



THREE-YEAR SECTOR SAFETY REVIEW REPORT

ICMS Document Number APS_2172625

Review Number	Review Title	Review Date
PSC-2020-TYSSR-S05	Three Year Sector Safety Review of DND-CAT Sector 5	November 12, 2020
Scope / Agenda		Review Team
DND-CAT ES&H Plan Implementation Sector 5 Specific Safety Issues PSC/AES Configuration Control Records RSS Component Survey & Alignment Update RSS Interface Identification PSS User Requirements Specification Ray Traces, Operational Envelope, Design Reviews Health Physics Survey Records ES&H Inspection Records ES&H Walk-Through LOM 432_A office areas, laboratories Sector 5 beamlines, control areas, egress aisles		John Connolly Nena Moonier Paul Rossi Mike Fries Patti Pedergrana Liz Schmidt Steve Davey Ken Belcher Merrick Penicka Beth Heyeck Denis Keane
Review Chair	ESH/QA Representative	Responsible Manager
Nena Moonier	Paul Rossi	John Connolly
<u>Executive Summary:</u>		
DND-CAT's TYSSR was held on November 12, 2020.		

Section 1: TYSSR criteria are based upon APS User Safety Policies and Procedures, APS Procedure 3.1.102, Section Beamline Facilities Reviews (Formerly AP&P 3.1.18, APS document number APS_118581)

	Agenda Items / Review Criteria	Discussion / Objective Evidence	Action Required
1.	Date of last TYSSR	November 16, 2017	None
2.	Beamline management presents a summary of the ES&H program and notes changes, if any, since the last TYSSR.	Denis Keane presented the DND-CAT Safety Presentation.	Presentation will be uploaded into ICMS

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3.	Committee records concerns raised by Sector Personnel	None	None
4.	Committee reports outstanding action items, if any, from last TYSSR	None	None
5.	Each partner user group operating a beamline shall:	<i>See sub-items.</i>	
6.	Review beamline safety program and ES&H plan at least once every thirty-six months; revise them, as needed, and provide ES&H plan to APS User Safety Officer for approval.	The MR-CAT safety plan has been reviewed and approved by P. Rossi and N. Moonier. The Plan is in ICMS: APS_2172482	None
7.	Review beamline safety assignments annually and reassign responsibilities or create new roles, as needed; notify USO of changes in personnel assigned to ES&H roles.	Communicated through monthly data check of Beamline HR Admin application.	None
8.	The committee verifies that the following records are on file and consistent with the beamline:	<i>See sub-items.</i>	
9.	Review/approval records for modifications to beamline safety systems since last TYSSR	There have been no modifications to 5-BM or 5-ID since the previous TYSSR.	None
10.	Configuration control list	Current as of the beginning of the last run.	None
11.	Administrative Restrictions	There are no Administrative Restrictions at this time.	None

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Agenda Items / Review Criteria		Discussion / Objective Evidence	Action Required
12.	RSS component survey and alignment worksheets	There are no S&A records for Sector 5. S&A was scheduled for the April/May 2018 shutdown but did not happen due to limited manpower resources.	Surveys will be completed in the future when manpower resources are available.
13.	RSS interface Document	5-BM: ICMS Content ID APS_1218057 5-ID: ICMS Content ID APS_1218059	None
14.	PSS user requirements specification	5-BM: ICMS Content ID APS_1121396 5-ID: ICMS Content ID APS_1121620	None
15.	Sector floor plan, including egress aisles and work areas	Sector 5 ICMS Content ID APS_1190834	None
16.	Beamline layouts showing major radiation safety shielding components	ICMS Content ID APS_1248144 beamline schematic from 5-ID FEA 5-BM FOE layout ICMS Content ID APS_2038266 5-ID FOE layout ICMS Content ID APS_2038265	None
17.	Synchrotron and Bremsstrahlung ray trace drawings for all operating modes	5-BM: ray trace folio ICMS Content ID APS_1413673 5-ID: ray trace folio ICMS Content ID APS_1413674	None

