



Common Guide Shielding

A overview for the review committee

SENAD KUDUMOVIC

Technical Overview

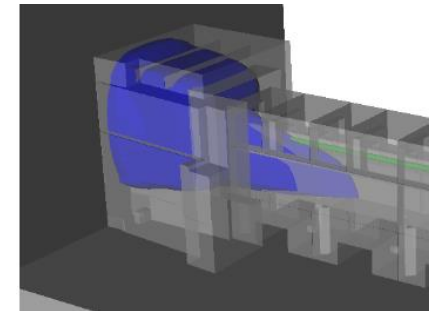
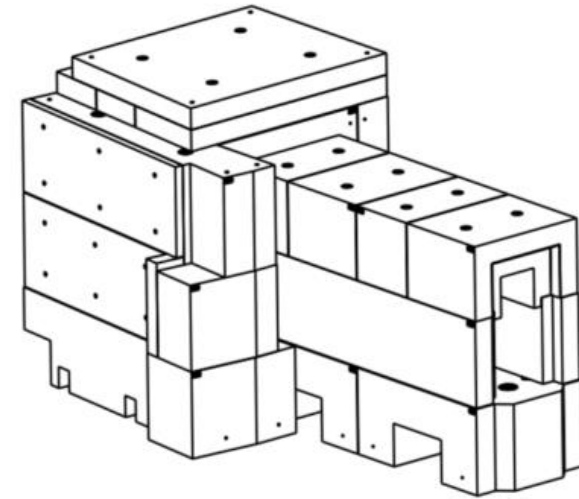


System overview

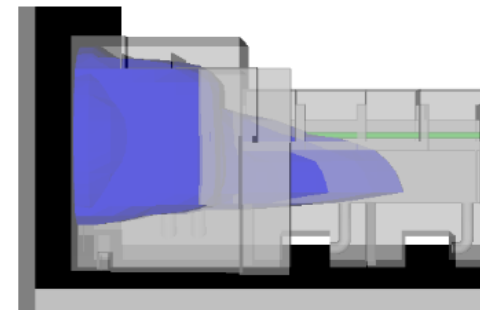
ESS.NSS.H01.NMX.A01.F01.F02

NMX Shutter/Chopper pit Temporary Shielding System

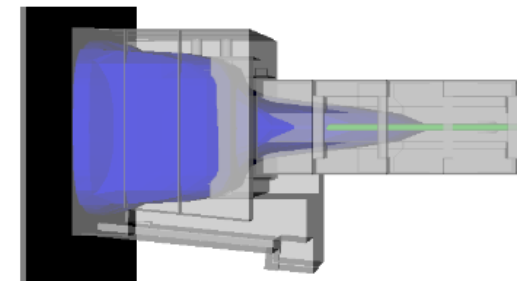
- Guide shielding next to the BW
- 22 shielding blocks
- Different shielding material configuration:
 - Regular concrete
 - Heavy concrete
 - Steel + Heavy concrete



132. Figure: 1.5 $\mu\text{Sv/h}$ contour dose rate at shutter pit, Isometric



133. Figure: 1.5 $\mu\text{Sv/h}$ contour dose rate at shutter pit, Side



134. Figure: 1.5 $\mu\text{Sv/h}$ contour dose rate at shutter pit, Top

Radiation Safety Calculations	Main Assy.	User and Maintenance instruction	SAT
ESS-3159388	ESS-5866822	ESS-5912418	ESS-5866647

