

Electronic Workflow Processing for Instrument Modifications - eMod

DENIM 2014

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eMod is not...



Outline

- **What is an eMod?**
- **Why did we do this?**
- **The Process Flow Diagram**
- **What does eMod look like?**
- **The Different Types of eMods?**
- **eMod Walk-Through – Run-through...**
- **Where are we with eMod?**
- **Question/Comments?**

So what is an eMod?

- **eMod = Electronic Modification**
- **A process based on our engineering procedure which defines how modifications to neutron scattering instruments are requested, dispositioned, developed, reviewed, approved, implemented, released for use, and closed.**
- **A process that is intended to provide consistency to the evaluation, implementation and documentation of modifications that are requested to neutron scattering instruments.**
- **A process that systematically guides the task leader (TL) or systems engineer (ISE) through a standard engineering process.**

Scope/Requirements

Conceptual Design

Finalize Design

Final Review/Approvals

Fab/Procure

Pre-Installation Setup

Installation

Release For Use

Close-out

Why did we do this?

- We had procedures, but we wanted a process (http://transition-support.com/Process_versus_procedure.htm)
- We wanted it to (be)
 - Electronic
 - “Automatic”
 - Viewable by all stakeholders
 - Reportable, auditable
 - Minimize hand-carrying documents, drawings, packages around from office-to-office to get signatures
 - Assure consistency
 - “Record Copy”
- eMod will be used anytime a modification to an instrument *requiring engineering support* is identified
- Provides a central location to store/link relevant information for a particular modification

Process Flow Major Points

- The instrument team identifies a need
- The work is characterized by our Work Coordinators
 - Maintenance activity, facility modification, or “Engineering”
- If engineering support is identified the task is electronically sent to eMod, and it shows up in an e-mail to the group leader
- The group leader assesses and assigns (or declines) the work
- Work is initiated and follows predefined steps to completion

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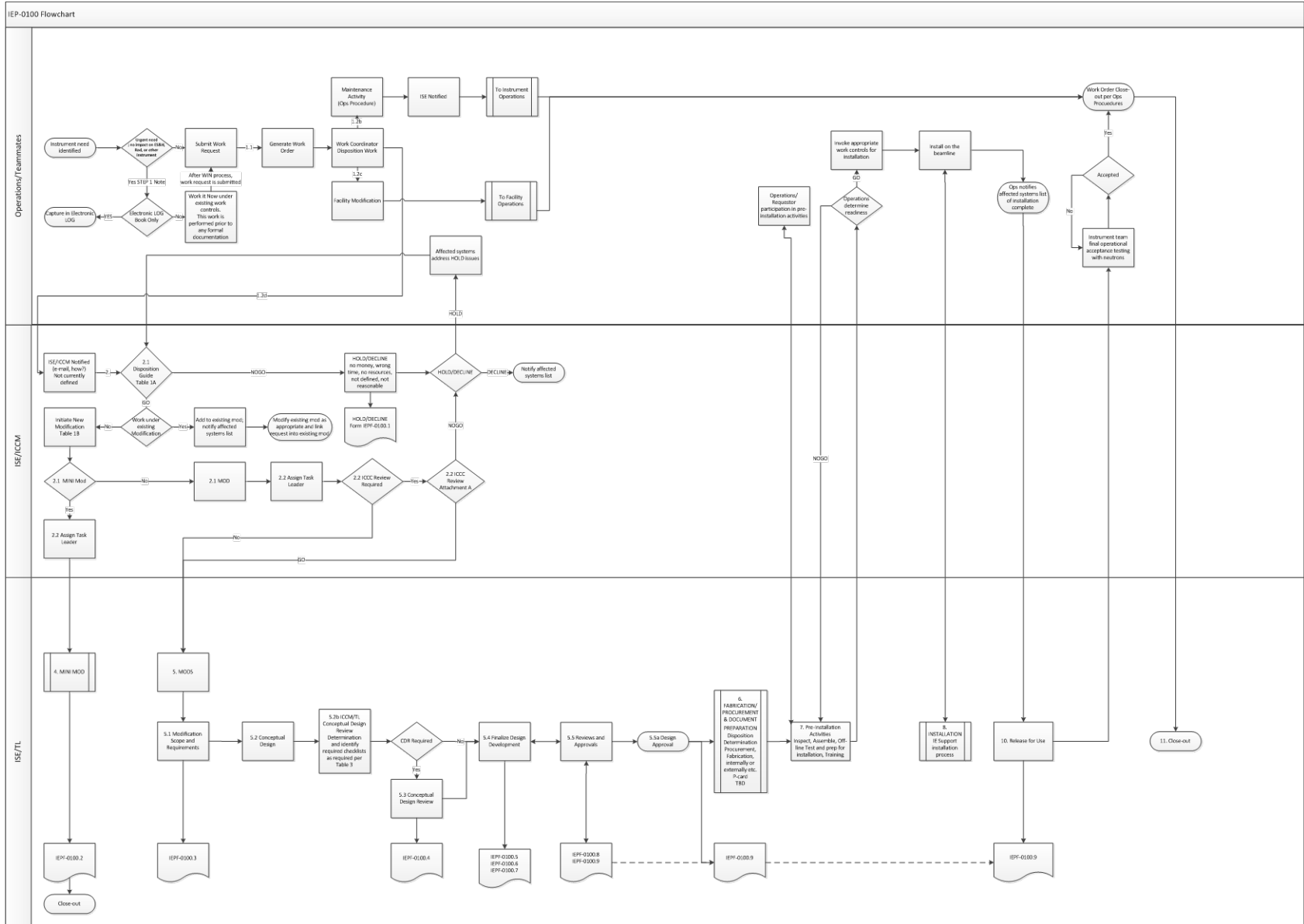
Pre-Installation Setup

