

SNS Logbook

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Application Programming

EPICS Collaboration Meeting

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Active Development Team

- **Mario Giannella (Specifications)**
- **Jeff Patton (Database)**
- **Tom Pelaia (Web interface)**

Introduction

- **Logbook provides a mechanism to communicate and log operations activity**
- **First version introduced in Fall of 2002**
- **Integrated with SNS Database from the beginning**
- **Supports open HTML, JavaScript and CSS standards for cross platform/browser compatibility**
- **Critical to operations**
 - About a hundred entries per day
 - Reliable 24/7 availability
- **For some, it is the easiest way to transfer data from the control system**

Tools

- **Java 1.4.2**
- **Oracle 9**
- **Apple WebObjects 5.3.1**
- **Jboss 3.2.7**

Layout

- Familiar three pane navigation
- Consistent, intuitive interface
- User can sort by columns (date, author or priority)

The screenshot shows the SNS Logbook web application. The interface is divided into three panes: a left navigation pane, a central list of log entries, and a right pane for the selected entry's details.

Left Pane: Contains the user name "Tom Pelaia II" with a "logout" link, a "Logbook:" section with a dropdown menu set to "Operations", and a list of navigation links: "Daily Log", "Notifications", "Subscriptions", "Call List", "Bookmarks", "Search", "Compose", and "Help".

Central List: A table of log entries with columns for ID, description, date, author, and priority. The entries are:

ID	Description	Date	Author	Priority	
65	4.5 kW on target	Saturday, May 27, 2006 15:59	Michael Plum	Normal	
66	RTBT BPM30 fixed	Saturday, May 27, 2006 16:00	Michael Plum	Normal	
67	Re: 4.5 kW on target	Saturday, May 27, 2006 16:07	Michael Plum	Normal	
68	Ring equipment / software issues.	Saturday, May 27, 2006 16:20	Michael Plum	Normal	Diagnostics, Electrical Systems
69	Log file for beam to target work today	Saturday, May 27, 2006 16:24	Michael Plum	Normal	
70	BCM snapshots	Saturday, May 27, 2006 16:30	Michael Plum	Normal	
71	Harp snapshot	Saturday, May 27, 2006 16:33	Michael Plum	Normal	
72	BCM25I Fixed - Now reading power correctly	Saturday, May 27, 2006 16:05	David Thompson	Normal	Controls
73	Re: Re: Re: Some Linac BCMs/ all BLMs not providing data/ beam disabled	Saturday, May 27, 2006 09:20	Ernest Williams, Jr.	Urgent	Controls

Right Pane (Selected Entry 70): Shows details for "BCM snapshots". It includes a "Bookmark" link, the title "BCM snapshots", the post date "Sat, May 27, 2006 16:30", and the author "Michael Plum" with a "Reply Full thread" link. Below the text "BCM snapshots for 4.7 kW, 2 Hz to Tgt.", there are four image thumbnails: "ringbcm.png", "bcm25a.png", "bcm26b.png", and "bcm27c.png". The "bcm26b.png" thumbnail shows a screenshot of a "Beam On Target (BCM25I)" control panel with various status indicators and buttons.

Daily Navigation

- Navigate forward and back by specified step
- Navigate directly to a specific day
- View all entries for a day or each entry individually

The screenshot shows the SNS Logbook interface. At the top, there's a navigation bar with 'Days' and 'Today' buttons. Below that, the title is 'Tuesday, May 23, 2006 - Operations Logbook'. A table lists log entries with columns for '#', 'Title', 'Posted', 'Author', 'Priority', and 'Category(s)'. The entries include 'DG535 settings changed', 'Score save taken', 'Physics Shift Summary', 'Physics shift status', and 'Score restore done'. Below the table, there's a detailed view of the 'Physics Shift Summary' entry, including a 'Bookmark' link, the title, and a list of 8 items describing the shift in IDump mode.

#	Title	Posted	Author	Priority	Category(s)
1	DG535 settings changed	Tuesday, May 23, 2006 00:19	Shane Passmore	Normal	
2	Score save taken	Tuesday, May 23, 2006 00:38	EPICS Monitoring Account	Normal	
3	Physics Shift Summary	Tuesday, May 23, 2006 01:25	Yan Zhang	Normal	
4	Physics shift status	Tuesday, May 23, 2006 01:42	Yan Zhang	Normal	Accelerator Physics
5	Score restore done	Tuesday, May 23, 2006 01:42	EPICS Monitoring Account	Normal	EPICS

Physics Shift Summary
Posted: Tue, May 23, 2006 01:25

The whole shift in IDump mode.