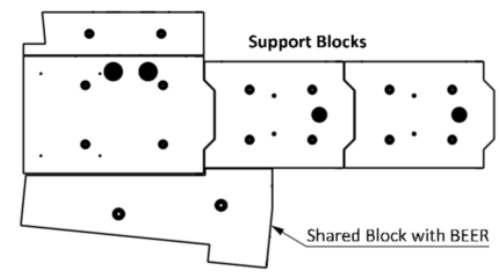


System breakdown

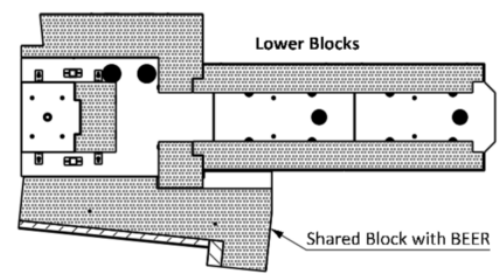
ESS.NSS.H01.NMX.A01.F01.F02

Shutter/Chopper pit consist of

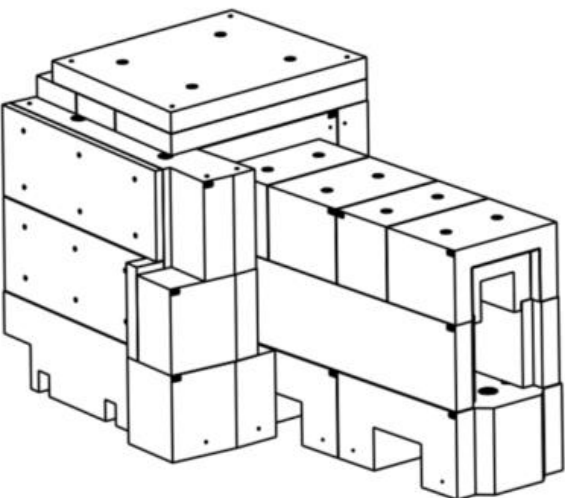
■ Support blocks



■ Lower Blocks



■ Upper blocks



ESS-5604181	ESS.NSS.H01.NMX.A01.F01.F02.F01.F01.F35	1	Support Shutter Pit Block NM-06 (ESS-2027384)
ESS-5604285	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F69	1	Upper Shutter Pit Block NM-12 (ESS-2002412)
ESS-5604284	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F68	1	Shutter Pit Roof Block NM-34 (ESS-2159618)
ESS-5604283	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F67	1	Shutter Pit Roof Block NM-32 (ESS-2967735)
ESS-5604282	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F66	1	Shutter Pit Roof Block NM-31 (ESS-2159632)
ESS-5604281	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F65	1	Shutter Pit Block NM-30 (ESS-2159611)
ESS-5604280	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F64	1	Shutter Pit Block NM-29 (ESS-2159614)
ESS-5604260	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F44	1	Pocket Block NM-36 (ESS-3438536)
ESS-5604259	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F43	1	Pocket Block NM-36 (ESS-3438536)
ESS-5604233	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F17	1	Extrude Block NM-35 (ESS-3438539)
ESS-5604232	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F16	1	Extrude Block NM-35 (ESS-3438539)
ESS-5604217	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F01	1	Chopper Pit Roof Block NM-33 (ESS-2159616)
ESS-5604215	ESS.NSS.H01.NMX.A01.F01.F02.F01.F02.F33	1	Lower Shutter Pit Block NM-11 (ESS-2002378)
ESS-5604214	ESS.NSS.H01.NMX.A01.F01.F02.F01.F02.F32	1	Lower Shutter Pit Block NM-13 (ESS-2159591)
ESS-5604209	ESS.NSS.H01.NMX.A01.F01.F02.F01.F02.F27	1	Lower Chopper Pit Block NM-15 (ESS-2159587)
ESS-5604198	ESS.NSS.H01.NMX.A01.F01.F02.F01.F02.F16	1	Lower Block NM-14 (ESS-3426147)
ESS-5604197	ESS.NSS.H01.NMX.A01.F01.F02.F01.F02.F15	1	Lower Block NM-16 (ESS-3426149)
ESS-5604180	ESS.NSS.H01.NMX.A01.F01.F02.F01.F01.F34	1	Support block NM-01 (ESS-2159578)
ESS-5604164	ESS.NSS.H01.NMX.A01.F01.F02.F01.F01.F18	1	Support block NM-07 (ESS-3420200)
ESS-5604163	ESS.NSS.H01.NMX.A01.F01.F02.F01.F01.F17	1	Support block NM-05 (ESS-2159581)
ESS-5604162	ESS.NSS.H01.NMX.A01.F01.F02.F01.F01.F16	1	Support block NM-07 (ESS-3420200)
ESS-5604150	ESS.NSS.H01.NMX.A01.F01.F02.F01.F01.F04	1	Shutter Support NM-02 (ESS-3257688)
Reference	Title	Qty.	Description

System overview

ESS.NSS.H01.BEER.A01.F01.F02

BEER Shutter pit Temporary Shielding System

- Guide shielding next to the BW
- 27 shielding blocks
- Different shielding material configuration:
 - Regular concrete
 - Heavy concrete
 - Steel + Heavy concrete

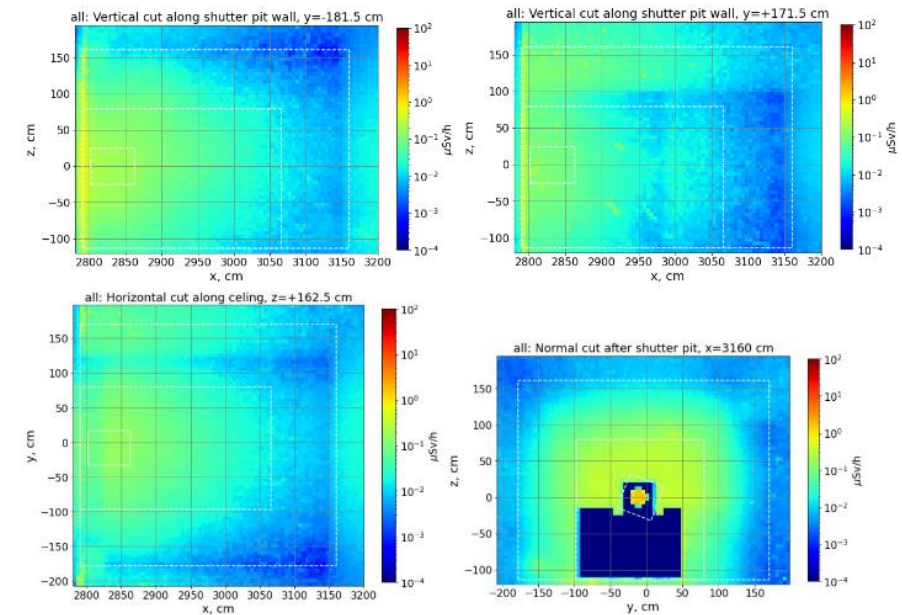
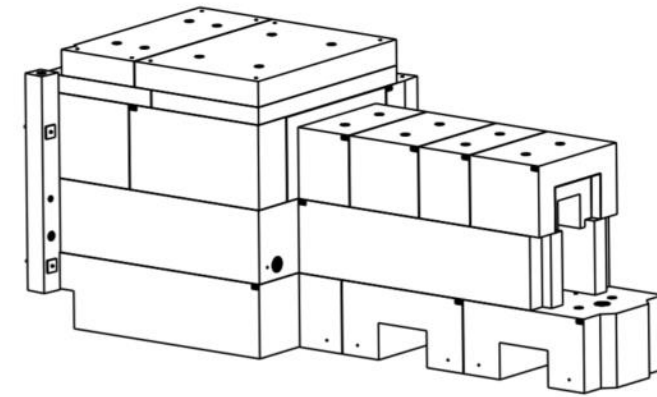


Figure 7: Total effective dose rates from **all sources** at the outer surface of the shutter pit: **Top left** – side wall, right-hand side, **top right** – side wall, left-hand side, **bottom left** – ceiling, **bottom right** – rear wall. White dashed lines indicate the contours of the shutter and the shutter pit walls.

