Attendees:
Doug Griffin RAL (Chair)
Horst Faas EADS
Bernhard Kettner (OBA cognizant).
John Coker MSSL
Berend Winter MSSL

Attachments:

Preliminary Astrium Analysis of impact on S/C interfaces
Extract from HP-2-ASED-IC-0007_3_OBA_Interface_Document (pages 31-32)

Agenda Items

- Discussion of interference between SPIRE Level-0 Strap design and OBA (pages 3-7 of this document)
- Discussion of new evaporator open-cryostat pod (pages 8,9 of this document)

1. Cooler evaporator bottom flexible link

- there is a near clash with the instrument shield
- MSSL baseline is to rotate the flexible 90º
- The flexible will be routed first from the open pod and then to the closed pod
    - This could provide poor performance on the ground if the helium does not fill the strut, but will provide food performance in flight

2. Clash between boil off strap and instrument

- EADS to fix this problem

3. Detector box strap

- At the bottom, there is a clash between the strut and the flexible. MSSL to investigate rotating the flexible strap (90º or 180º ?)
- There is a clash between the top of the strap and the vent line. In particular, the instrument will have to be integrated onto the OBA without the Level-0 straps.
    - There is no scope for moving the vent line. It is effectively welded to the OBA

The baselined solution is twofold:

(1) Make the electrical isolation joint lower profiled so that there is clearance between the strap and the boil off pipe.
(2) Baseline that the straps are integrated onto the instrument after the FPU is integrated onto the OBA.

4. Strap temperature sensors

- EADS to provide both the sensor and the clamp plate

- There is some doubt as to whether the sensors can be integrated along with their harnesses onto the straps.

5. Extra Level-0 S/C interface with open pod

- Baseline is that both the open and the closed evaporator pods will be connected together.
- This link could be rigid, but MSSL are baselining that the instrument flexible link be made longer and connect both interfaces together on the instrument side.

Action Items

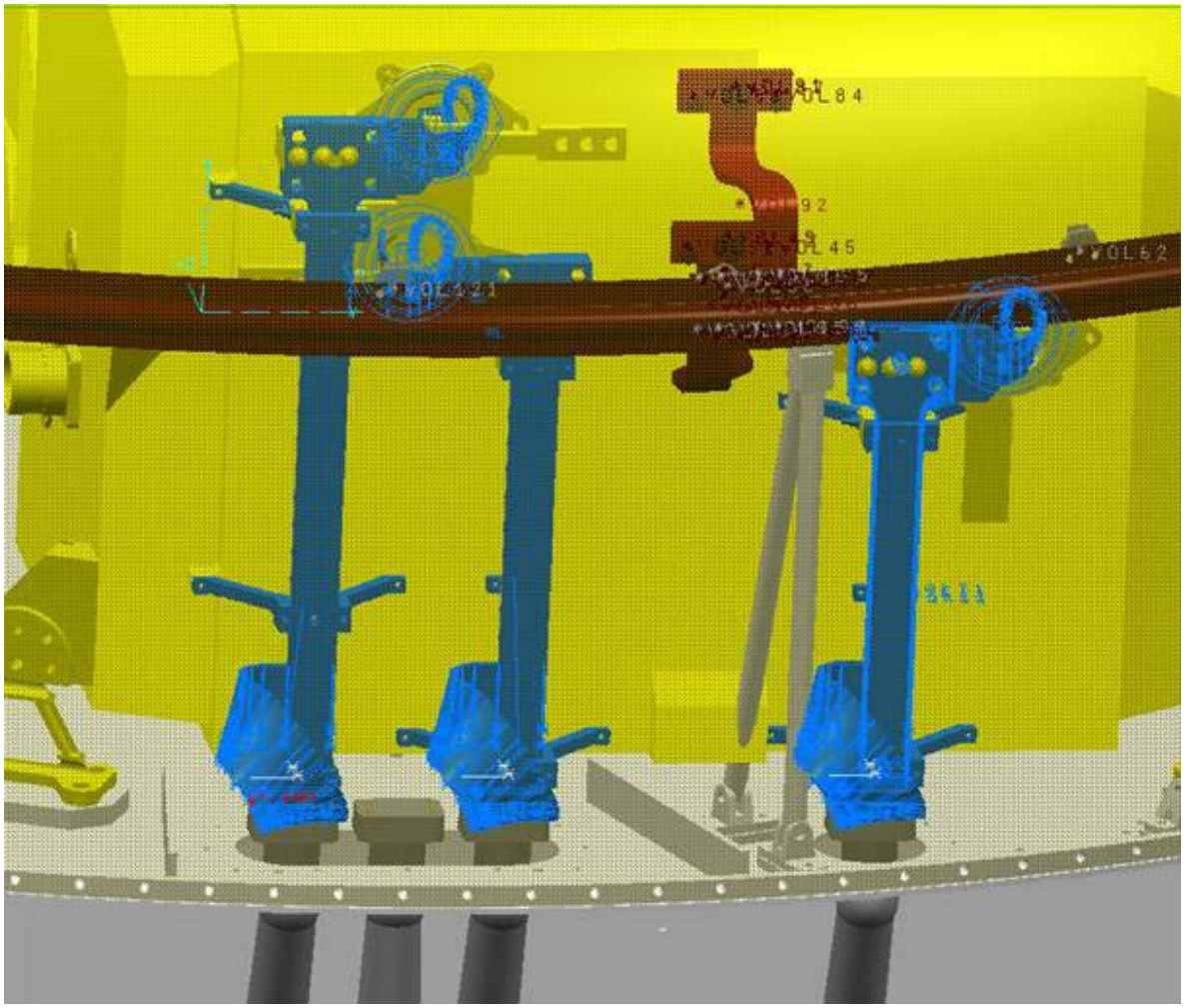
What	Who
Send MSSL latest ICD drawing for the Level-0 interfaces	EADS
Send MSSL latest STEP files for: (i) The Optical Bench Plate, (ii) instrument shield (iii) vent line and supports, (iv) HTT Pods	EADS