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The Process Flow Diagram (PDF)



What does it look like?

- Everybody has a Home page and a Modifications page
- Several of us have Administration control
- The Home page tells you what actions are waiting for your attention
- It is “role” specific

The screenshot displays the eMod web application interface. At the top, there is a blue header bar with the eMod logo and links for "SNS Document Number Reservation" and "Logout". Below the header, a navigation bar contains three tabs: "Home" (selected), "Administration", and "Modifications".

The main content area is titled "Home" and contains three sections:

- New Requests Awaiting ICCM Review**: A table with columns ID, Title, Type, and Request Source. It shows one entry with ID 1273, Title "System Not Assigned Remove Radiation Detector at CG-1D", and Request Source "HFIR CMMS System".
- Draft Modifications I am Task Leader For**: A message stating "There are no draft modifications listed with you as task leader in the system at this time."
- Modifications Awaiting Approval by Me**: A table with columns ID, Title, Type, Request Source, Status, and Awaiting Approval By. It shows one entry with ID 1273, Title "System Not Assigned Remove Radiation Detector at CG-1D", Status "Initial Request", and Awaiting Approval By "ICCM".

Each table has a "1 - 1" pagination indicator at the bottom right.

What does it look like?

- Administrators can:
 - Manage Roles and Responsibilities
 - Manage Systems and Systems List
 - Manage of our checklists and reviews

The screenshot displays the eMod web application interface. At the top, a blue header bar contains the eMod logo in the center, and links for "SNS Document Number Reservation" and "Logout" on the right. Below the header, a navigation bar features three tabs: "Home", "Administration" (which is currently selected), and "Modifications". Under the "Administration" tab, a breadcrumb trail shows "Home > Administration". The main content area is titled "Manage Lookup Tables" and lists 24 administrative functions, each preceded by a right-pointing chevron icon. These functions include managing application roles, systems, document types, log activities, statuses, modification types and subtypes, request source types, ICCM reject/hold assessment options, mini-mod required output documentation, review disciplines, ES&H and RAD checklist categories and controls, facility checklist categories, output documentation types, outages/cycles, and resource categories.

