5 and may share common vacuum chassis).

Figure 1

45MeV Retractable Dump

45MeV Retractable Beam Dump Controls

RETRACT
INSERT

STATUS

■ = IN ■ = OUT ■ = MOTION

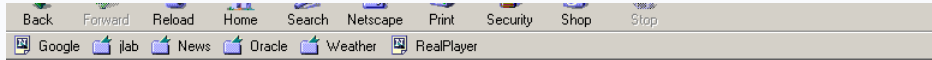
Problem Tracking (OPS-PR) History:
[Update or close this entry \(authentication required\)](#)

History for current entry

| Timestamp | Action | Action By | Assignee | Area | Component | Problem |
|---|----------|-----------|----------|----------------|---------------------------|----------------|
| 11-Nov-2002 08:41 | UPDATE | O_Garza | O_Garza | Injector 0R 07 | Other CAMAC | AES Controls |
| <p><i>Problem: 45Mev In-line dump will not insert and extract. No worthwhile documentation is available on this system.</i></p> <p><i>Solution: Measured air solenoid coils, in WA5, to verify impedance. Resistance was measured at 68ohms and 22Kohms---which indicates a open coil. We proceeded downstairs and found that a wire had fell out of its crimp. We connected the wire and system is operational. The connection needs to be addressed during maintenance day.</i></p> | | | | | | |
| 09-Nov-2002 22:05 | REASSIGN | M_Spata | O_Garza | Injector 0R 07 | Other CAMAC | AES Controls |
| 09-Nov-2002 20:48 | OPEN | - | B_Rust | Injector 0R 07 | Mechanical Instrument Air | PLANTENG Other |

Document: Done (0.57 secs)

Logs can be queried



Fields to Return:

| | | | |
|---|--|--|--|
| <input type="checkbox"/> Creation time | <input type="checkbox"/> Entry type | <input type="checkbox"/> Logbook(s) | <input type="checkbox"/> Title |
| <input type="checkbox"/> Username(s) | <input type="checkbox"/> Originating host | <input type="checkbox"/> OS account | |
| <input type="checkbox"/> Area | <input type="checkbox"/> Component | <input type="checkbox"/> Problem | <input type="checkbox"/> Timestamp |
| <input type="checkbox"/> Assignee | <input type="checkbox"/> Action by | <input type="checkbox"/> Annotation/Solution | <input type="checkbox"/> Action |
| <input type="checkbox"/> Time Down | <input type="checkbox"/> Time Up | <input type="checkbox"/> Time Restored | <input type="checkbox"/> Time until Up |
| <input type="checkbox"/> Time until Restore | <input type="checkbox"/> Time between Up and Restore | | |
| <input type="checkbox"/> OPS-PR fields | <input type="checkbox"/> ELOG fields | <input type="checkbox"/> DOWNTIME fields | |

Basic Filters:

Start Date: May 8, 2002 End Date: May 15, 2002

Logbooks: ALL

Last action: CLOSE MERGE OPEN REASSIGN UPDATE

Predefined Queries:

All OPS-PRs. Apply filters only.

Find all unassigned OPS-PRs.

Find all OPS-PRs assigned to:
Select One...

Find all OPS-PRs in area:
Select One...

Find all OPS-PRs in component:
Select One...

Find all OPS-PRs in problem:
Select One...

Find all OPS-PRs in problem category:
Select One...

Include subcategories when applicable?

Output Preference:

HTML Table Excel Spreadsheet

Execute Query

Reset Form



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Browse

Netscape

File Edit View Go Communicator Help

Location: http://opsrv.acc.jlab.org/CSUEA

| Actions | Log Number | Title | Area |
|---|------------|---|----------------|
| view , update | 1101896 | Cavity History Updated | Sout 2L06 |
| view , update | 1101889 | 930MeVpass Reconfiguration continues... | Other |
| view , update | 1101879 | Bad comm on Arc 3 Orbit Lock | East |
| view , update | 1101877 | OPS-PR changes for RADCON | Other |
| view , update | 1101872 | Some Funky-ness at SLM | Other |
| view , update | 1101871 | 2L09-3 CWWT fault | Sout 2L06 |
| view , update | 1101867 | DOG4E dropped out due to MPS water flow failure | West Extra Reg |
| view , update | 1101859 | | |
| view , update | 1101856 | | |
| view , update | 1101840 | | |
| view , update | 1101839 | | |
| view , update | 1101819 | | |

```

TextPad - [P:\bin\elog_email_notify.pl]
File Edit Search View Tools Macros Configure Window Help

55
56
57 #####
58 # Fetch the list of log entries to be emailed and the corresponding
59 # recipients list.
60
61 # We do the select for update with "nowait" specified. This allows
62 # the script to be run concurrently on several machines without resulting
63 # in duplicate emails. If the rows are locked, we'll get a BUSY error
64 # and the script will bail without sending email.
65
66 $temp = $dbora->selectall_arrayref("select elog_id, email_addr from elog_notifications
67                                   where sent is null
68                                   for update of sent nowait");
69 {
70     foreach ( @$temp )
71     {
72         if ($entry_recipients){$entry_recipients[ 0 ]}
73         {
74             $entry_recipients{$entry_recipients[ 0 ]} .= ', ' . $entry_recipients[ 1 ];
75         }else{
76             $entry_recipients{$entry_recipients[ 0 ]} = $entry_recipients[ 1 ];
77         }
78     }
79 }
80
81 #####
82 # Go through the list and generate email.
83 # The "official" MUA is Netscape Messenger, so we don't have to worry
84 # about text-only clients and will send HTML email only.
85
86 foreach $elog_id (keys %entry_recipients)
87 {
88     print "Working on entry $elog_id to $entry_recipients{$elog_id}\n";
89     ($stitle, $stext) = $dbora->selectrow_array("select title, text from elog where elog_id = $elog_id");
90     $f = FetchURL ($stitle);
91     if ($f)
92     {
93         $boundary = "====" . time() . "====";
94         print "Fetched $f \n";
95     }
96 }

```

Microsoft Excel - ops-pr_query_action.xls

File Edit View Insert Format Tools Data

Arial 10 B I U

| F16 | | = INJECTOR | |
|-----|------------|------------------|---|
| A | B | | |
| 1 | Log Number | OPS-PR timestamp | |
| 2 | 1101896 | 5/15/2002 15:52 | Cavity History Updated |
| 3 | 1101889 | 5/15/2002 15:12 | 930MeVpass Reconfiguration continues... |
| 4 | 1101879 | 5/15/2002 13:32 | Bad comm on Arc 3 Orbit Lock |
| 5 | 1101877 | 5/15/2002 13:36 | OPS-PR changes for RADCON |
| 6 | 1101872 | 5/15/2002 12:35 | Some Funky-ness at SLM |
| 7 | 1101871 | 5/15/2002 14:35 | 2L09-3 CWWT fault |
| 8 | 1101867 | 5/15/2002 11:58 | DOG4E dropped out due to MPS water flow failure |
| 9 | 1101859 | 5/15/2002 11:32 | 2L09-3 CWWT fault |
| 10 | 1101856 | 5/15/2002 14:33 | Cavity History Updated |
| 11 | 1101840 | 5/15/2002 10:21 | OPS-PR Problem Menu for INJ |
| 12 | 1101839 | 5/15/2002 9:04 | INJ access to reset B Laser RF |

| Log Number | OPS-PR timestamp | Area | Problem | Notes |
|------------|------------------|---|----------------------------|------------------------------------|
| 7 | 1101871 | 5/15/2002 14:35 2L09-3 CWWT fault | Linac Other | State Failure - Drops Out Of RF |
| 8 | 1101867 | 5/15/2002 11:58 DOG4E dropped out due to MPS water flow failure | BoxSupply DOG 4 | Water flow fault on box supply |
| 9 | 1101859 | 5/15/2002 11:32 2L09-3 CWWT fault | Linac Low Level RF Control | State Failure - Unable To Go To HV |
| 10 | 1101856 | 5/15/2002 14:33 Cavity History Updated | Linac Other | State Failure - Drops Out Of RF |
| 11 | 1101840 | 5/15/2002 10:21 OPS-PR Problem Menu for INJ | OPS-PR | SOFTWARE UNIX Other |
| 12 | 1101839 | 5/15/2002 9:04 INJ access to reset B Laser RF | INJECTOR | Erratic Readbacks |

Multiple OPS-PR's referring to same problem

Multiple OPS-PR's referring to same problem

The RF Modules for both cavities which were found ... off crest by ~180 degrees were replaced during RF recovery during the day shift yesterday. The replacement



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Logbook Comparison

| Old Logbook | New Logbook |
|---|---|
| Files (one per record) | RDBMS (Oracle) |
| Separate downtime & problem tracking | Integrated downtime & problem tracking |
| Unauthenticated entries | Authenticated entries |
| Web browser only interface | Accessible from scripts, browsers, spreadsheets. |



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Future Direction

- **Enhance Problem-Tracking**
 - * Track problems with specific hardware.
- **Enhance Query/Search Tools**
 - * Oracle Intermedia to search attachments such as PDF, Word documents.
- **Integrate with Maintenance/Repair Scheduling.**