29/09/03

SPIRE L0 Thermal Strap
Preliminary Astrium Analysis of impact on S/C interfaces

Simplified SPIRE FPU with updated L0 straps (in blue).

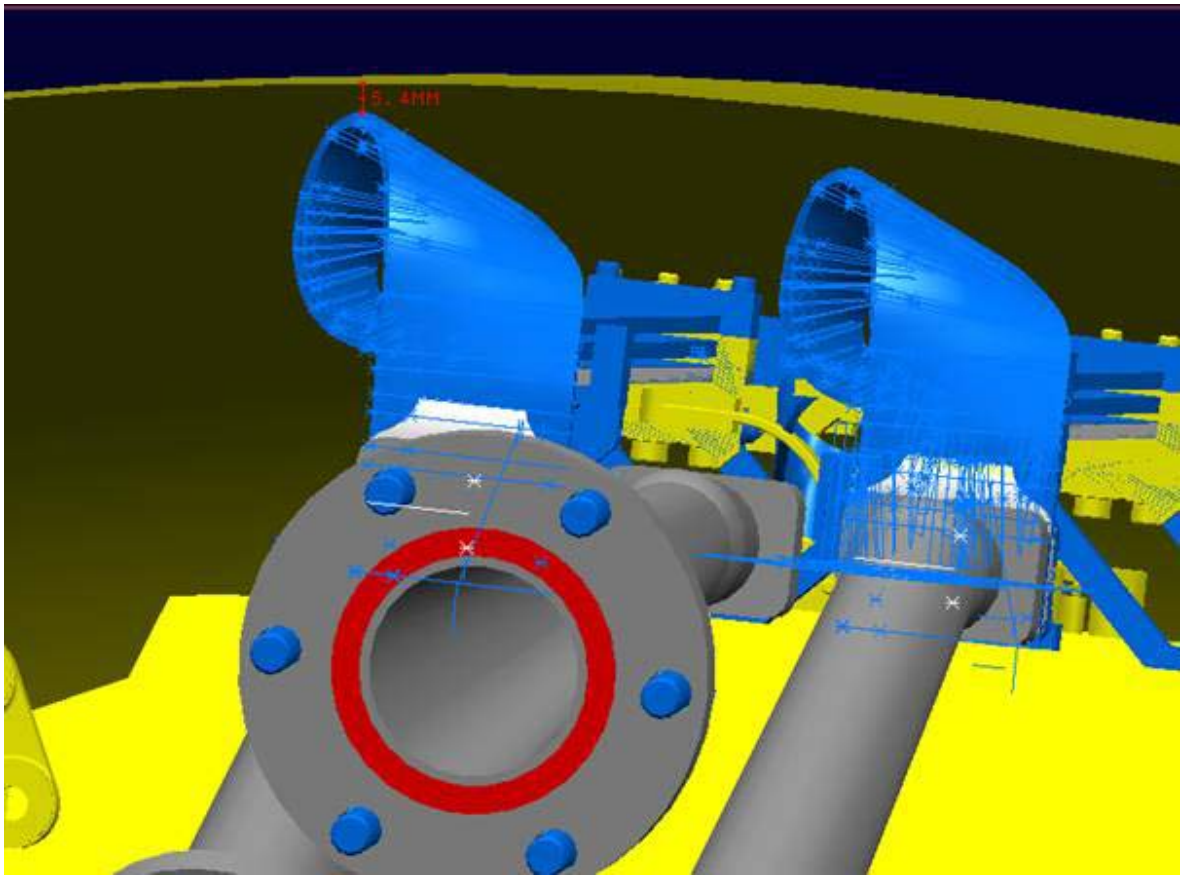
Configuration shown with Sener ventline and new additional open tank pod.