Home > Administration

Manage Lookup Tables

- › Manage Application Roles and Assignments
- › Manage Systems
- › Manage Document Types
- › Manage Log Activities
- › Manage Statuses
- › Manage Modification Types
- › Manage Modification Subtypes
- › Manage Request Source Types
- › Manage ICCM Reject/Hold Assessment Options
- › Manage Mini-Mod Required Output Documentation
- › Manage Review Disciplines
- › ES&H Checklist Categories
- › ES&H Checklist Controls
- › ES&H Checklist Items
- › RAD Checklist Categories
- › RAD Checklist Controls
- › RAD Checklist
- › Facility Checklist Categories
- › Facility Checklist
- › Output Documentation Types
- › Manage Outages/Cycles
- › Resource Categories

What does it look like?

- The Modification tab is where most people 'enter' eMod
- It provides an overview of the status of all modifications that you are responsible for – your “Systems”
- It allows you to prepare reports and customized screens for viewing your systems
- It allows the casual user a look at only their projects

eMod															
SNS Document Number Reservation Logout															
Home Administration Modifications															
Home > Modifications															
Include On-Hold/Declined/Closed Yes No Include Future FY Tasks Yes No Facility SNS HFIR Both Include All Records Records Related to Me															
Q- Go Reports 1 Primary Report Actions Create															
ID #	Type	Status	Title	Description	Task Leader	System(s)	Source of Request	Outage/Cycle	Expected Date Available	Progress	%	ISE	Future FY	Plain Source ID	Group Name
1274	MOD	Scope & Requirements	HYSPEC 3He Valves	Mark Overbay is to model a modified valve for 3He system to allow for a Confist	Overbay, Mark - 00913657	BL-14B HYSPEC	SNS Infor (Datastream)	-	25-SEP-2014		10	Conner, David	N	1379010	-
1273	-	Initial Request	Systein Not Assigned Remove Radiation Detector at CG-1D	Remove Radiation Detector at CG-1D	-	-	HFIR CMMS System	-	-		-	-	-	14898	-
1264	MINI-MOD	Description and Documentation	CNCS sample cylinder and seals	Reverse engineer the lefton fluid cylinder and copper sealing rings and have the	Conner, David - 00029933	Sample Env. BL-05 CNCS	Engineering Modification System	2014-B	01-SEP-2014		50	Conner, David	N	-	-
1263	MINI-MOD	Description and Documentation	IVC cans for ULT-007	We need to make 3 new IVC cans from the data provided from survey and alignment	Pradhan, Neelam - 00971403	Sample Env	SNS Infor (Datastream)	-	-		50	Pradhan, Neelam	N	1376521	-
1262	MINI-MOD	Description and Documentation	Spool pieces to extend the tail of CRYO-010	Spool pieces and heat shields need to be made to extend the tail of CRYO-010 (50	Fletcher, Cory - 00702786	Sample Env	SNS Infor (Datastream)	-	-		50	Pradhan, Neelam	N	1376520	-
1261	-	Initial Request	SE ULT thermal links - design and fabrication	Design and fabricate thermal links for ULT-004, ULT-003, and ULT-005.7. Specs w	00937568	Sample Env	SNS Infor (Datastream)	-	-		-	Pradhan, Neelam	N	1376440	-
1258	MINI-MOD	Description and Documentation	BL4B heating block	We would like a stainless steel block designed with slot cut out of it for the p	Hoffmann, Michael - 00944591	BL-04B Liquids	SNS Infor (Datastream)	-	-		50	Hoffmann, Michael	N	1373651	-
1257	MOD	Scope & Requirements	BL4B Frame Overlap Mirror	We will like a new frame overlap mirror at the beam line. We have been working w	Hoffmann, Michael - 00944591	BL-04B Liquids	SNS Infor (Datastream)	-	-		10	Hoffmann, Michael	N	1373292	-
1252	-	Initial Request	BL3: CCR06 Vanadium IVC	Design and fabricate a vanadium replacement inner vacuum can for CCR06. Design	-	Sample Env	SNS Infor (Datastream)	-	-		-	Pradhan, Neelam	N	1372578	-
1251	MOD	Scope & Requirements	BL11B Mandi Magnetic attaching aperture	Magnetic attaching apertures need to be designed and made. The current aperture	Overbay, Mark - 00913657	BL-11B MANDI	SNS Infor (Datastream)	-	-		10	Overbay, Mark	N	1371875	-
1248	MOD	Final Reviews and Approvals	Wavelength Shifting Fiber Polishing Fixture	Design, fabricate and test a fixture to hold multiple scintillating fibers in th	00931000	BL-20 EMOO EVALUATION SYSTEM	Engineering Modification System	FY14-2	05-AUG-2014		60	Vandergriff, David	N	-	-