Radiation Safety Calculations	Main Assy.	User and Maintenance instruction	SAT
ESS-3635896 ESS-5648738	ESS-5862144	ESS-5912694	ESS-5866644

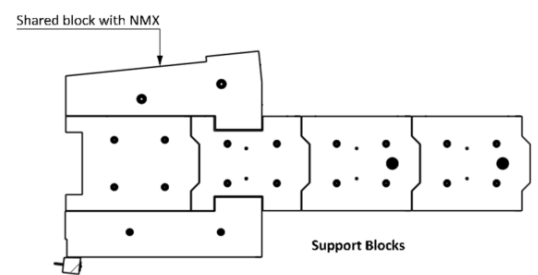


System breakdown

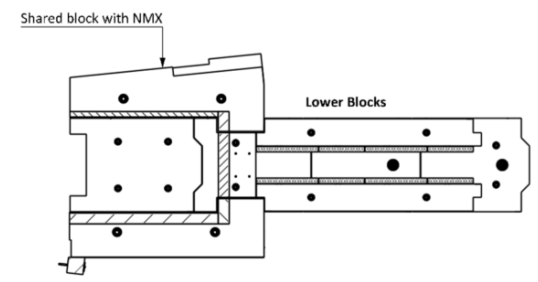
ESS.NSS.H01.BEER.A01.F01.F02

Shutter pit consist of:

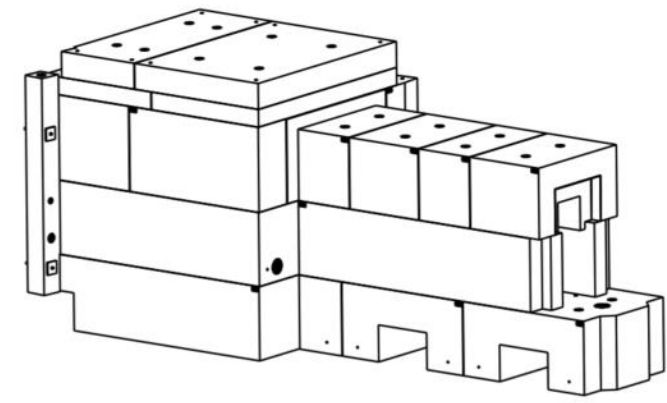
■Support blocks



■Lower Blocks



■Upper blocks



27	ESS-5604285	ESS.NSS.H01.NMX.A01.F01.F02.F01.F03.F69	1	Upper Shutter Pit Block NM-12 (ESS-2002412)
26	ESS-5604215	ESS.NSS.H01.NMX.A01.F01.F02.F01.F02.F33	1	Lower Shutter Pit Block NM-11 (ESS-2002378)
25	ESS-5604181	ESS.NSS.H01.NMX.A01.F01.F02.F01.F01.F35	1	Support Shutter Pit Block NM-06 (ESS-2027384)
24	ESS-5849333	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F19	1	Shielding Block BE-27 (ESS-2002390)
23	ESS-5849332	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F18	1	Shielding Block BE-26 (ESS-2002393)
22	ESS-5849331	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F17	1	Shielding Block BE-27 (ESS-2002390)
21	ESS-5849330	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F16	1	Shielding Block BE-26 (ESS-2002393)
20	ESS-5849329	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F15	1	Shielding Block BE-25 (ESS-2002397)
19	ESS-5849328	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F14	1	Shielding Block BE-24 (ESS-367730)
18	ESS-5849327	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F13	1	Shielding Block BE-23 (ESS-2002456)
17	ESS-5849326	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F12	1	Shielding Block BE-22 (ESS-2002447)
16	ESS-5849325	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F11	1	Shielding Block BE-21 (ESS-2002488)
15	ESS-5849324	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F10	1	Shielding Block BE-20 (ESS-2002418)
14	ESS-5849323	ESS.NSS.H01.BEER.A01.F01.F02.F01.F03.F09	1	Shielding Block BE-19 (ESS-2002458)
13	ESS-5849263	ESS.NSS.H01.BEER.A01.F01.F02.F01.F01.F05	1	Shielding Block BE-03 (ESS-1106972)
12	ESS-5849261	ESS.NSS.H01.BEER.A01.F01.F02.F01.F01.F04	1	Shielding Block BE-03 (ESS-1106972)
11	ESS-5849293	ESS.NSS.H01.BEER.A01.F01.F02.F01.F02.F07	1	Shielding Block BE-14 (ESS-2002339)
10	ESS-5849292	ESS.NSS.H01.BEER.A01.F01.F02.F01.F02.F06	1	Shielding Block BE-14 (ESS-2002339)
9	ESS-5849291	ESS.NSS.H01.BEER.A01.F01.F02.F01.F02.F05	1	Shielding Block (ESS-4416971)
8	ESS-5849290	ESS.NSS.H01.BEER.A01.F01.F02.F01.F02.F04	1	Shielding Block (ESS-4416971)
7	ESS-5849289	ESS.NSS.H01.BEER.A01.F01.F02.F01.F02.F03	1	Shielding Block (ESS-2025045)
6	ESS-5849288	ESS.NSS.H01.BEER.A01.F01.F02.F01.F02.F02	1	Shielding Block BE-13 (ESS-3431790)
5	ESS-5849287	ESS.NSS.H01.BEER.A01.F01.F02.F01.F02.F01	1	Shielding Block BE-12 (ESS-2002347)
4	ESS-5849260	ESS.NSS.H01.BEER.A01.F01.F02.F01.F01.F03	1	Shielding Block BE-02 (ESS-2027392)
3	ESS-5849259	ESS.NSS.H01.BEER.A01.F01.F02.F01.F01.F02	1	Shielding Block BE-01 (ESS-2027378)
2	ESS-5849258	ESS.NSS.H01.BEER.A01.F01.F02.F01.F01.F01	1	Shielding Block BE-01 (ESS-2027387)
1	ESS-5849366	ESS.NSS.H01.BEER.A01.F01.F02.F01.F04.F01	1	Shielding Block
Pos.	Reference	Title	Qty.	Description