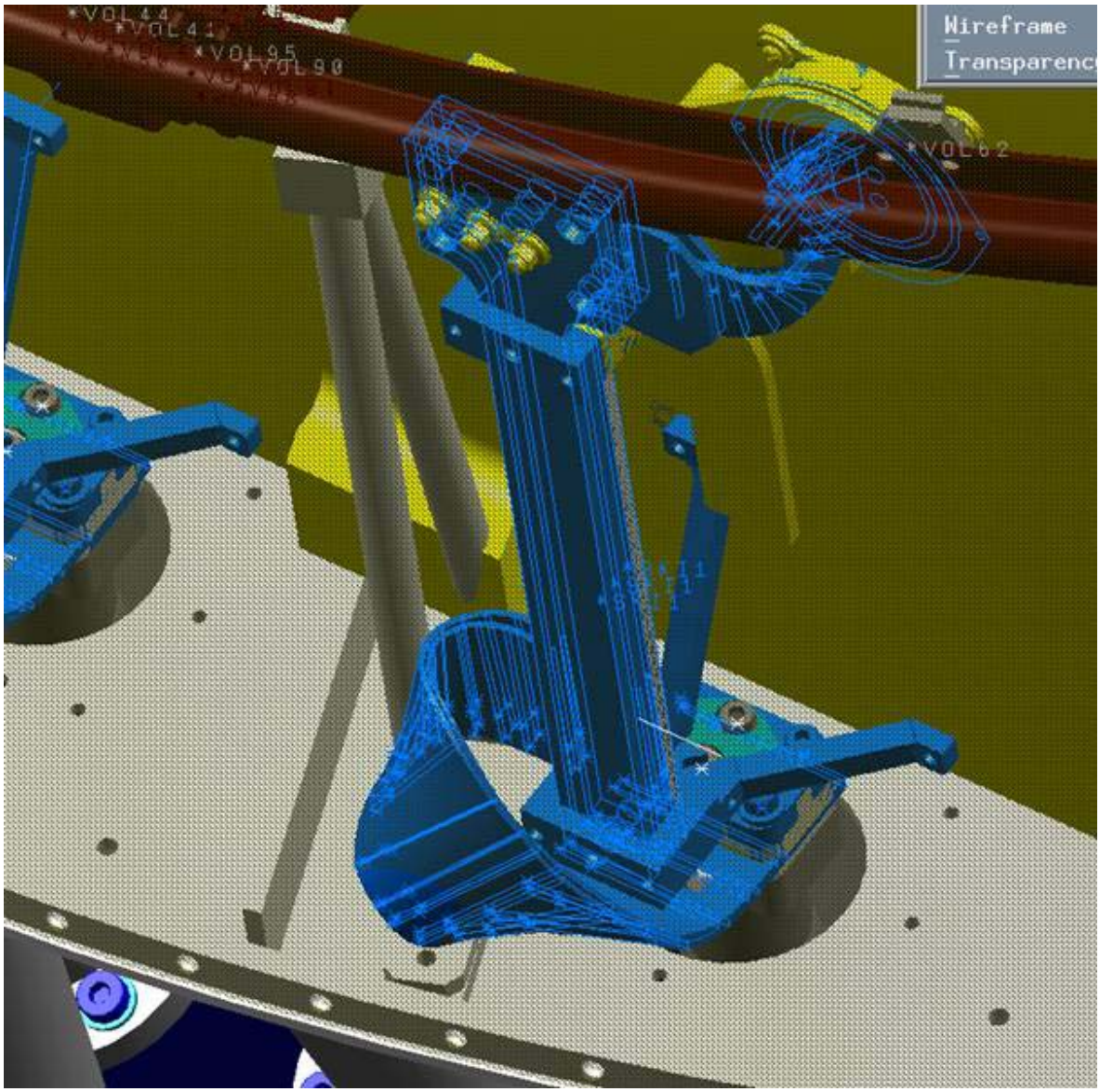
Note: Please ignore the ventline support hardware conflict with FPU structure (to be clarified by Astrium)

