

#### System Acceptance Review - Bifrost

Bifrost – NCRs and NITs = ESS.NSS.H01.BIFRO

### Agenda



- 1 Open NCRs
- 2 Open NITs
- 3 Closed and Old NCRs (BACKUP)

#### Open NCRs

NCR - 10525 (& NIT-155)



#### Update:

- All documents required for CE marking available in preliminary form
- Following TBL Shutter Process
- ESS decision whether to CE mark or not





#### Open NITs – Breakdown

#### Breakdown

• Core team 43

• Choppers 2

• Shielding 2

• Detectors 6

• Beam Monitors 21

Motion Control

Total 82







Summary	Issue key	To be resolved by	Notes
Bifrost Cave SAT - Roof Beam Gaps	NIT-226	ORR	To be highlighted as hotspot to RP
Bifrost Cave SAT - Roof Handrails	NIT-227	SRR	Arrived. Installation ongoing and awaiting final pieces
Bifrost Cave SAT - Lead Chimneys	NIT-228	SRR	Two to be built. Solution required for remaining structure
Bifrost Cave SAT - E01 Handrails	NIT-229	SRR	Installation ongoing
Bifrost Cave Hatch Cabinet - Energisation	NIT-248	SAR	Awaiting completion of Eam process
Installation of Borated Poly Plug in Cave Wall	NIT-251	ORR	Ordered
Bifrost False Floor North Completion	NIT-263	SRR	Awaiting access to bandsaw
Installation of borated lining in service feedthroughs	NIT-264	SRR	Material on site. Awaiting installation
Enlarge Radius on Beam Stop Borated Aluminium Sheet	NIT-303	SRR	Ordered



#### Related to Secondary Spectrometer (3)

Summary	Issue key	To be resolved by	Notes
Bifrost Analyser - Performance Check	NIT-224	ORR	NIT used to highlight a potential future weakness
Bifrost Spectrometer Polyethyelene	NIT-230	SRR	Material ordered
Modify hard stop on the Bifrost tank	NIT-252	SRR	Changed due to practical realities discovered during commissioning. Design ongoing.





Summary	Issue key	To be resolved by	Notes
Stainless steel parts on BE filter	NIT-29	ORR	Only problematic when/if polarisation upgrade comes in
			At high end of adjustment range. Harder to align than
Bifrost - Beryllium Filter Adjustment System Amendments	NIT-231	ORR	necessary.
BIFROST - implement warning in NICOS for low LN2 level in beryllium filter	NIT-254	SRR	ECDC – Unable to finalise tests due to concurrent work
BIFROST - implement NICOS warning beryllium filter temperature	NIT-255	SRR	ECDC – Unable to finalise tests due to concurrent work
BIFROST - Integrate tank vacuum pressure gauge level in NICOS	NIT-256	SRR	ECDC – Unable to finalise tests due to concurrent work
BIFROST - Integrate filter vacuum gauge level in NICOS	NIT-257	SRR	ECDC – Unable to finalise tests due to concurrent work
Creation of NICOS warnings for filter vacuum	NIT-306	SRR	ECDC – Need to discuss, implement and test alarm





Summary	Issue key	To be resolved by	Notes
BM gas lines in bunker	NIT-6	SAR	Gas lines were restricting some RH operations and need reworking
CUP Installation of IA Manifold	NIT-232	SRR	Wrong interface installed initially for one pump. New part arrives in October
BIFROST Cooling SAT document missing	NIT-242	ORR	?





Summary	Issue key	To be resolved by	Notes
Include Grounding Cable Disconnection in O&M Manuals	NIT-297	SRR	Not yet installed. Pictures to be included
Revision of O&M Manual	NIT-250	SRR	To include comments from reviewers and Motion Safety information
Change BIFROST BBGOA drawing title	NIT-35	SSR	Legacy and overlooked item
As Built - Guide and Frame in Cave	NIT-42	SAR	Quick fix
Goniometers C.O.G problem fix	NIT-30	SAR	Quick fix
Bifrost Spectrometer - As Built	NIT-43	SRR	Needs re-designd Beam Stop
Update O&M manual Bifrost Beryllium filter	NIT-18	SAR	Include support information within EPL