System overview

ESS.NSS.H01.CSPEC.A01.F01.F02

CSPEC Shutter pit Temporary Shielding System

- Guide shielding next to the BW
- 59 shielding blocks
- Different shielding material configuration:
 - Regular concrete
 - Heavy concrete
 - Steel + Heavy concrete
 - Steel + Regular Concrete

Radiation Safety Calculations	Main Assy.	User and Maintenance instruction	SAT
ESS-2595483	ESS-5846553	ESS-5912968	ESS-5866642

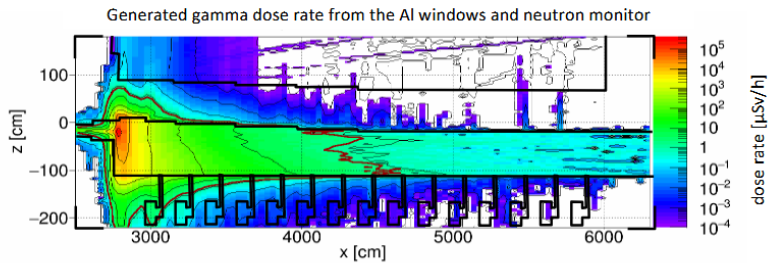
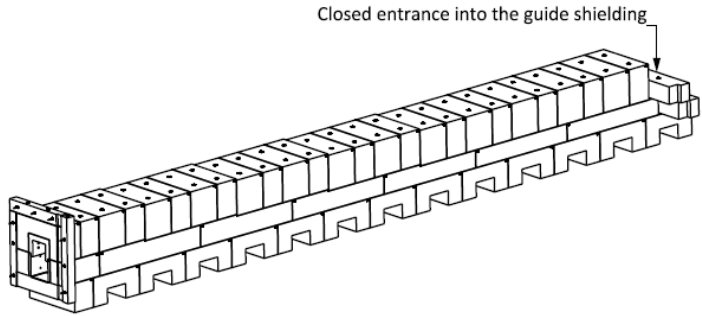


Fig. 139: Generated gamma dose rate from thermal/cold neutron capture in the Al windows and the neutron monitor outside the bunker wall. The red line is the 1.5μSv/h border.

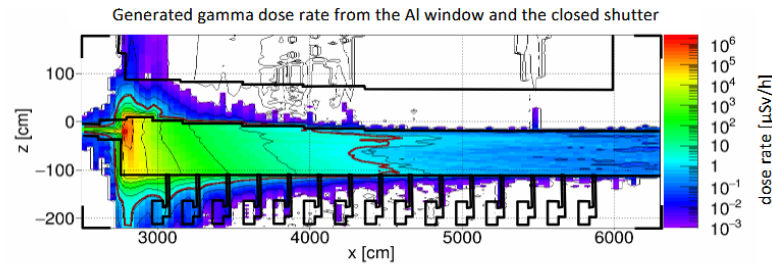


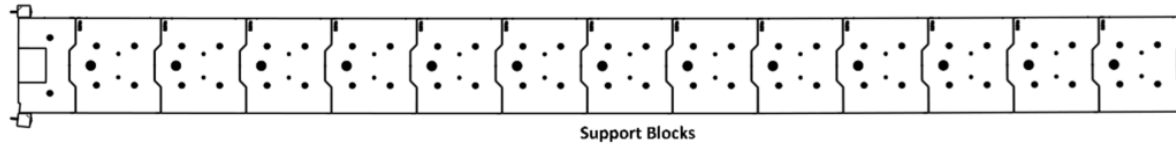
Fig. 140: Generated gamma dose rate from thermal/cold neutron capture in the Al window and the closed shutter outside the bunker wall. The red line is the 1.5μSv/h border.

System breakdown

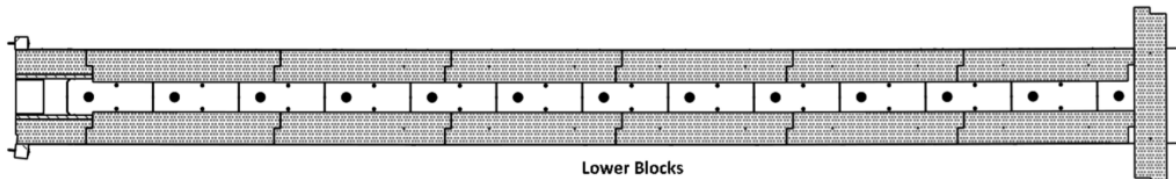
ESS.NSS.H01.CSPEC.A01.F01.F02

Shutter pit/Guide Shielding consist of:

