



# Summary of NIT / NCR and proposed resolutions

=ESS.NSS.H01.LOKI

PRESENTED BY ANDREW JACKSON

2025-09-18

# Choppers



|                         |             |                                                                           |          |
|-------------------------|-------------|---------------------------------------------------------------------------|----------|
| <a href="#">NIT-180</a> | To Do       | LoKI: Implement individual levitation commands for chopper disk in NICOS. | TG6/ORR  |
| <a href="#">NIT-177</a> | To Do       | LoKI: Update chopper window selection for LoKI                            | TG6/ORR  |
| <a href="#">NIT-176</a> | In Progress | LoKI: Resolver angle offset for NICOS visualization                       | TG6/ORR  |
| <a href="#">NIT-139</a> | Resolved    | SFOC-100 vacuum report missing                                            | TG5/SAR  |
| <a href="#">NIT-138</a> | Resolved    | LOKI BWC-100 vacuum report missing                                        | TG5/ SAR |
| <a href="#">NIT-130</a> | Resolved    | LOKI SFOC-100 isolation measurment not possible                           | TG5/ SAR |
| <a href="#">NIT-129</a> | Resolved    | LOKI BWC-100 not isolated                                                 | TG5/ SAR |

NIT-129, NIT-130, NIT-138, NIT-139 : Resolved as “Accept as is” since there is no system performance impact

NIT-176, NIT-177 : Operational efficiency/convenience issues that can be addressed during HC

NIT-180 : Not urgent as there is no risk of immediate damage, but should be addressed during HC to minimise wear on chopper drive

# Detectors



|                         |             |                                                                    |          |
|-------------------------|-------------|--------------------------------------------------------------------|----------|
| <a href="#">NIT-309</a> | In Progress | LOKI Detector Module 6 Bank 0 failure                              | TG6/ ORR |
| <a href="#">NIT-225</a> | In Progress | LoKI: Troubleshooting Module 9 - Bank 0 Power Supply Issues        | TG6/ ORR |
| <a href="#">NIT-191</a> | Resolved    | LoKI: Installation of the advanced A4528 interface card            | TG5/ SAR |
| <a href="#">NIT-146</a> | Resolved    | Replacement of the LV connectors on the Loki detector patch panels | TG5/ SAR |
| <a href="#">NIT-145</a> | Resolved    | Shortening of the HV and LV cables for the Loki detector modules.  | TG5/ SAR |

NIT-145, NIT-146, NIT-191 : Resolved – work done

NIT-225, NIT-309 : Awaiting post-mortem and bench tests with support from STFC. We are avoiding moving the rear detector carriage until the issue is investigated. Needs resolution to fully commission instrument.

# Motion Control



|                         |             |                                                                               |          |
|-------------------------|-------------|-------------------------------------------------------------------------------|----------|
| <a href="#">NIT-207</a> | To Do       | LoKI: Adjust Default Motor Speed to Maximum Value                             | TG6/ORR  |
| <a href="#">NIT-208</a> | To Do       | LoKI: Macro for Slit Height/Width                                             | TG6/ORR  |
| <a href="#">NIT-333</a> | To Do       | Update LOKI MCC2 ePlan                                                        | TG6/ ORR |
| <a href="#">NIT-336</a> | To Do       | LOKI MCC4: As-built ePlan drawings                                            | TG6/ ORR |
| <a href="#">NIT-340</a> | To Do       | LOKI MCC5: Detector motion systems cabling management                         | TG6/ ORR |
| <a href="#">NIT-344</a> | To Do       | Set precision parameter in twincat for LoKI Slits                             | TG6/ ORR |
| <a href="#">NIT-335</a> | In Progress | LOKI MCC3: As-built ePlan drawings.                                           | TG6/ ORR |
| <a href="#">NIT-215</a> | In Progress | LoKI: Replace encoder reading scale on sample stack Z-axis                    | TG5/ SAR |
| <a href="#">NIT-185</a> | In Review   | LoKI: Missing Error Message Mapping for Experiment Shutter in EPICS and NICOS | SRR      |
| <a href="#">NIT-214</a> | In Review   | LoKI: Missing Error Message Mapping for Window Guard in EPICS and NICOS       | SRR      |
| <a href="#">NIT-217</a> | In Review   | LoKI: Missing Error Message Mapping for Safety Shutter in EPICS and NICOS     | SRR      |

NIT-207, NIT-208 : Operational efficiency/convenience issues that can be addressed during HC

NIT-215 : Encoder ordered – will be fitted when it arrives

NIT-208, NIT-333, NIT-336, NIT-344 : Minor errors in ePlan drawings to be fixed

NIT-340 : “nice-to-have” tidying of cabling

NIT-185, NIT-217, NIT-214 : To be resolved by SRR as they relate to reporting of status of safety relevant equipment

