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Datum 23.11.2022

Your reference: Docket No. 71-9388 and EPID No. L2020-NEW-0003

Our reference: 0045-SVK-2022-004

Subject: DN30-X package: modification of CCS orientation inside 30B-X cylinder

Dear Mr. Saverot,

This letter is to inform you of a small modification we have made to the design of the 30B-X cylinder used in the DN30-X package (Docket No. 71-9388, EPID No. L2020-NEW-0003) and the corresponding changes in the safety analysis report. We would like for this modification to be included in the on-going review of our application.

The modification consists of a slight change in the orientation of the criticality control system (CCS) inside both the 30B-10 and 30B-20 cylinders. The previous CCS design had a criticality control rod (CCR) situated directly in front of the valve and the plug openings, respectively. These rods were both shortened by 60 mm compared to the other CCRs to increase the distance to the valve/plug. In the new design, the CCS is rotated a bit so that the valve and plug openings do not directly face a CCR, but face a gap between two CCRs.

This change is intended to allow the insertion of a flexible lance through the valve opening to help remove any remaining puddle of water during cylinder washing. Any potential interference with the CCS during UF₆ filling/emptying operations is also substantially smaller with the new CCS design. Accordingly, the two CCRs closest to the valve opening are shortened by only 40 mm (instead of 60 mm in the old design). Since the plug is only opened during periodical inspections of the cylinder, and never during UF₆ filling/emptying operations, no CCRs are shortened at the plug end.

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Aufträge werden auf Grundlage unserer Allgemeinen Geschäftsbedingungen übernommen. Diese stehen Ihnen auf Wunsch zur Verfügung.

Effectively, the only changes to the design are the orientation of the CCS and the length and position of the shortened CCRs. Most of the technical analyses in the SAR are not impacted at all by this design change and therefore did not need to be updated. The exception is the criticality safety analysis in Appendix 2.6 of the SAR, which has been revised to include comparison calculations demonstrating that the change of the CCS design does not cause an increase in k_{eff} under any circumstances.

The SAR 0045-BSH-2020-001 (now Rev. 3) itself has been revised to include this design change in the description of the 30B-X cylinder and the summary of the criticality analysis. Regarding the description of the shortened CCRs in Rev. 2 of the SAR stated in section 1.4.2.1.1 that: *“Of special note are the CCRs that end directly in front of the valve and plug – these are shortened by 60 mm to avoid interference with filling and emptying of the cylinder. Shortening these CCRs also helps to ensure that there will be no impact of the CCS on the valve or plug, even under HAC.”*

It should be noted that we removed the second sentence because it was misleading: the structural analysis does not take the shortened CCRs into account, demonstrating that there is no contact between the CCS and the valve/plug even for full-length rods. While it is true that the shortened CCRs provide an additional safety margin, this sentence was seen as misleading because it suggests that the structural analysis takes credit for the shortened rods, which is not the case.

Appendix 1.4.1A (Drawings) has been revised to take the new CCS design into account. Furthermore, Appendix 1.7.3 (Facility Operations) has been revised to include the possibility of water removal after washing with a flexible lance. An overview of all revised documents is given in the table below. All indicated documents are attached to this letter.

Proprietary?	Document	Revision	Sections	Change
no	SAR	Rev3	1.4.2.1	Text amended, Figures 1-3, 1-4, 1-5 1-6 updated
			1.10	Figure 1-14 updated
			2.6.5.1	Text amended
yes	App 1.1	Rev2		Revisions, signatures and dates updated
yes	App 1.4.1A 30B-10	Rev4		Drawings 1000-000, 1200-000, 1210-000 updated
yes	App 1.4.1A 30B-20	Rev3		Drawings 2000-000, 2200-000, 1210-000 updated
no	App 1.7.3	Rev1	2.1	Text amended, Figure 1 updated
			2.2	Text amended, Figure 2 updated
			2.3	Text amended, Figure 3 added
yes	App 2.6	Rev2	7.1	Text amended
			10.4	New section with comparison calculations for old and new CCS design

We hope that the information provided herein clarifies the extent and consequences of the CCS design change, but are of course available for any additional questions you might have on this modification.

Sincerely,
Orano NCS GmbH



Maik Hennebach
Senior Manager



Yara van Wijk
Project Manager