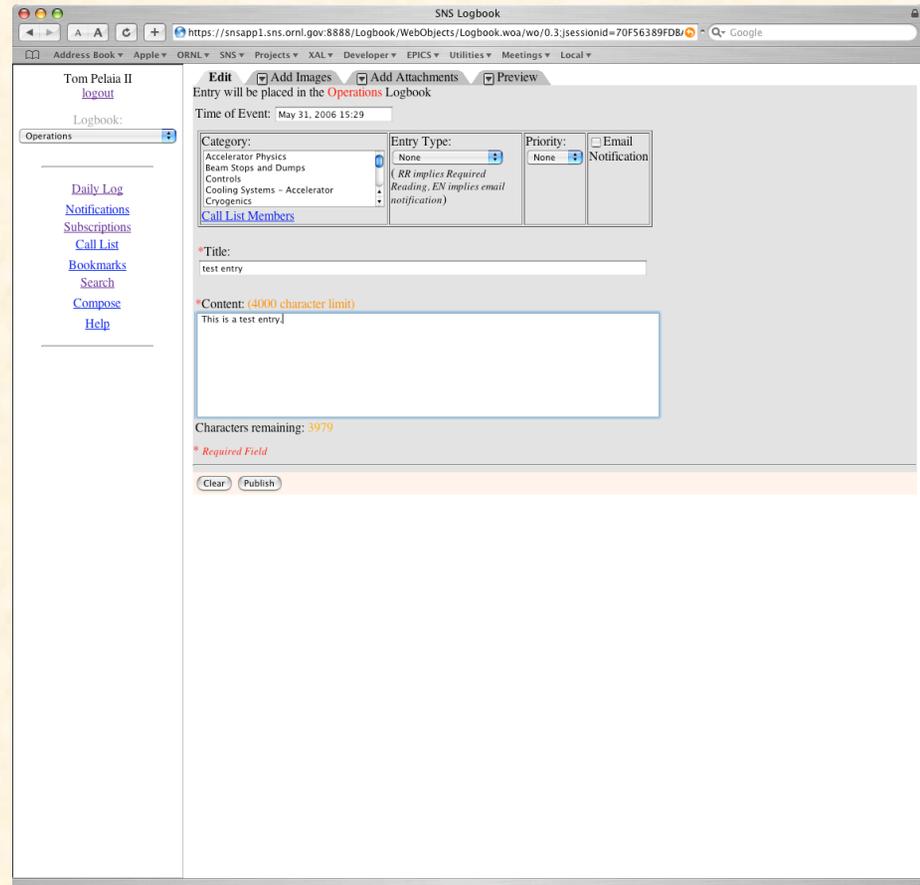
1. Craig Debelie using a beam calibrated BPMs.
2. Scanned IDump_septum from -50% to +20% of the normal setting, found it is more than 40% less than the normal value to minimize beam losses.
3. Scanned HEBT_DCH30 and DCV31 for normal IDump_septum (B 0.39) and a reduced value (B 0.23), score saved at 2006_05_22 17:40, ScanID saved at InjDumpLosses_lmp_2006_05_22_IdumpSpt50% to 4mp.
4. HEBT beam optics study, score saved at 2006_05_22 20:53, orbitcorrection saved at SCL_DCH30 and DCV30; HEBT_DCV07 and DCH08 for offline analysis.
5. HEBT orbit correction, flatten HEBT orbit (-5 mm to + 8 mm) may not reduce beam losses in IDump (peak beam loss for single minipulse is not tolerable)
6. Dial in John's score file (May 20, 2006), though HEBT orbit is terrible (-20 mm to +40 mm), beam loss is much better. Tuned from single minipulse to 5, 20, 40, 50, 100, 150, 200, 250, 300 and 400 minipulses with average beam current 20 mA.
7. 400 minipulse, 20 mA beams (0.5 Hz due to operational limit) into IDump for 1 hour, score saved at 2006-05-23 00:38.
8. Dial in Mike's golden score file.