# ECDC/Controls

## SRR & TG5/SAR



|                         |             |                                                                       |          |
|-------------------------|-------------|-----------------------------------------------------------------------|----------|
| <a href="#">NIT-187</a> | To Do       | LoKI: Clarify the gate valve interlock status PV.                     | SRR      |
| <a href="#">NIT-198</a> | To Do       | LoKI: NICOS user limits for beamstop_x should NOT be configurable     | TG5/ SAR |
| <a href="#">NIT-200</a> | To Do       | LoKI: Clarify beamstop_x status                                       | TG5/ SAR |
| <a href="#">NIT-218</a> | To Do       | LoKI: Resolve inconsistent display of error/warning messages in NICOS | TG5/ SAR |
| <a href="#">NIT-196</a> | In Progress | LoKI: Implement NICOS Beam Center Position for beamstop_y motor       | TG5/ SAR |
| <a href="#">NIT-199</a> | In Progress | LoKI: Add "park" position for beamstop_x at 1.0                       | TG5/ SAR |
| <a href="#">NIT-201</a> | In Progress | LoKI: NICOS routine for selecting and positioning the beamstop arm    | TG5/ SAR |
| <a href="#">NIT-202</a> | In Progress | LoKI: Update beamstop_selector park position logic                    | TG5/ SAR |
| <a href="#">NIT-195</a> | In Review   | LoKI: Default Beamstop Arm Limits to Match MCA/TwinCAT                | TG5/ SAR |
| <a href="#">NIT-197</a> | In Review   | LoKI: Ensure Automatic Sync of beamstop_x User and Absolute Limits    | TG5/ SAR |
| <a href="#">NIT-183</a> | In Progress | LoKI: Rotation Speed Configuration in NICOS (RPM vs. Motor deg/sec)   | TG5/ SAR |
| <a href="#">NIT-219</a> | In Progress | LoKI: Resolve error with sample_stack_positioner                      | TG5/ SAR |
| <a href="#">NIT-327</a> | In Progress | Availability of Accelerator and Target PVs/data to instruments        | TG5/ SAR |
| <a href="#">NIT-178</a> | In Review   | LoKI: Limit Chopper Set Speed                                         | TG5/ SAR |
| <a href="#">NIT-179</a> | In Review   | LoKI: Display chopper alarm, error, or warning messages in NICOS      | TG5/ SAR |
| <a href="#">NIT-193</a> | Resolved    | LoKI: Implement NICOS Control for CAEN HV/LV Power Supplies           | TG5/ SAR |
| <a href="#">NIT-206</a> | Resolved    | LoKI: Follow up on Filewriter Crash                                   | TG5/ SAR |
| <a href="#">NIT-233</a> | Resolved    | LoKI: Sample Position Offset                                          | TG5/ SAR |

# ECDC/Controls

## SRR & TG5/SAR



Beamstop Logic



|                         |             |                                                                              |                 |
|-------------------------|-------------|------------------------------------------------------------------------------|-----------------|
| <a href="#">NIT-187</a> | To Do       | LoKI: Clarify the gate valve interlock status PV.                            | SRR             |
| <a href="#">NIT-198</a> | To Do       | <b>LoKI: NICOS user limits for beamstop_x should NOT be configurable</b>     | <b>TG5/ SAR</b> |
| <a href="#">NIT-200</a> | To Do       | <b>LoKI: Clarify beamstop_x status</b>                                       | <b>TG5/ SAR</b> |
| <a href="#">NIT-218</a> | To Do       | <b>LoKI: Resolve inconsistent display of error/warning messages in NICOS</b> | <b>TG5/ SAR</b> |
| <a href="#">NIT-196</a> | In Progress | <b>LoKI: Implement NICOS Beam Center Position for beamstop_y motor</b>       | <b>TG5/ SAR</b> |
| <a href="#">NIT-199</a> | In Progress | <b>LoKI: Add "park" position for beamstop_x at 1.0</b>                       | <b>TG5/ SAR</b> |
| <a href="#">NIT-201</a> | In Progress | <b>LoKI: NICOS routine for selecting and positioning the beamstop arm</b>    | <b>TG5/ SAR</b> |
| <a href="#">NIT-202</a> | In Progress | <b>LoKI: Update beamstop_selector park position logic</b>                    | <b>TG5/ SAR</b> |
| <a href="#">NIT-195</a> | In Review   | <b>LoKI: Default Beamstop Arm Limits to Match MCA/TwinCAT</b>                | <b>TG5/ SAR</b> |
| <a href="#">NIT-197</a> | In Review   | <b>LoKI: Ensure Automatic Sync of beamstop_x User and Absolute Limits</b>    | <b>TG5/ SAR</b> |
| <a href="#">NIT-183</a> | In Progress | LoKI: Rotation Speed Configuration in NICOS (RPM vs. Motor deg/sec)          | TG5/ SAR        |
| <a href="#">NIT-219</a> | In Progress | LoKI: Resolve error with sample_stack_positioner                             | TG5/ SAR        |
| <a href="#">NIT-327</a> | In Progress | <b>Availability of Accelerator and Target PVs/data to instruments</b>        | <b>TG5/ SAR</b> |
| <a href="#">NIT-178</a> | In Review   | LoKI: Limit Chopper Set Speed                                                | TG5/ SAR        |
| <a href="#">NIT-179</a> | In Review   | LoKI: Display chopper alarm, error, or warning messages in NICOS             | TG5/ SAR        |
| <a href="#">NIT-193</a> | Resolved    | LoKI: Implement NICOS Control for CAEN HV/LV Power Supplies                  | TG5/ SAR        |
| <a href="#">NIT-206</a> | Resolved    | LoKI: Follow up on Filewriter Crash                                          | TG5/ SAR        |
| <a href="#">NIT-233</a> | Resolved    | LoKI: Sample Position Offset                                                 | TG5/ SAR        |

