

Updates for DREAM instrument (April 2026)

This report describes the major activities of the project since the last STAP meeting in October 2025.

Schedule update

All the local and integrated Site Acceptance Subsystems (chopper, beam monitors, slit systems, detector) together with the safety systems (Personal Safety System, Radioprotection, Motion safety) have been performed. The combined TG5-iSRR meeting of DREAM took place March 25-26th. The report has been released, and 17 points were identified that will need to be corrected for the instrument to pass the iSRR-SAR. These points concern the documentation, the performance and the completeness of the instrument. Three points are already corrected, and five are under review and shall be closed in incoming weeks. The more prominent ones deal with the delayed reinstallation of the water manifolds, necessary to operate sample environments, the installation of a permanent gas panel for the beam monitors, and faulty detectors modules, electronic or firmware readout. Some detector units will be sent to the manufacturer (CDT) for repairs, taking advantage of the free time before BOT next year.

We expect all corrections to be done by October 2026. The instrument should be ready to take neutrons shortly after beam-on-target (BOT), which is scheduled for the end of January 2027.

ID	NIT	Required Action	Completion	Completion Confirmed
1	NIT-667	False floor - Distribution board	TG5/iSRR	No Create NCR
2	NIT-666	Detector rack raised floor	TG5/iSRR	Yes
3	NIT-661	NCR 10467 - Evaluate design fix done in situ. (shutter)	TG5/iSRR	Yes
4	NIT-493	Isolate grounding detector from MCA	TG5/iSRR	Yes
5	NIT-436	Change request for CUP - DREAM detector gas exhaust	TG5/iSRR	No
6	NIT-380	Dream shutter NCR 10466 Absence of CE marking, or related documentation	TG5/iSRR	Yes
7	NIT-7	BM gas lines for Dream in bunker	TG5/iSRR	Yes
8	NIT-5	Check DREAM Shock absorbers	TG5/iSRR	Yes
9	NIT-4	Verify the DREAM Shutter optics orientation	TG5/iSRR	Yes
10	NIT-700	DREAM: Calculate the step size of piezo stages in open-loop	TG5/iSRR	Yes
11	NIT-699	DREAM: PZ14 not referenced	TG5/iSRR	No
12				
13	NIT-676	DREAM: Corrections on Goods lift after yearly inspection	TG5/iSRR	Yes
14	NIT-672	DREAM Ar-CO2 gas pressure at detector and related alarm	TG5/iSRR	Yes
15	NIT-760	DREAM EPL corrections and update	TG5/SAR	No
16	NIT-768	Missing compliance evaluation for false floor fire suppression	TG5/iSRR	On going
17	NIT-778	Improve labelling of Emergency Stops	TG5/iSRR	On going
18	NIT-691	DREAM: Firmware delivers data with negative rTOFs	TG5/iSRR	No
19	NIT-688	DREAM HikVision cameras	TG5/iSRR	On going
20	NIT-687	DREAM: Gas panel for the beam monitors	TG5/iSRR	No
21	NIT-686	DREAM: Reinstallation of instrument manifolds for cooling	TG5/iSRR	No
22	NIT-651	DREAM: CIPIX error, SUMO5, Ring 1 / FEN1 (EndCap BW, Sector 9)	TG5/iSRR	No
23	NIT-680	DREAM EPL model to be completed	TG6/ORR	No
24	NIT-627	DREAM: HV issues for the detectors	TG5/SAR	No
25	NIT-625	DREAM: Spurious signals observed in the EndCap detector modules	TG5/SAR	In Review

Activities before BOT

The Cold Commissioning activities will also continue during the months remaining before BOT to assert the robustness of the instrument controls and the various procedures. We will also take advantage of this time to prepare the equipment needed for the Hot Commissioning (included sample environment) and test it on site.

We will also refine the Hot Commissioning plan and check that the test samples with X-Rays, and verify the data reduction processes (including calibration features) are ready.



On-site visit and presentations on installed components during the iSRR-SAR meeting