View of Evaporator and Pump L0 thermal strap (view from -x)

Minimum distance of Evaporator flexible thermal strap to OBA Instrument shield only 5.4 mm.

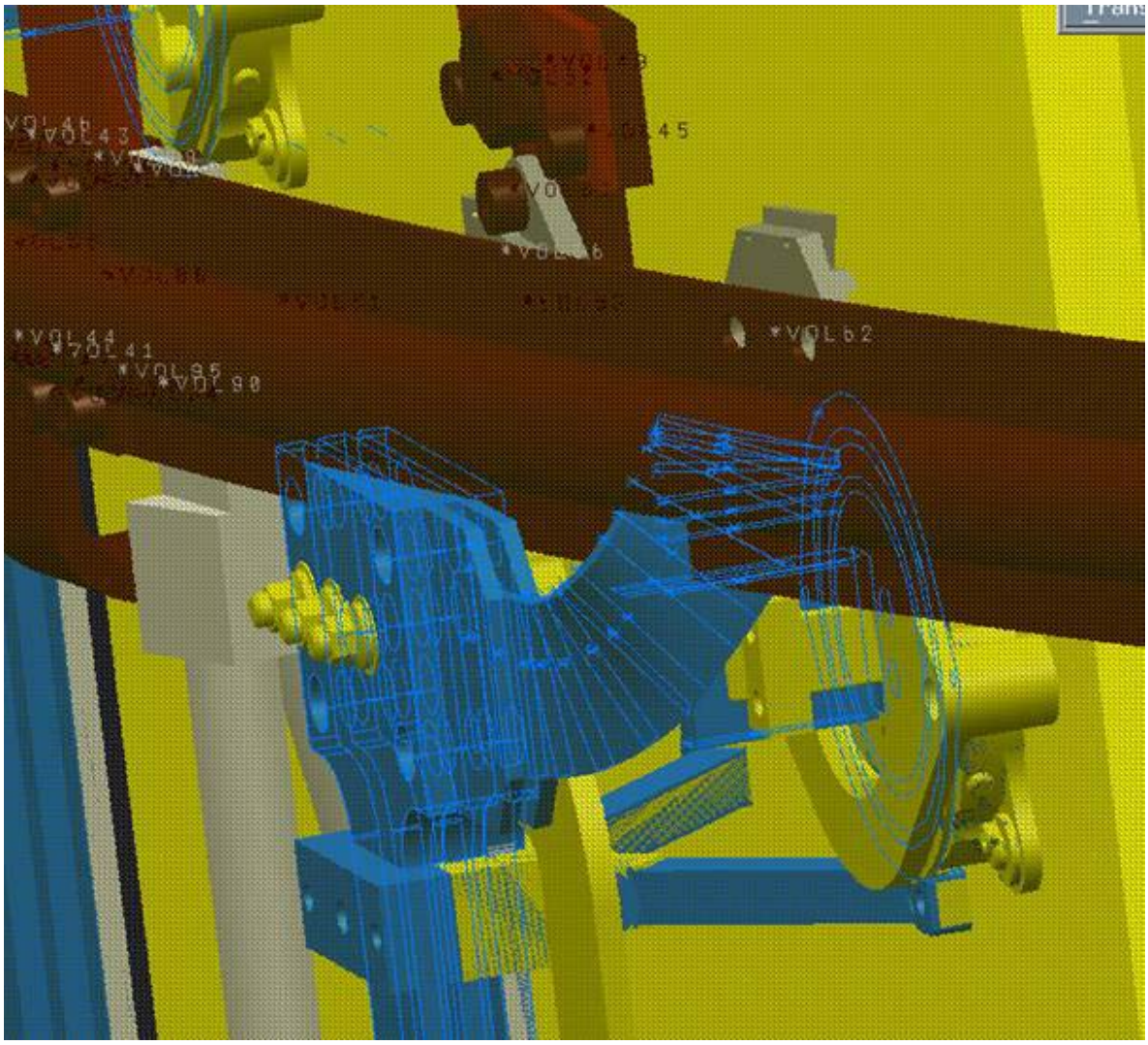


View of SPIRE Detector thermal strap:



View of SPIRE Detector thermal strap:

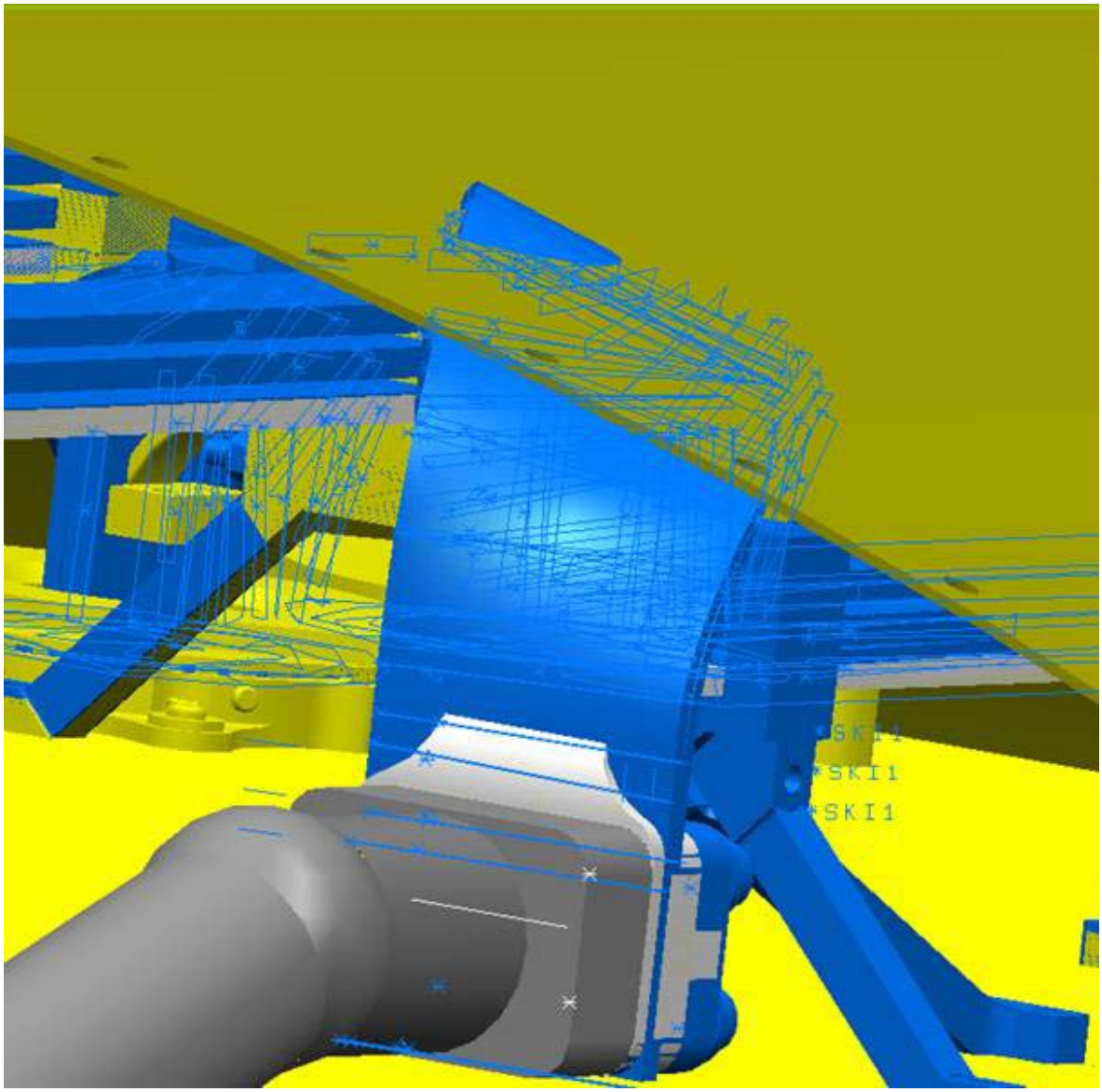
Conflict with ventline



View of SPIRE Detector thermal strap (view from -x):

Conflict with OBA Instrument Shield

For the detector, the flexible part of the Spire flexlink could be routed on the opposite side (+Y-side instead of -Y-side to avoid clash with the shield or the ventline supports.)



