

No.	Hazard Title	Cause	Control	Verification Method	Status of Verification	Support Document
STD-HR-SSL-1, #1	Material – Flammability		a) A-rated materials selected from MAPTIS (Materials and Processes Technical Information System) or applicable International Partner (IP) materials process/segment specification:  b) Flammability assessment per JSC 29353, SSP 30233, or applicable IP materials process/segment spec.	a). Review of MIUL	Under Review	TNP2QCC: JMU-?????? [1] (MIUL of TNP2QCC)
				b). Review of MUA (if necessary)	N/A	
STD-HR-SSL-1, #2	Materials – Offgassing		a) Offgassing evaluation per: MAPTIS or applicable IP materials process/segment specification:	a). Review of MIUL	Under Review	TNP2QCC: JMU-?????? [1] (MIUL of TNP2QCC)
STD-HR-SSL-1, #3	Mechanical Hazards Causing Injury to IVA or EVA Crew (sharp edges, pinch points, etc.)		a) SSP 51700, 3.22.1 Sharp Edges and Corner Protection	a)-1. Review of Drawing	TNP2QCC_FM_check (in preparation)	TNP2QCC: TNP2QCC_FM_check (Inspection Report of TNP2QCC)
				a)-2. Review of Sharp edge inspection record	TNP2QCC_FM_check (in preparation)	TNP2QCC: TNP2QCC_FM_check (Inspection Report of TNP2QCC)
STD-HR-SSL-1, #5	Shatterable Material releasing 50 micron or larger fragments causing injury to crew		b) Shatterable materials of crew cabin hardware are non-stressed (no delta pressure), recessed (such as a camera lens), and supervised by the crew when in use. Items are placed in protected storage or contained when not in use.  c) Shatterable materials have passed a vibration test at flight levels/post-test visual inspection.	b) All specimens are protected by the sample cover when not in exposure for TNP2QCC.	TNP2QCC_FM_check (in preparation)	TNP2QCC: TNP2QCC_FM_check (Inspection Report of TNP2QCC)
				c) Review of report on vibration test report at flight levels and post-test visual inspection for QCC and TNP2QCC.	The basic structure of the TNP2QCC panel is the same as that of QCC panels.  Additional Vibration Test (both at QT and AT levels) are scheduled on 7th March 2019 and the results are reported in TNP2QCC_vibration_qt and TNP2QCC_vibration_at.	QCC: QCC20150204-vibration-qt (Vibration Test Report of QCC Sample PM)  TNP2QCC: TNP2QCC-vibration-qt (QT Vibration Test Report of TNP2QCC equivalent FM)  TNP2QCC: TNP2QCC-vibration-at (AT Vibration Test Report of TNP2QCC equivalent FM)
STD-HR-SSL-1, #15	Structural Failure		Designed to meet the applicable requirements for launch/stowage/operations/return as defined	1. Packing requirements are specified to protect them from the		TNP2QCC: JMU-143098 [2] (Contents Drawings /Positioning Drawings for Label Request TNP2QCC)

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STD-HR-SSL-1, #15	Structural Failure		in SSP 57008 Unique Pressurized Payload Non-Rack Interface Control Document Template, SSP 50835 Common IRD, or equivalent IDD:  _____.	launch/return load.		TNP2QCC: JMU-143098 [2] (Contents Drawings /Positioning Drawings for Label Request TNP2QCC)
				2. Review of vibration test report.	N/A	Note) Since TNP2QCC will be stowed in the CTB during the launch phase, vibration test is not required to verify structural integrity.
				3. Review of structural analysis report for on-orbit load including EVA kickload.	Under Review	QCC: QCC20150202-kajuu (Compression Test Report of QCC Sample [Si. SiO2])  TNP2QCC: TNP2QCC_MgF2_kajuu_20190207 [3] (Compression Test Report of TNP2Sample [MgF2])
UNQ-SSL-01	Touch Temperature IVA or EVA Resulting in Crew Injury	1. Touch with IVA extreme temperature surface of ExHAM Samples	1a. Waiting time is specified to determine that temperature of ExHAM Samples installed in ExHAM gets within IVA touch temperature criteria.  1b. <Op> IVA crew will open Airlock Inner Hatch after specified waiting time (24 hours) since transferring ExHAM including ExHAM Samples from JEM EF into Airlock.  Ground crew will confirm that specified waiting time (24 hours) elapsed and notify IVA crew.	1a. Thermal analysis for waiting time (cool down or warm up time) in order to meet IVA touch temperature criteria before Transferring ExHAM into JEM PM from inside of Airlock.	The surface configuration of the TNP2QCC panel is basically the same as that of the QCC panels.  Thermal analysis made for QCC are applied to TNP2QCC.	QCC : KST-14-X030 (Thermal Analysis Report of Samples Installed on ExHAM).
				1b. Verification is completed once formal acceptance is provided by JAXA Operation Community.	Closed	Refer to OCM-SSL-01.
				2. Thermal analysis for EVA heat transfer rate. (See Attachment-1)	Closed	QCC : KST-14-X066 (Thermal Analysis Report of Samples Installed on ExHAM#2, Tanpopo+CNT+QCC ).

No.	Hazard Title	Cause	Control	Verification Method	Status of Verification	Support Document
		Samples				
UNQ-SSL-02	Mechanical Hazards Causing Injury to EVA Crew (sharp edges, pinch points, etc.)	1. Inadequate design/manufacturing	1. Design to meet SSP 51700, 3.18 for edges and corners to be exposed when ExHAM Samples is installed on ExHAM.	1a. Review of Drawings <hr/> 1b. Inspection of H/W to show that H/W meets the drawing <hr/> 1c. Touch test of H/W	TNP2QCC_FM_check (in preparation) <hr/> TNP2QCC_FM_check (in preparation) <hr/> TNP2QCC_FM_check (in preparation)	TNP2QCC: TNP2QCC_FM_check (Inspection Report of TNP2QCC) <hr/> TNP2QCC: TNP2QCC_FM_check (Inspection Report of TNP2QCC) <hr/> TNP2QCC: TNP2QCC_FM_check (Inspection Report of TNP2QCC)