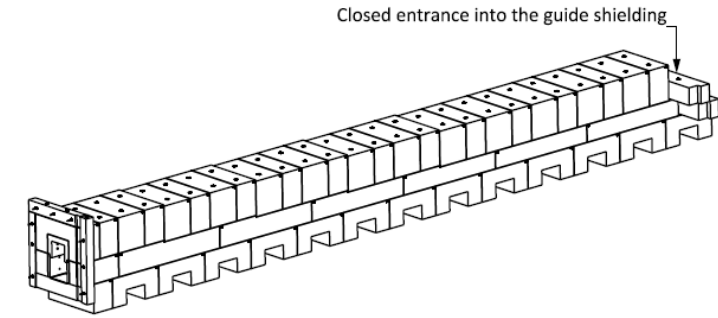
■ Support blocks



■ Lower Blocks



■ Upper blocks



59	ESS-5844894	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F16	1	Shielding Block CS-14 (ESS-1672463)	-	-
58	ESS-5844893	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F15	1	Shielding Block CS-14 (ESS-1672463)	-	-
57	ESS-5844923	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F26	1	Shielding Block CS-31 (ESS-0734415)	-	-
56	ESS-5844922	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F25	1	Shielding Block CS-36 (ESS-0734398)	-	-
55	ESS-5844921	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F24	1	Shielding Block CS-31 (ESS-0734415)	-	-
54	ESS-5844920	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F23	1	Shielding Block CS-36 (ESS-0734398)	-	-
53	ESS-5844919	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F22	1	Shielding Block CS-31 (ESS-0734415)	-	-
52	ESS-5844918	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F21	1	Shielding Block CS-36 (ESS-0734398)	-	-
51	ESS-5844917	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F20	1	Shielding Block CS-31 (ESS-0734415)	-	-
50	ESS-5844916	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F19	1	Shielding Block CS-36 (ESS-0734398)	-	-
49	ESS-5844915	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F18	1	Shielding Block CS-31 (ESS-0734415)	-	-
48	ESS-5844914	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F17	1	Shielding Block CS-37 (ESS-0880308)	-	-
47	ESS-5844913	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F16	1	Shielding Block CS-31 (ESS-0734415)	-	-
46	ESS-5844912	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F15	1	Shielding Block CS-36 (ESS-0734398)	-	-
45	ESS-5844911	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F14	1	Shielding Block CS-31 (ESS-0734415)	-	-
44	ESS-5844910	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F13	1	Shielding Block CS-37 (ESS-0880308)	-	-
43	ESS-5844909	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F12	1	Shielding Block CS-31 (ESS-0734415)	-	-
42	ESS-5844908	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F11	1	Shielding Block CS-36 (ESS-0734398)	-	-
41	ESS-5844907	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F10	1	Shielding Block CS-31 (ESS-0734415)	-	-
40	ESS-5844906	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F09	1	Shielding Block CS-37 (ESS-0880308)	-	-
39	ESS-5844905	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F08	1	Shielding Block CS-31 (ESS-0734415)	-	-
38	ESS-5844904	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F07	1	Shielding Block CS-36 (ESS-0734398)	-	-
37	ESS-5844903	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F06	1	Shielding Block CS-31 (ESS-0734415)	-	-
36	ESS-5844902	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F05	1	Shielding Block CS-37 (ESS-0880308)	-	-
35	ESS-5844901	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F04	1	Shielding Block CS-31 (ESS-0734415)	-	-
34	ESS-5844900	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F03	1	Shielding Block CS-36 (ESS-0734398)	-	-
33	ESS-5844899	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F02	1	Shielding Block CS-34 (ESS-1037711)	-	-
32	ESS-5844898	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F03.F01	1	Shielding Block CS-38 (ESS-1036581)	-	-
31	ESS-5844892	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F14	1	Shielding Block CS-14 (ESS-1672463)	-	-
30	ESS-5844891	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F13	1	Shielding Block CS-14 (ESS-1672463)	-	-
29	ESS-5844890	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F12	1	Shielding Block CS-14 (ESS-1672463)	-	-
28	ESS-5844889	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F11	1	Shielding Block CS-14 (ESS-1672463)	-	-
27	ESS-5844888	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F10	1	Shielding Block CS-13 (ESS-1662953)	-	-
26	ESS-5844887	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F09	1	Shielding Block CS-13 (ESS-1662953)	-	-
25	ESS-5844886	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F08	1	Shielding Block CS-12 (ESS-1662956)	-	-
24	ESS-5844885	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F07	1	Shielding Block CS-12 (ESS-1662956)	-	-
23	ESS-5844884	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F06	1	Shielding Block CS-11 (ESS-1662947)	-	-
22	ESS-5844883	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F05	1	Shielding Block CS-11 (ESS-1662947)	-	-
21	ESS-5844882	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F04	1	Shielding Block CS-10 (ESS-1662738)	-	-
20	ESS-5844881	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F03	1	Shielding Block CS-09 (ESS-1685875)	-	-
19	ESS-5844880	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F02	1	Shielding Block CS-08 (ESS-1680644)	-	-
18	ESS-5844879	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F02.F01	1	Shielding Block CS-07 (ESS-1965178)	-	-
17	ESS-5844874	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F14	1	Shielding Block CS-05 (ESS-0375338)	-	-
16	ESS-5844873	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F13	1	Shielding Block CS-05 (ESS-0375338)	-	-
15	ESS-5844872	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F12	1	Shielding Block CS-05 (ESS-0375338)	-	-
14	ESS-5844871	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F11	1	Shielding Block CS-05 (ESS-0375338)	-	-
13	ESS-5844870	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F10	1	Shielding Block CS-06 (ESS-0375338)	-	-
12	ESS-5844869	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F09	1	Shielding Block CS-05 (ESS-0375338)	-	-
11	ESS-5844868	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F08	1	Shielding Block CS-05 (ESS-0375338)	-	-
10	ESS-5844867	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F07	1	Shielding Block CS-05 (ESS-0375338)	-	-
9	ESS-5844866	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F06	1	Shielding Block CS-05 (ESS-0375338)	-	-
8	ESS-5844865	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F05	1	Shielding Block CS-05 (ESS-0375338)	-	-
7	ESS-5844864	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F04	1	Shielding Block CS-05 (ESS-0375338)	-	-
6	ESS-5844863	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F03	1	Shielding Block CS-05 (ESS-0375338)	-	-
5	ESS-5844862	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F02	1	Shielding Block CS-05 (ESS-0375338)	-	-
4	ESS-5844861	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F01.F01	1	Shielding Block CS-04 (ESS-0998304)	-	-
3	ESS-5844937	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F04.F03	1	Shielding Block CS-03 (ESS-1762659)	-	-
2	ESS-5844936	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F04.F02	1	Shielding Block CS-02 (ESS-1423107)	-	-
1	ESS-5844935	ESS.NSS.H01.CSPEC.A01.F01.F02.F01.F04.F01	1	Shielding Block CS-01 (ESS-5844935)	-	-
Pos.	Reference	Title	Qty.	Description	Material	Standard