IDumpLossesIDumpSept50%_5_22_2006.png

Scan IDump Septum

Composing Entries

- Authors enter the title and text content
- One or more category may be selected
- The entry type may indicate *Maintenance*, *Repair*, etc.
- Priority may be used to indicate urgency
- Users may specify email notification
- Event time may be specified



The screenshot shows a web browser window titled "SNS Logbook" with the URL <https://snsapp1.sns.ornl.gov:8888/Logbook/WebObjects/Logbook.woa/wo/0.3.jsessionid=70F56389FD8/>. The user is Tom Pelaia II, and the entry will be placed in the "Operations Logbook". The "Time of Event" is set to "May 31, 2006 15:29". The form includes a "Category" dropdown menu with options: Accelerator Physics, Beam Stops and Dumps, Controls, Cooling Systems - Accelerator, and Cryogenics. The "Entry Type" dropdown is set to "None" with a note: "(RR implies Required Reading, EN implies email notification)". The "Priority" dropdown is also set to "None". There is a checkbox for "Email Notification". The "Title" field contains "test entry". The "Content" field contains "This is a test entry." and shows "Characters remaining: 3979". At the bottom, there are "Clear" and "Publish" buttons.

Adding Images and Attachments

- Users can now sort and delete images and attachments
- Image and attachment descriptions and titles can now be edited without first selecting the image

Upload an image and add it to the entry:
Choose File no file selected
Accepted image types: JPG, GIF or PNG

1 Image Title: bookmarks.tiff
Image Description: (4000 character limit)
Just a demo image
Characters remaining: 3982

2 Image Title: Search.tiff
Image Description: (4000 character limit)
Another image.
Characters remaining: 3986

3 Image Title: Daily Log.tiff
Image Description: (4000 character limit)
Yet another image.
Characters remaining: 3982

Refresh

Clear Publish

Notifications

- Support for Email Notification, Daily Orders and Required Readings
- Recipients receive an email and see all active notifications upon login
- Managers get confirmation of users having read require readings

The screenshot shows the SNS Logbook interface. At the top, it displays the user 'Tom Pelaia II' and their notification status: 0 Required Reading(s) and 10 Email Notification(s). Below this is a table of 10 email notifications. The first notification is selected, showing its details in a separate view.

Clear #	Title	Posted	Author	Priority	Category(s)
<input type="checkbox"/> 1	Ring equipment / controls / software issues updated	Monday, May 01, 2006 11:41	Michael Plum	Normal	Accelerator Physics, Controls, Diagnostics, Electrical Systems
<input type="checkbox"/> 2	Ring Mag:PS_DCV_A09.at maximum limit	Monday, May 01, 2006 14:04	Joey Weaver	High	Accelerator Physics
<input type="checkbox"/> 3	Ring equipment/software issues	Monday, May 15, 2006 00:15	Michael Plum	Normal	Accelerator Physics, Controls, Diagnostics
<input type="checkbox"/> 4	Re: Ring equipment/software issues	Monday, May 15, 2006 09:30	Wayne Newby	Normal	Accelerator Physics, Controls, Diagnostics
<input type="checkbox"/> 5	Ring orbit correction and skew dipole problem	Saturday, May 20, 2006 13:45	Michael Plum	Normal	Accelerator Physics

Event Time	Logbook	Category(s)	Type	Priority	Author
Sat, May 20, 2006 13:44	Operations	Accelerator Physics	Problem Report	Normal	Michael Plum

Ring orbit correction and skew dipole problem
 Posted: Sat, May 20, 2006 13:45

Skew dipole correctors in ring do not work to flatten horizontal closed orbit, but do work to flatten the vertical.

Responses:

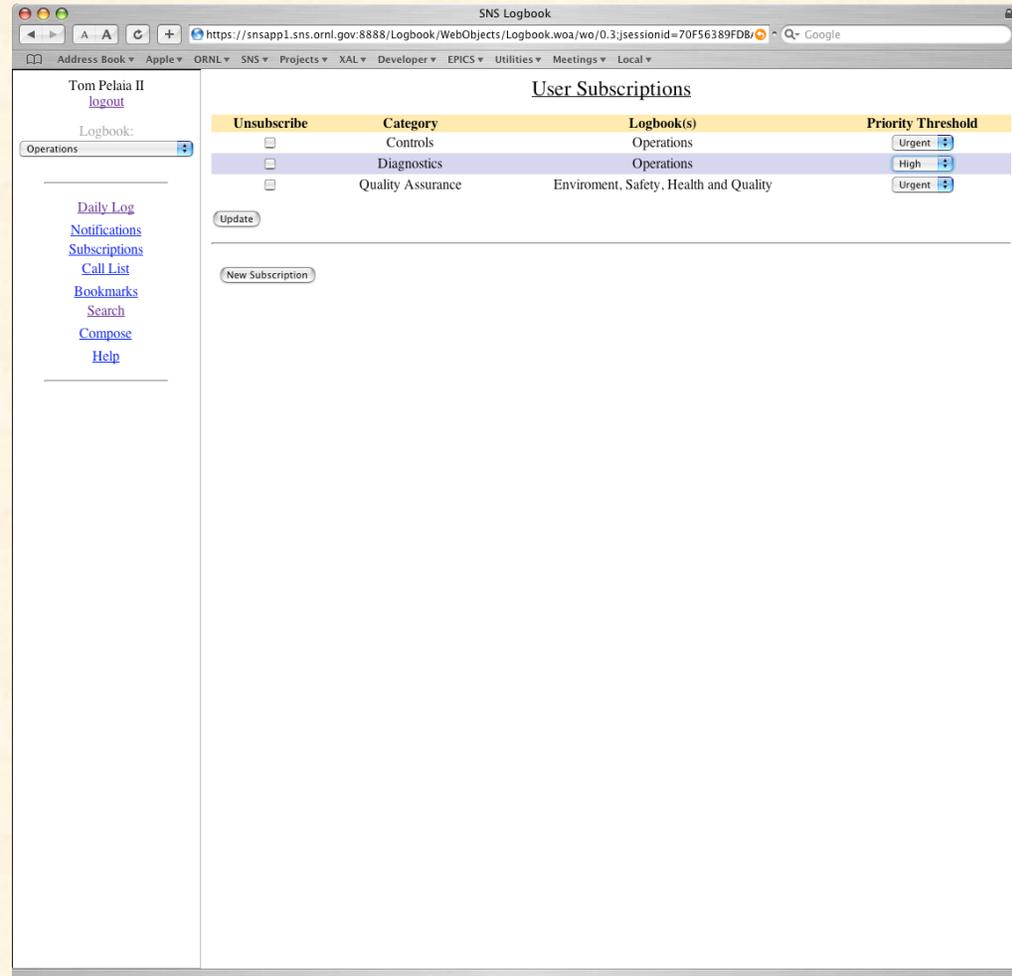
Event Time	Logbook	Category(s)	Type	Priority	Author
Sat, May 20, 2006 13:44	Operations	Accelerator Physics		Normal	Tom Pelaia II

Re: Ring orbit correction and skew dipole problem
 Posted: Mon, May 22, 2006 11:00
 Parent: [Ring orbit correction and skew dipole problem](#)

Upon investigation, I found that the polarity of the horizontal Ring "13" skew correctors was inconsistent with the horizontal Ring "10" skew correctors. The "10" skew corrector orbit differences had been verified in the past, and the "13" skew correctors should share the same polarity. I reversed the polarity of the "13" horizontal correctors in the ring-correctors-05_07_2006.xdf file to agree with the polarity of the "10" horizontal skew correctors. Hopefully this will address the noted problem.

User Subscription

- While users receive notifications based on their job affiliation, users may subscribe to other group's notifications



The screenshot shows a web browser window titled "SNS Logbook" with the URL <https://snsapp1.sns.ornl.gov:8888/Logbook/WebObjects/Logbook.woa/wo/0.3.jsessionid=70F56389FD8>. The page displays the "User Subscriptions" section for user Tom Pelaia II. On the left, there is a navigation menu with links for "Daily Log", "Notifications", "Subscriptions", "Call List", "Bookmarks", "Search", "Compose", and "Help". The main content area shows a table of subscriptions with columns for "Unsubscribe", "Category", "Logbook(s)", and "Priority Threshold".

Unsubscribe	Category	Logbook(s)	Priority Threshold
<input type="checkbox"/>	Controls	Operations	Urgent
<input type="checkbox"/>	Diagnostics	Operations	High
<input type="checkbox"/>	Quality Assurance	Environment, Safety, Health and Quality	Urgent

Below the table are buttons for "Update" and "New Subscription".

Threads

Event Time	Logbook	Category(s)	Type	Priority	Author
Wed, May 24, 2006 02:46	Operations	Controls		Normal	Saul Matovu

[Bookmark](#) [Reply Full thread](#)

Re: SCL_VAC:IOC1 Locked Up
Posted: Wed, May 24, 2006 05:49
Parent: [SCL_VAC:IOC1 Locked Up](#)

IOC locked up again.

Responses:

 [Re: SCL_VAC:IOC1 Locked Up \(Larry Longcoy\) - May 25, 2006 16:59](#)

Event Time	Logbook	Category(s)	Type	Priority	Author
Wed, May 24, 2006 02:46	Operations	Controls		Normal	Larry Longcoy

[Bookmark](#) [Reply Full thread](#)

Re: SCL_VAC:IOC1 Locked Up
Posted: Thu, May 25, 2006 16:59
Parent: [Re: SCL_VAC:IOC1 Locked Up](#)

Earnest and Derrick Williams worked on this IOC today.