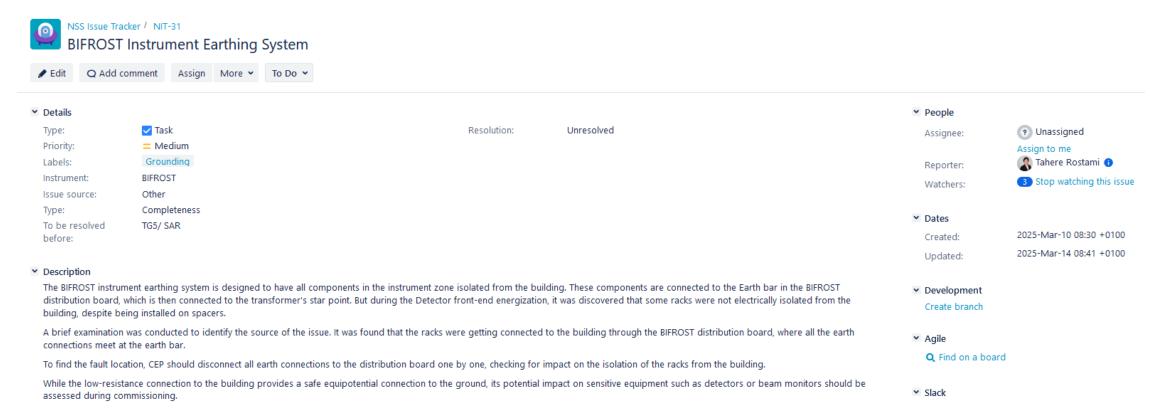
#### Related to Magnetism in Cave (2)

Summary	Issue Key	To be resolved by	Notes
Change thrust screw to non-magnetic - Bifrost	NIT-21	ORR	Small screws were labelled non-magnetic but clearly are
Bifrost BM4 - Magnetism	NIT-82	ORR	Multiple items on BM4 are magnetic. Some have changed, others need further investigation

#### Related to Grounding (2)



Summary	Issue key	To be resolved by	Notes
Grounding of Components in the Bunker	NIT-241	SRR	Installation Ongoing
BIFROST Instrument Earthing System	NIT-31	SAR	Below



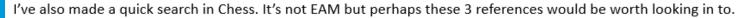


#### Related to Sample Environment (9)

Summary	Issue key	To be resolved by	Notes
BIFROST - Implement all orange cryostat PV's in NICOS	NIT-267	SRR	Sample Environment Integration with ECDC. Not SAR Scope
BIFROST - Implement Oxford cryomagnet PVs in NICOS	NIT-268	SRR	Sample Environment Integration with ECDC. Not SAR Scope
BIFROST - ramp rate, temperature curve and setpoint in NICOS (via Lakeshore)	NIT-269	SRR	Sample Environment Integration with ECDC. Not SAR Scope
BIFROST - Implement needle valve and cryogen display in NICOS	NIT-270	SRR	Sample Environment Integration with ECDC. Not SAR Scope
BIFROST - Implement alarm for low cryogen levels on sample environment in NICOS	NIT-271	SRR	Sample Environment Integration with ECDC. Not SAR Scope
BIFROST - Implement an alarm for sample environment temperature being off target in NICOS	NIT-272	SRR	Sample Environment Integration with ECDC. Not SAR Scope
BIFROST - implement alarm for cryomagnet coil temperature being off target in NICOS	NIT-273	SRR	Sample Environment Integration with ECDC. Not SAR Scope
BIFROST - test Kafka streaming for all sample environment variables in the sample environment tests	NIT-274	SRR	Sample Environment Integration with ECDC. Not SAR Scope
BIFROST - implement sample environment and sensor IDs to be written in the nexus file	NIT-275	TG6/ ORR	Sample Environment Integration with ECDC. Not SAR Scope

#### Closed or Old NCR's

2025-06-25





Name	Туре	Rev	Description	Title	Owner	Originator
ESS- 4246377	Non-Conformity Report	1	To enable a succesful leak test the NBPIw needs to be remachined	NCR 10246 Remachining of NBPI windows for BIFROST	Bengt Jönsson	Bengt Jönsson
ESS- 5489421	Non-Conformity Report	1	Chopper was tested after install and does not conform to set parameters.	Non Conformity Report- Bifrost-PSC Chopper	Thomas Cornes	Thomas Cornes
ESS- 5717299	Non-Conformity Report	1	This report captures all the non-compliances identified during the verification activities of Bifrost PSS	Non-compliance report for Bifrost PSS	Anton Andersson	Anton Andersson

Best regards, Stefan Pacoste The first NC (10246) is closed.

The second NC (10350) is closed as well. This captures CHESS document ESS-5489421 below. However, when digging more, this NC is captured in ESS-0008823 as mentioned in MFGREQ-796.

I checked ESS-5717299 and noticed that there is not document in CHESS uploaded. I tried to find the relevant NC but couldn't find it in EAM.

Regards, **Ghinwa Kellesly** Quality Assurance Officer