COMMON GUIDE SHIELDING



Technical overview

Technical readiness

2. Do systems in the review scope that are classified as SSCI2S, have its radiation safety requirements covered by completed tests, documented and released in the FBS?

Yes. As the ESS.NSS.H01.ODIN.A01.F01.F02 is released so they are connected as reference document for that tag, the rest is specifications.

Instrument FBS Tags	VnV	SRS	SDD	Radiation Safety Calculations	ConOps	User and Maintenance instruction	SAT	COMMENT
ESS.NSS.H01.NMX.A01.F01.F02	ESS-0473697	ESS-0472974	ESS-0472979	ESS-3159388	ESS-0472928	ESS-5912418	ESS-5866647	Temporary Guide Shielding
ESS.NSS.H01.BEER.A01.F01.F02				ESS-3635896		ESS-5912694	ESS-5866644	Temporary Guide Shielding
ESS.NSS.H01.CSPEC.A01.F01.F02				ESS-2595483		ESS-5912968	ESS-5866642	Temporary Guide Shielding
ESS.NSS.H01.BIFRO.A01.F01.F02				ESS-2727570		ESS-5722240	ESS-5774942	Part of instrument SAR
ESS.NSS.H01.MAGIC.A01.F01.F02				ESS-3864192				Temporary Beam stop
ESS.NSS.H01.DREAM.A01.F01.F02				ESS-3221660		ESS-5796753	ESS-5796751	Part of instrument SAR
ESS.NSS.H01.ODIN.A01.F01.F02				ESS-3394509		ESS-5715168	ESS-5719515	Part of instrument SAR
ESS.NSS.H01.MIRAC.A01.F01.F02				ESS-5355631				Temporary Beam stop
ESS.NSS.H01.TREX.A01.F01.F02				ESS-5635577				Shutter inside the Bunker
ESS.NSS.H01.HEIM.A01.F01.F03				ESS-5505214				Temporary Beam stop

COMMON GUIDE SHIELDING



Technical overview

Technical readiness

5. Are all the test scope planned up to the SAR, covered by completed tests, documented and released in the FBS?

Yes. As the ESS.NSS.H01.ODIN.A01.F01.F02 is released so they are connected as reference document for that tag, the rest is specifications.

Instrument FBS Tags	VnV	SRS	SDD	Radiation Safety Calculations	ConOps	User and Maintenance instruction	SAT	COMMENT
ESS.NSS.H01.NMX.A01.F01.F02	ESS-0473697	ESS-0472974	ESS-0472979	ESS-3159388	ESS-0472928	ESS-5912418	ESS-5866647	Temporary Guide Shielding
ESS.NSS.H01.BEER.A01.F01.F02				ESS-3635896		ESS-5912694	ESS-5866644	Temporary Guide Shielding
ESS.NSS.H01.CSPEC.A01.F01.F02				ESS-2595483		ESS-5912968	ESS-5866642	Temporary Guide Shielding
ESS.NSS.H01.BIFRO.A01.F01.F02				ESS-2727570		ESS-5722240	ESS-5774942	Part of instrument SAR
ESS.NSS.H01.MAGIC.A01.F01.F02				ESS-3864192				Temporary Beam stop
ESS.NSS.H01.DREAM.A01.F01.F02				ESS-3221660		ESS-5796753	ESS-5796751	Part of instrument SAR
ESS.NSS.H01.ODIN.A01.F01.F02				ESS-3394509		ESS-5715168	ESS-5719515	Part of instrument SAR
ESS.NSS.H01.MIRAC.A01.F01.F02				ESS-5355631				Temporary Beam stop
ESS.NSS.H01.TREX.A01.F01.F02				ESS-5635577				Shutter inside the Bunker
ESS.NSS.H01.HEIM.A01.F01.F03				ESS-5505214				Temporary Beam stop

COMMON GUIDE SHIELDING



Technical overview

Technical readiness

6. Are deferred but required (if any) system tests without beam scheduled?

Yes. NMX ([NIT-474](#)), BEER ([NIT-473](#)) and CSPEC ([NIT-481](#)) Shutter pits – Uncommission instruments