Types of Mods - Mini-Mod

- Simple, small scale
- No “safety” implications
- Can be a test, drawing change, procurement, simple physical mod , duplicate fabrication, other small task

eMod | DNS Document Number Reservation | Logout

Home | Administration | **Modifications**

Home > Modifications > Modification

Progressbar for this Mod: % Complete

ICCM Decline/Hold Assessment | Decline Request | Place On Hold

Decline/Hold Assessment (Check all that apply)

☐ Scope not sufficiently defined
☐ Work scope not accounted for on current FY (WPF)
☐ Does not change or enhance performance, reliability, or maintainability
☐ Sufficient funding not currently available
☐ Staff resources not available
☐ Other: See Comments

Reason For Declined Request / Actions Required To Release Hold

Basic Modification Information | Cancel | Apply Changes | Add Attachment(s) | Add Link(s) | Add Comment(s) | Email

Modification ID 1254 **Status *** Description and Documentation

Current Status Awaiting Approval by ISE

Source of Request * Engineering Modification System **Source ID**

Type * MINI-MOD - Simple, small scale, and has insignificant impact to E554L Radiation Safety, Facility Interfaces, and Design Standards. Documentation can be done following the work.
☐ MOD - Modification **SubType *** Fabrication

Task Leader * Conner, David - 00029933

Title * CNCB sample cylinder and seals **Description** Reverse engineer the teflon fluid cylinder and copper sealing rings and have them fabricated locally for the next run cycle.

System(s) * HFIR - HB-1 | SNS - Sample Env
 HFIR - HB-1A | SNS - BI-05 CNCB
 HFIR - HB-2
 HFIR - HB-2A POWDER
 HFIR - HB-2B
 HFIR - HB-2C WAND
 HFIR - HB-2D
 HFIR - HB-3

Planned Outage/Cycle 2014-B **Expected Availability** 01-SEP-2014

- Two basic steps
 - What needs to be done?
 - What did you do?
- Assigned by group leader
- Approved by Task Leader
- System List notified

Future FY Task * ☐ Yes ☒ No **Group** [Create New](#)

Resource Allocation | [Manage Resource Allocation](#)

Materials Cost
 no data found

MINI-MOD Modification Documentation

Summary Problem/Request Reverse engineer the teflon fluid cylinder and copper sealing rings and have them fabricated locally for the next run cycle.

Detailed Description Of Actions Parts inspected and fabrication drawings created. Quotations for 100 sets reviewed and job awarded.