Tested 2025-09-18

# ECDC/Controls



## TG6/ORR

|                         |             |                                                                                      |          |
|-------------------------|-------------|--------------------------------------------------------------------------------------|----------|
| <a href="#">NIT-181</a> | To Do       | LoKI: MAGIO Julabo integration into the LoKI instrument network.                     | TG6/ ORR |
| <a href="#">NIT-182</a> | To Do       | LoKI: Integration of SEE into the LoKI instrument network.                           | TG6/ ORR |
| <a href="#">NIT-184</a> | To Do       | LoKI: Missing "Jogging" Functionality in NICOS for Rotating Sample Holder Operations | TG6/ ORR |
| <a href="#">NIT-189</a> | To Do       | LoKI: NICOS Speed Parameter Display Not Updating When Auto-Limited                   | TG6/ ORR |
| <a href="#">NIT-203</a> | To Do       | LoKI: Implement NICOS-defined beam monitor/beamstop center position                  | TG6/ ORR |
| <a href="#">NIT-204</a> | To Do       | LoKI: Ensure interlock error messages are written to NICOS output                    | TG6/ ORR |
| <a href="#">NIT-205</a> | To Do       | LoKI: Fix filewriting status display                                                 | TG6/ ORR |
| <a href="#">NIT-221</a> | To Do       | LoKI: Sample Changer Config & Position in NeXus File                                 | TG6/ ORR |
| <a href="#">NIT-223</a> | To Do       | LoKI: Update Chopper OPI in Cyolo                                                    | TG6/ ORR |
| <a href="#">NIT-312</a> | To Do       | Mouse pointer offset on NICOS detector image plot                                    | TG6/ ORR |
| <a href="#">NIT-314</a> | To Do       | Input offset value for centre of moderated neutron pulse                             | TG6/ ORR |
| <a href="#">NIT-315</a> | To Do       | Live detector/monitor counts should start upon run/filewriter start                  | TG6/ ORR |
| <a href="#">NIT-316</a> | To Do       | Live count rate display should be visible in NICOS                                   | TG6/ ORR |
| <a href="#">NIT-317</a> | To Do       | Scripts/tools to confirm all EFU events are recorded to file                         | TG6/ ORR |
| <a href="#">NIT-318</a> | To Do       | justbinit device and plots randomly stopping                                         | TG6/ ORR |
| <a href="#">NIT-216</a> | In Progress | LoKI: Create Device for Sample Stack in NICOS                                        | TG6/ ORR |
| <a href="#">NIT-175</a> | In Review   | LoKI: Change FOC Chopper Device Name in NICOS                                        | TG6/ ORR |
| <a href="#">NIT-186</a> | In Review   | LoKI: Rename Temperature PVs from "s_temp_#" to "temp_#"                             | TG6/ ORR |
| <a href="#">NIT-209</a> | In Review   | LoKI: Develop detector distance transform                                            | TG6/ ORR |
| <a href="#">NIT-210</a> | Resolved    | LoKI: Scripts for Performing Slit Blade Scans                                        | TG6/ ORR |