Instrument FBS Tags	VnV	SRS	SDD	Radiation Safety Calculations	ConOps	NITs	SAT	COMMENT
ESS.NSS.H01.NMX.A01.F01.F02	ESS-0473697	ESS-0472974	ESS-0472979	ESS-3159388	ESS-0472928	NIT-474	ESS-5866647	Temporary Guide Shielding
ESS.NSS.H01.BEER.A01.F01.F02				ESS-3635896		NIT-473	ESS-5866644	Temporary Guide Shielding
ESS.NSS.H01.CSPEC.A01.F01.F02				ESS-2595483		NIT-481	ESS-5866642	Temporary Guide Shielding
ESS.NSS.H01.BIFRO.A01.F01.F02				ESS-2727570			ESS-5774942	Part of instrument SAR
ESS.NSS.H01.MAGIC.A01.F01.F02				ESS-3864192				Temporary Beam stop
ESS.NSS.H01.DREAM.A01.F01.F02				ESS-3221660		ESS-5796753	ESS-5796751	Part of instrument SAR
ESS.NSS.H01.ODIN.A01.F01.F02				ESS-3394509		ESS-5715168	ESS-5719515	Part of instrument SAR
ESS.NSS.H01.MIRAC.A01.F01.F02				ESS-5355631				Temporary Beam stop
ESS.NSS.H01.TREX.A01.F01.F02				ESS-5635577				Shutter inside the Bunker
ESS.NSS.H01.HEIM.A01.F01.F03				ESS-5505214				Temporary Beam stop

COMMON GUIDE SHIELDING



Technical overview

Procedural readiness

21. Are necessary instructions, manuals and process descriptions in place, sufficiently prepared to be able to start upcoming commissioning activities?

Yes.

Instrument FBS Tags	VnV	SRS	SDD	Radiation Safety Calculations	ConOps	User and Maintenance instruction	SAT	COMMENT
ESS.NSS.H01.NMX.A01.F01.F02	ESS-0473697	ESS-0472974	ESS-0472979	ESS-3159388	ESS-0472928	ESS-5912418	ESS-5866647	Temporary Guide Shielding
ESS.NSS.H01.BEER.A01.F01.F02				ESS-3635896		ESS-5912694	ESS-5866644	Temporary Guide Shielding
ESS.NSS.H01.CSPEC.A01.F01.F02				ESS-2595483		ESS-5912968	ESS-5866642	Temporary Guide Shielding
ESS.NSS.H01.BIFRO.A01.F01.F02				ESS-2727570		ESS-5722240	ESS-5774942	Part of instrument SAR
ESS.NSS.H01.MAGIC.A01.F01.F02				ESS-3864192				Temporary Beam stop
ESS.NSS.H01.DREAM.A01.F01.F02				ESS-3221660		ESS-5796753	ESS-5796751	Part of instrument SAR
ESS.NSS.H01.ODIN.A01.F01.F02				ESS-3394509		ESS-5715168	ESS-5719515	Part of instrument SAR
ESS.NSS.H01.MIRAC.A01.F01.F02				ESS-5355631				Temporary Beam stop
ESS.NSS.H01.TREX.A01.F01.F02				ESS-5635577				Shutter inside the Bunker
ESS.NSS.H01.HEIM.A01.F01.F03				ESS-5505214				Temporary Beam stop

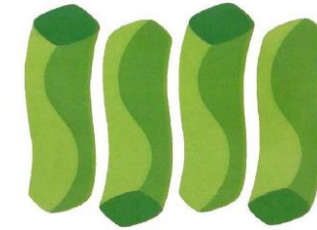
Quality & Compliance



Quality

Common Guide Shielding LOT1

- *Eurocode 2: Design of concrete structures*
- DoP for incorporated materials
 - Cement
 - Additives
 - Aggregates
- Concrete XRF Test
- Certificates
 - Organization
 - Material
- Production control
 - Traceability
 - Weight control



Grupo PACADAR

QUALITY DOSSIER OF PREFABRICATED ELEMENTS

I – ORGANIZATION CERTIFICATES.

II – CONCRETE.

- 1- Compressive test and Density check
- 2- XRF Test

III – STEEL: GUARANTEE CERTIFICATES AND TESTS.

IV – CEMENT: CERTIFICATES / DoP.

V – ADITIVES: CERTIFICATES / DoP.

VI – WATER.

VII – AGGREGATES: CERTIFICATES / DoP.

VIII – EMBEBBED MATERIAL: CERTIFICATES.

- 1- Metal Frame
- 2- PVC Pipes
- 3- Metal Insert
- 4- Bolts
- 5- Halfen Demus etc – Other material (lifting material embbeded and othe

IX – PRODUCTION CONTROL

- 1- Traceability
- 2- Steel Reinforcement Control Sheet
- 3- Manufacturing Control Sheet
- 4- Dimensional Control (QC MEASURES)
- 5- Painting Control
- 6- Weigth Control