They made some hardware changes which should make this IOC more stable.

The tripping of the SCL cavities when this IOC is rebooted stills happens.

Responses:

 [Re: Re: SCL_VAC:IOC1 Locked Up \(David Brown\) - May 25, 2006 17:25](#)

 [Re: Re: SCL_VAC:IOC1 Locked Up \(Ernest Williams, Jr.\) - May 25, 2006 17:32](#)

- Easier to view threads
- Users can navigate up and down threads

Searching

- Users can search by
 - Date range
 - Author
 - Title
 - Content
 - Entry Type
 - Logbook
 - Group
 - Required Reading Status

The screenshot shows the SNS Logbook interface. The browser address bar displays the URL: <https://snsapp1.sns.ornl.gov:8888/Logbook/WebObjects/Logbook.woa/wo/0.3.jsessionid=70F56389FDB>. The page title is "SNS Logbook".

On the left sidebar, there are navigation links: [Tom Pelaia II](#), [logout](#), [Logbook:](#), [Operations](#), [Daily Log](#), [Notifications](#), [Subscriptions](#), [Call List](#), [Bookmarks](#), [Search](#), [Compose](#), and [Help](#).

The main content area shows search results for "Score restore done". The results table is as follows:

#	Title	Posted	Author	Priority	Logbook	Category(s)
11	IOC status for ICS_HPRFIOC_linux_startup	Friday, May 26, 2006 10:44	EPICS Monitoring Account	Normal	Operations	Operators
12	Score restore done	Friday, May 26, 2006 10:58	EPICS Monitoring Account	Normal	Operations	
13	Score restore done	Friday, May 26, 2006 22:07	EPICS Monitoring Account	Normal	Operations	
14	Score restore done	Friday, May 26, 2006 22:45	EPICS Monitoring Account	Normal	Operations	
15	Score save taken	Saturday, May 27, 2006 00:16	EPICS Monitoring Account	Normal	Operations	
16	Score save taken	Saturday, May 27, 2006 14:00	EPICS Monitoring Account	Normal	Operations	
17	Limit Change for ICS_Tim.Gate_BeamRef	Saturday, May 27, 2006 16:05	EPICS Monitoring Account	Normal	Operations	
18	Score save taken	Saturday, May 27, 2006 16:11	EPICS Monitoring Account	Normal	Operations	

Below the table, there is a detailed view of the selected entry:

Event Time	Logbook	Category(s)	Type	Priority	Author
Fri, May 26, 2006 22:07	Operations			Normal	EPICS Monitoring Account

The entry title is "Score restore done" and it was posted on "Fri, May 26, 2006 22:07". The content of the entry is:

Score restore done at Fri May 26 22:07:51 EDT 2006
 The following PVS were set:
 Ring_Mag:PS_IKickV02:7121:AMPL
 Ring_Mag:PS_IKickH01:7121:AMPL
 Ring_Mag:PS_IKickH04:7121:AMPL
 Ring_Mag:PS_IKickV03:7121:AMPL
 Ring_Mag:PS_IKickH02:7121:AMPL
 Ring_Mag:PS_IKickH03:7121:AMPL
 Ring_Mag:PS_IKickV04:7121:AMPL
 Ring_Mag:PS_IKickV01:7121:AMPL

At the bottom of the page, there is a navigation bar showing "13 of 456" items.

Bookmarks

- Bookmarks are a convenient way to keep track of important entries

The screenshot shows the SNS Logbook interface. On the left, there is a navigation menu with links for 'Daily Log', 'Notifications', 'Subscriptions', 'Call List', 'Bookmarks', 'Search', 'Compose', and 'Help'. The main content area is titled 'Operations Bookmarks' and contains a table with columns: Delete, #, Title, Posted, Author, Priority, and Category(s). Below this table, there is a detailed view of a bookmarked entry for 'beam based alignment results' posted on Thu, Sep 15, 2005 09:21. This entry includes a text description, an attachment 'BPM Alignment Table', and a response from Stuart Henderson dated Sep 15, 2005 12:27. The response also includes a table of SCL BPM alignment data.