# ECDC/Controls



## TG6/ORR

|                         |             |                                                                                      |                 |
|-------------------------|-------------|--------------------------------------------------------------------------------------|-----------------|
| <a href="#">NIT-181</a> | To Do       | <b>LoKI: MAGIO Julabo integration into the LoKI instrument network.</b>              | <b>TG6/ ORR</b> |
| <a href="#">NIT-182</a> | To Do       | <b>LoKI: Integration of SEE into the LoKI instrument network.</b>                    | <b>TG6/ ORR</b> |
| <a href="#">NIT-184</a> | To Do       | LoKI: Missing "Jogging" Functionality in NICOS for Rotating Sample Holder Operations | TG6/ ORR        |
| <a href="#">NIT-189</a> | To Do       | LoKI: NICOS Speed Parameter Display Not Updating When Auto-Limited                   | TG6/ ORR        |
| <a href="#">NIT-203</a> | To Do       | LoKI: Implement NICOS-defined beam monitor/beamstop center position                  | TG6/ ORR        |
| <a href="#">NIT-204</a> | To Do       | LoKI: Ensure interlock error messages are written to NICOS output                    | TG6/ ORR        |
| <a href="#">NIT-205</a> | To Do       | LoKI: Fix filewriting status display                                                 | TG6/ ORR        |
| <a href="#">NIT-221</a> | To Do       | LoKI: Sample Changer Config & Position in NeXus File                                 | TG6/ ORR        |
| <a href="#">NIT-223</a> | To Do       | LoKI: Update Chopper OPI in Cyolo                                                    | TG6/ ORR        |
| <a href="#">NIT-312</a> | To Do       | Mouse pointer offset on NICOS detector image plot                                    | TG6/ ORR        |
| <a href="#">NIT-314</a> | To Do       | Input offset value for centre of moderated neutron pulse                             | TG6/ ORR        |
| <a href="#">NIT-315</a> | To Do       | Live detector/monitor counts should start upon run/filewriter start                  | TG6/ ORR        |
| <a href="#">NIT-316</a> | To Do       | Live count rate display should be visible in NICOS                                   | TG6/ ORR        |
| <a href="#">NIT-317</a> | To Do       | Scripts/tools to confirm all EFU events are recorded to file                         | TG6/ ORR        |
| <a href="#">NIT-318</a> | To Do       | justbinit device and plots randomly stopping                                         | TG6/ ORR        |
| <a href="#">NIT-216</a> | In Progress | LoKI: Create Device for Sample Stack in NICOS                                        | TG6/ ORR        |
| <a href="#">NIT-175</a> | In Review   | LoKI: Change FOC Chopper Device Name in NICOS                                        | TG6/ ORR        |
| <a href="#">NIT-186</a> | In Review   | LoKI: Rename Temperature PVs from "s_temp_#" to "temp_#"                             | TG6/ ORR        |
| <a href="#">NIT-209</a> | In Review   | <b>LoKI: Develop detector distance transform</b>                                     | <b>TG6/ ORR</b> |
| <a href="#">NIT-210</a> | Resolved    | LoKI: Scripts for Performing Slit Blade Scans                                        | TG6/ ORR        |

# Other Issues



|                         |             |                                                                       |          |
|-------------------------|-------------|-----------------------------------------------------------------------|----------|
| <a href="#">NIT-84</a>  | In Progress | Loki shutter NCR 10482 Absence of CE-marking on equipment             | TG5/ SAR |
| <a href="#">NIT-52</a>  | In Review   | LOKI: Beam Monitors (M0, M1) electrical compliance                    | TG5/ SAR |
| <a href="#">NIT-311</a> | To Do       | LOKI Operation and control manuals                                    | SRR      |
| <a href="#">NIT-188</a> | To Do       | LoKI: Define Fast Shutter Naming Standards and State Assignment Level | TG6/ ORR |
| <a href="#">NIT-194</a> | To Do       | LoKI: Check and Calibrate Detector Positions Relative to Sample       | TG6/ ORR |
| <a href="#">NIT-220</a> | To Do       | LoKI: Verification of sample mapping metadata incomplete              | TG6/ ORR |
| <a href="#">NIT-40</a>  | Resolved    | LoKI: Update Heavy Shutter Model                                      | TG5/ SAR |
| <a href="#">NIT-48</a>  | Resolved    | LoKI: Maintenance of Goods Lift                                       | TG5/ SAR |
| <a href="#">NIT-190</a> | Resolved    | LoKI: Rotational Sample Holder Misaligned 5 cm Above Beam             | TG5/ SAR |

NIT-84 : Tracking of NCR 10482

NIT-52 : Electrical compliance documentation prepared. Awaiting decision/signoff

NIT-188, NIT-220 : Operational efficiency/convenience issues that can be addressed during HC

NIT-194 : Hot commissioning activity

NIT-211 : Operations and Maintenance Manual revision 2 to be released before SRR

NIT-40 : Work done

NIT-48 : Maintenance done, goods lift now working

NIT-190 : Sample trolley height adjusted