Commissioning



Cold commissioning

Site Acceptance Test

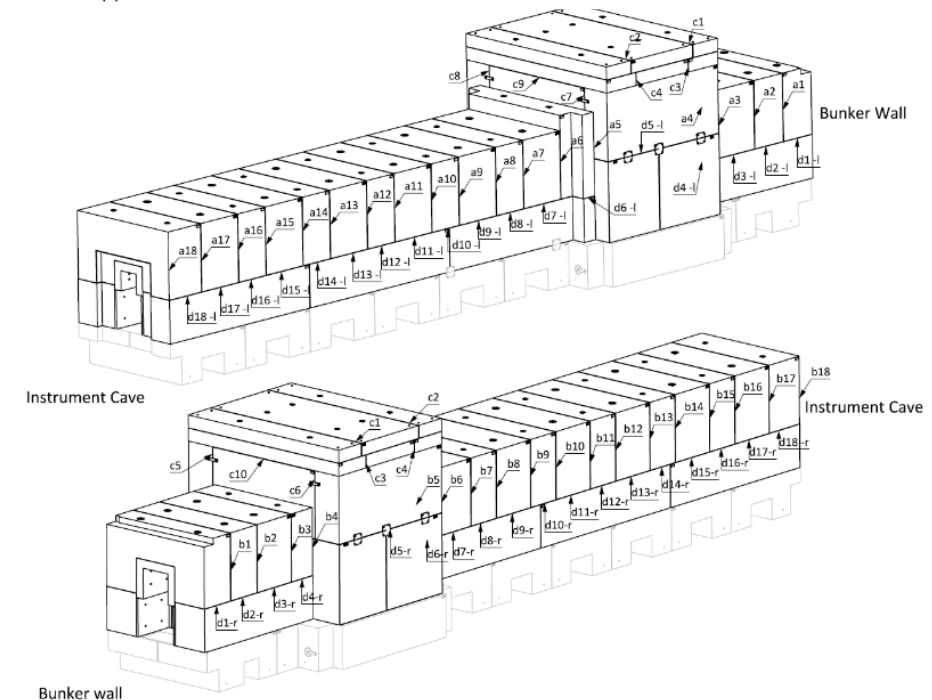
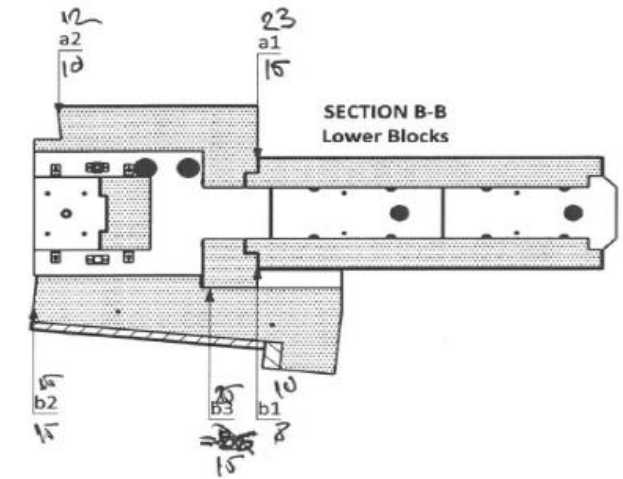
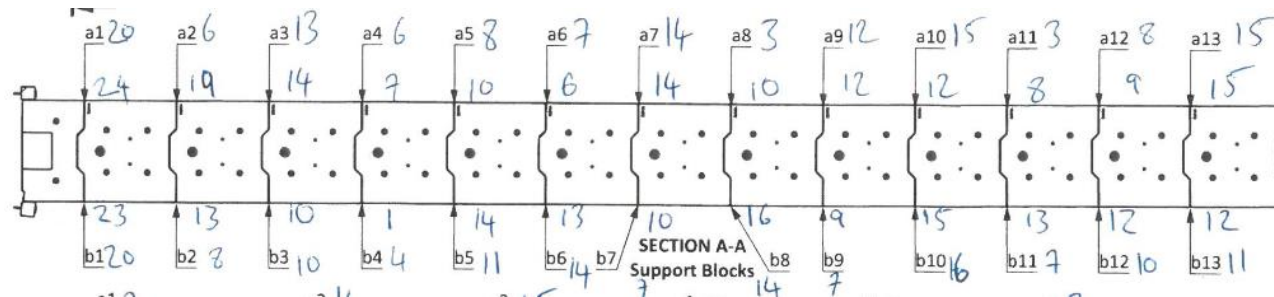
All gaps have been measured and registered.

- ESS-5866650 - NMX Guide Shielding - Gap Measurement sheet
- ESS-5866645 - BEER Guide Shielding - Gap Measurement sheet
- ESS-5866643 - CSPEC Guide Shielding - Gap Measurement sheet

NMX ([NIT-474](#)),

BEER ([NIT-473](#))

CSPEC ([NIT-481](#))



Summary



Summary

Temporary Beamline Shielding

- 108 blocks as part of configuration
- This work package is ready to proceed to hot commissioning

Instrument FBS Tags	SAT	COMMENT
ESS.NSS.H01.NMX.A01.F01.F02	ESS-5866647	Temporary Guide Shielding
ESS.NSS.H01.BEER.A01.F01.F02	ESS-5866644	Temporary Guide Shielding
ESS.NSS.H01.CSPEC.A01.F01.F02	ESS-5866642	Temporary Guide Shielding
ESS.NSS.H01.BIFRO.A01.F01.F02	ESS-5774942	Part of instrument SAR
ESS.NSS.H01.MAGIC.A01.F01.F02		Temporary Beam stop
ESS.NSS.H01.DREAM.A01.F01.F02	ESS-5796751	Part of instrument SAR
ESS.NSS.H01.ODIN.A01.F01.F02	ESS-5719515	Part of instrument SAR
ESS.NSS.H01.MIRAC.A01.F01.F02		Temporary Beam stop
ESS.NSS.H01.TREX.A01.F01.F02		Shutter inside the Bunker
ESS.NSS.H01.HEIM.A01.F01.F03		Temporary Beam stop





Finish presentation