Delete	#	Title	Posted	Author	Priority	Category(s)
<input type="checkbox"/>	1	Snake Siting	Tuesday, Aug 24, 2004 18:02	Ted Williams	Normal	General Use
<input type="checkbox"/>	2	Orbit Correction	Monday, Oct 18, 2004 13:53	Tom Pelaia II	Normal	
<input type="checkbox"/>	3	CCL4 klystron Arcing	Saturday, Apr 16, 2005 01:26	Michael McCarthy	Normal	RF Systems
<input type="checkbox"/>	4	orbit correction attempt	Saturday, Sep 03, 2005 19:42	John Galambos	Normal	
<input type="checkbox"/>	5	beam based alignment results	Thursday, Sep 15, 2005 09:17	Tom Pelaia II	Normal	
<input type="checkbox"/>	6	Site tour / LSS check-in	Wednesday, Nov 02, 2005 21:18	Shane Passmore	Urgent	
<input type="checkbox"/>	7	SCL tuneup info	Thursday, Dec 08, 2005 16:52	John Galambos	Normal	Accelerator Physics
<input type="checkbox"/>	8	Weekend Physics Plan	Friday, Jan 06, 2006 16:33	Stuart Henderson	Normal	
<input type="checkbox"/>	9	Guidance for first beam to ring	Friday, Jan 13, 2006 17:01	Michael Plum	Normal	
<input type="checkbox"/>	10	Some VS pictures	Saturday, Jan 14, 2006 02:44	Michael Plum	Normal	

Event Time	Logbook	Category(s)	Type	Priority	Author
Thu, Sep 15, 2005 09:21	Operations			Normal	Tom Pelaia II

[Bookmark](#) [Reply Full thread](#)

beam based alignment results
 Posted: Thu, Sep 15, 2005 09:17
 Parent: [physics shift summary](#)

Attached is the table of BPM alignment results. Alignment measurements were made for SCL BPMs from 17 through 32 and also SCL BPM 12. In some cases the quality of the result is very good and in other cases the quality is very poor. This is noted in the table.

Attachments
[BPM Alignment Table](#)

Responses:

Event Time	Logbook	Category(s)	Type	Priority	Author
Thu, Sep 15, 2005 12:27	Operations	Diagnostics		Normal	Stuart Henderson

[Bookmark](#) [Reply Full thread](#)

Re: beam based alignment results
 Posted: Thu, Sep 15, 2005 12:27
 Parent: [beam based alignment results](#)

There are some SCL BPMs in this list with huge offsets. These need to be looked at first to make sure they are working properly. Here are the biggest offenders:

SCL 22 Yoff = 12.6 mm (!!!)
 SCL 19 Yoff = 4.2 mm
 SCL 28 Yoff = -3.6 mm
 SCL 31 Xoff = 2.3 mm
 SCL 26 Xoff=Yoff = 1.9 mm

Help

- Online Help
- Complete
- Mirrors Menu
- Release Notes

The screenshot displays the SNS Logbook web application interface. On the left, a sidebar shows the user 'Tom Pelaia II' with a 'logout' link and a 'Logbook:' dropdown menu set to 'Operations'. Below this is a 'Mirrors Menu' with links for 'Daily Log', 'Notifications', 'Subscriptions', 'Call List', 'Bookmarks', 'Search', 'Compose', and 'Help'. The main content area has tabs for 'Edit', 'Add Images', 'Add Attachments', and 'Preview'. The 'Add Images' tab is active, showing an 'Upload an image and add it to the entry:' section with a 'Choose File' button and the text 'no file selected'. Below this is an 'Image Title:' field containing 'bookmarks.tiff'. A 'Refresh' button is at the bottom left. A 'Help' window is overlaid on the right, titled 'SNS Logbook Help'. It contains sections for 'Introduction', 'Release Notes', 'Daily Log', 'Notifications', 'Subscriptions', 'Call List', 'Bookmarks', 'Search', and 'Compose'. The 'Edit Tab' section explains that there is a 4000 character limit and that published entries are not editable. The 'Image Tab' section describes how to add and delete images. The 'Attachment Tab' section describes how to add and delete attachments. The 'Preview Tab' section describes how to preview an entry. At the bottom of the main content area, there is an 'Image Description: (4000 character limit)' field with the text 'Yet another image.' and a 'Characters remaining: 3982' indicator.

Further Development

- **Introduce more CSS and JavaScript for a streamlined, efficient user interface**
 - Replace three pane view with menu shade
 - Fix position of headers and footers
- **Allow users to edit rich text within browser**
- **Allow users to save draft entries**
- **Introduce filters for quick, custom navigation**
- **Develop a custom form editor**