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18.	Design drawings of RSS components that show functionality, shielding and aperture dimensions, and shielding material	<p>BM Line (draft RSS Table APS_1279040)</p> <p>5-BM-B,C dual white beam shutter, located in the A hutch drawing package ICMS APS_1425015</p> <p>5-BM-A bremsstrahlung shield drawing package ICMS APS_1425034</p> <p>5-BM-B collimators #1,#2,#3,#4 located inside the B to C transport, detailed aperture table on page 25 of the DND-CAT FDR APS_125205</p> <p>0h107201.dwg 5-BM-C,D transport in BDL</p> <p>BM-C and BM-D photon/safety stops, no drawings provided. 300mm lead brick stack protected by 10mm water cooled Al plate.</p> <p>ID Line (See RSS Table APS_1426493)</p> <p>Oka5100s.dwg Collimator in BDL</p> <p>APS_1438468 Mono Shutter (0p55200a.dwg)</p> <p>APS_1438469 Modified P5 (abs00300.dwg)</p> <p>P5 sub-assembly (Oxford ABS00300) in BDL</p> <p>P5 tungsten block (Oxford ABS00304) in BDL</p> <p>0p55100a.dwg WBS (Oxford ABS00100) in BDL</p>	<p>Requested the 5-BM-C and -D photon/safety stops assembly drawings from DND-CAT, which are not in the BDL, ICMS, or hard copy files.</p> <p>Requested the 5-ID-A-P-03 Safety Stop assembly drawing from DND-CAT, also un-locatable.</p>
19.	Thermal analysis for RSS components connected to PSS water flow	Sector 5 ICMS Content ID APS_1248180	None

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20.	Assembly drawings for x-ray shielded enclosures	<p>Enclosure drawings are in the Beamline Design Library and ICMS</p> <p>5-BM-A http://bdl.aps.anl.gov/bin/Restrict.pl?dir=REVIEW/S05_DND/0/0h1/0h106</p> <p>5-BM-B http://bdl.aps.anl.gov/bin/Restrict.pl?dir=REVIEW/S05_DND/0/0h1/0h107</p> <p>5-BM-C ICMS APS_TECKNIT462, 463, 464, 465, 466</p> <p>5-BM-D ICMS APS_TECKNIT495, 496, 497, 498</p> <p>5-ID-A http://bdl.aps.anl.gov/bin/Restrict.pl?dir=REVIEW/S05_DND/0/0h1/0h108</p> <p>5-ID-B ICMS APS_TECKNIT548, 549, 550, 551, 552</p> <p>5-ID-C ICMS APS_TECKNIT585, 586, 587, 588</p> <p>5-ID-D ICMS APS_TECKNIT629, 630, 631, 632, 633</p>	None
21.	Date of last Health Physics routine survey	The last Health Physics routine survey of 5-BM was conducted on 10/05/2020. The last Health Physics routine survey of 5-ID was conducted on 10/06/2020. There were no issues of note.	None
22.	ES&H coordinator provides recent ES&H inspection reports and identifies open safety issues, if any.	The last safety walk through for Sector 5 was completed on January 10, 2020. All minor issues noted were addressed by the beamline. No outstanding issues remain.	None
23.	Committee and beamline personnel discuss opportunities for improving the process	None	None

Section 2: Safety walk through was not held on the day of the review. Review held virtually due to the Lab operating in Limited Operations.

ICMS Workflow Approvals Required

Nena Moonier (Assessment Team Leader)
 Paul Rossi (Assessment Team Member)
 Mike Fries (Assessment Team Member)
 Patti Pedernana (Assessment Team Member)
 Elizabeth Schmidt (Assessment Team Member)
 John Connolly (Responsible Manager)

File / Distribution: PSC Deputy Assoc. Lab Director - Operations (Approver)
 CAT or XSD Division Director
 Sector Personnel and Safety Coordinator
 User Safety Officer
 PSC ESH/QA Representative
 User Experiment Oversight
 APS User Technical Interface
 AES-EFO Group

Supporting Documents:

- DND-CAT Sector 5 Three-Year Sector Safety Review Notification Letter (APS_2172621)
- DND-CAT Sector 5 Three-Year Sector Safety Review Agenda (APS_APS2172622)
- DND-CAT Sector 5 Three-Year Sector Safety Review Meeting Minutes (APS_2172623)
- DND-CAT Sector 5 Three-Year Sector Safety Review Presentation (APS_2172624)