Output Documentation ☐ Labeling changes required
☒ New document (e.g., drawing, specification) required
☐ Other documentation required (See Actions)
☐ Revision to an existing document (e.g., drawing, specification) required

Documentation Attached(5)

Edit	Download	Source	Description	File Name	Date
Edit/Update	Download		picture of delivered parts	DSCN1576.JPG	08-SEP-2014 10:39:10
Edit/Update	Download		drawing	CNC50550M8U8705A378.pdf	31-JUL-2014 09:59:38
Edit/Update	Download		drawing	CNC50550M8U8705A377.pdf	31-JUL-2014 09:59:26
Edit/Update	Download		drawing	CNC50550M8U8705A376.pdf	31-JUL-2014 09:59:19
Edit/Update	Download		S&A Inspection data	Conner_Clamp_Cell_Seal1_RevEng_7-15-2014.docx	31-JUL-2014 09:59:09

1 - 5

Documentation Linked(0)

Comment Log(0)

Approvals

Audit Trail

[Manage Attachments](#)

Types of Mods - Mod

- Everything that is not deemed a Mini-Mod

FileEditViewFavoritesToolsHelp

ConvertSelect

Suggested SitesDataStreamInstrument Operations Ac...EMODSNS Logbook - LoginIWP MenuSA Home - Science SupportISD Home Page

SNS Document Number ReservationLogout

HomeAdministrationModifications

Home > Modifications > Modification

Progressbar for this Mod:

95 %

% Complete

95

(Click for Full Process Workflow)

Show AllScope/RequirementsConceptual DesignConceptual Design ReviewFinalize DesignFinal Review/ApprovalsFab/ProcurePre-Installation SetupInstallationRelease For Use

ICCM Decline/Hold Assessment

Decline RequestPlace On Hold

Decline/Hold Assessment (Check all that apply)

☐ Scope not sufficiently defined

☐ Work scope not accounted for on current FY IWP

☐ Does not change or enhance performance, reliability, or maintainability

☐ Sufficient funding not currently available

☐ Staff resources not available

☐ Other. See Comments

Reason For Declined Request / Actions Required To Release Hold

Basic Modification Information

CancelApply ChangesAdd Attachment(17)Add Link(2)Add Comment(3)Email

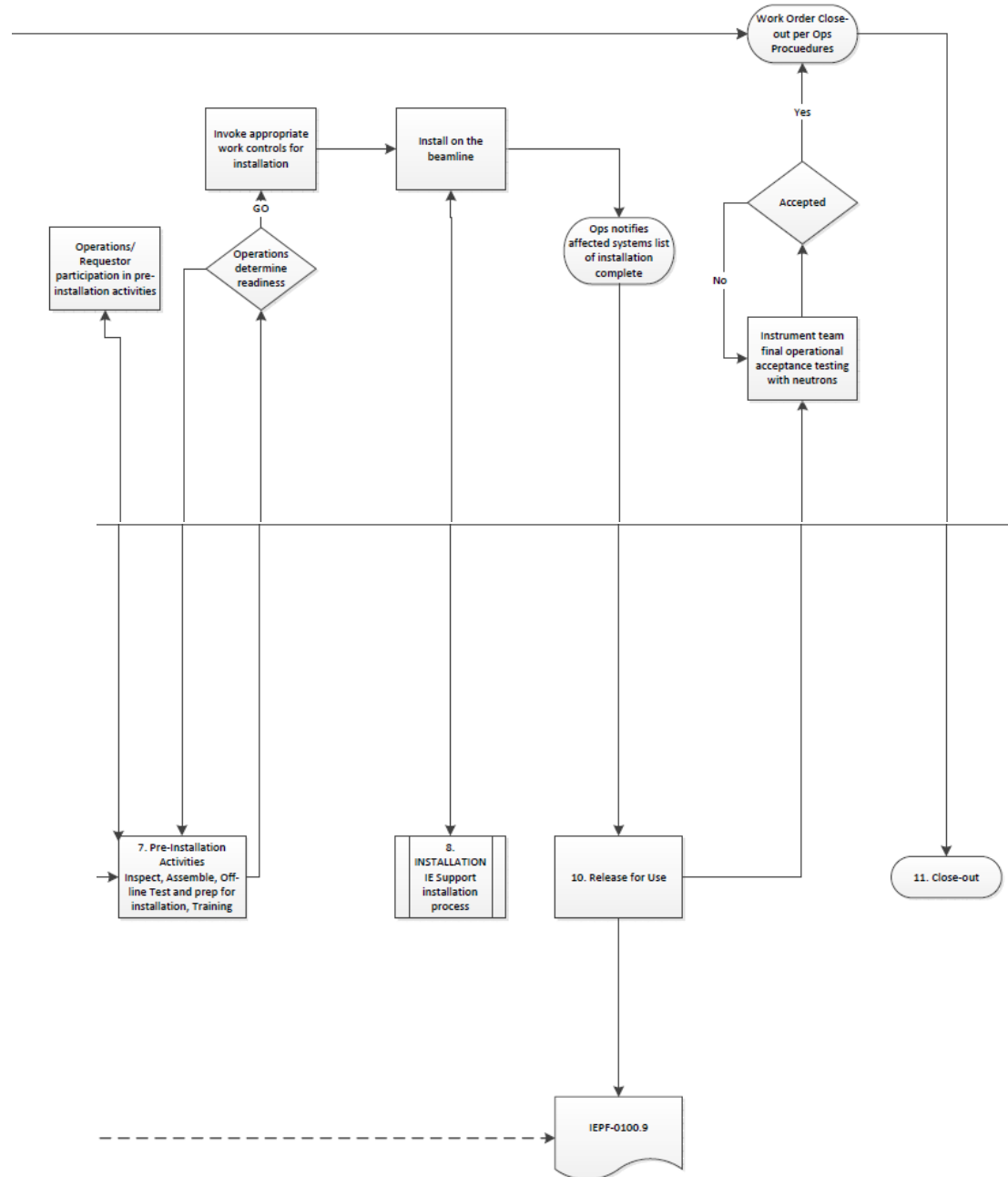
Modification ID	1031	Status *	Release for Use
Current Status Awaiting Approval by	No One		
Source of Request *	SNS Infor (DataStream)	Source ID	1347566
Type *	☐ MINI-MOD - Simple, small scale, and has insignificant impact to ES&H, Radiation Safety, Facility Interfaces, and Design Standards. Documentation can be done following the work. ☒ MOD - Modification	SubType *	Physical Modification - DEFAULT
Task Leader *	Summers, - 00011417		
Title *	BL16B VISION Mounting of Downstream Beam Monitor	Description	Installation of a second beam monitor located downstream of the sample position and before the get lost tube. A beam monitor, control box, and beam monitor computer are available for use, supplied by the detectors group. Once installed, this will also require coordination with DAS support and data translation
System(s) *	SNS - BL-16B VISION		
ICCC Approval Required *	☐ Yes ☒ No		
Planned Outage/Cycle	Winter 2013	Expected Availability	11-OCT-2013
Future FY Task *	☐ Yes ☒ No	Group	Create New

Walk Through of eMod Example

- http://snsapp1.sns.ornl.gov/pls/prod/f?p=510:25:215639419690793::NO::P25_EMOD_ID:1031

The BIG Difference – Close-out?

- There is a formal Close-out process as part of eMod
 - Pre-installation
 - Installation
 - Release-for-use
 - In-beam testing and acceptance
 - Close-out WO and eMod
- Beamline team satisfaction and acceptance is the final step prior to closeout of the eMod



Where are we with eMod

- eMod is a work in progress!
- eMod has been ‘live” for almost a year now. ~300 tasks in the system currently
- We have made several changes, and continue to do so
- Too many notifications originally
- We need more flexibility so we will introduce a “Flex-Mod”
- Mixed reception and use with our engineers and customers
- eMod was not designed to be a work control system, only to supplement our current systems
- Things have changed organizationally and otherwise since we began so it takes a constant diligence to stay current
- But...

We will continue to ride this eMod...



Questions/Comments