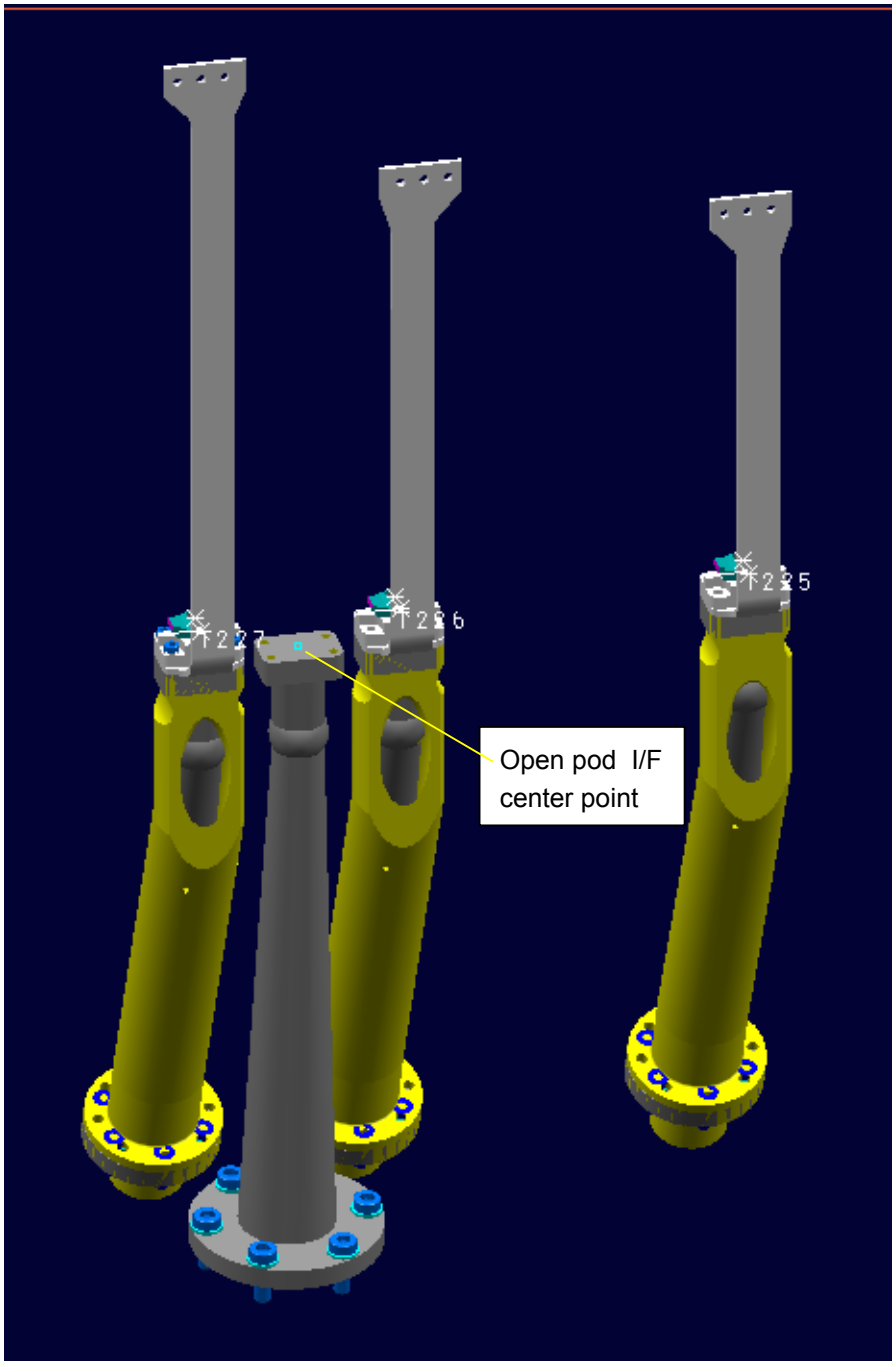


Figure 4.4.1-2: Additional open tank L0 Interface on HTT for SPIRE evaporator.
Note: The I/F of the open pod to the SPIRE flexible link is at:
X: 1980.5mm Y: -18.75mm Z: -730.786mm (center point).

The mechanical I/F (4xM4) is identical to the rigid pod design.

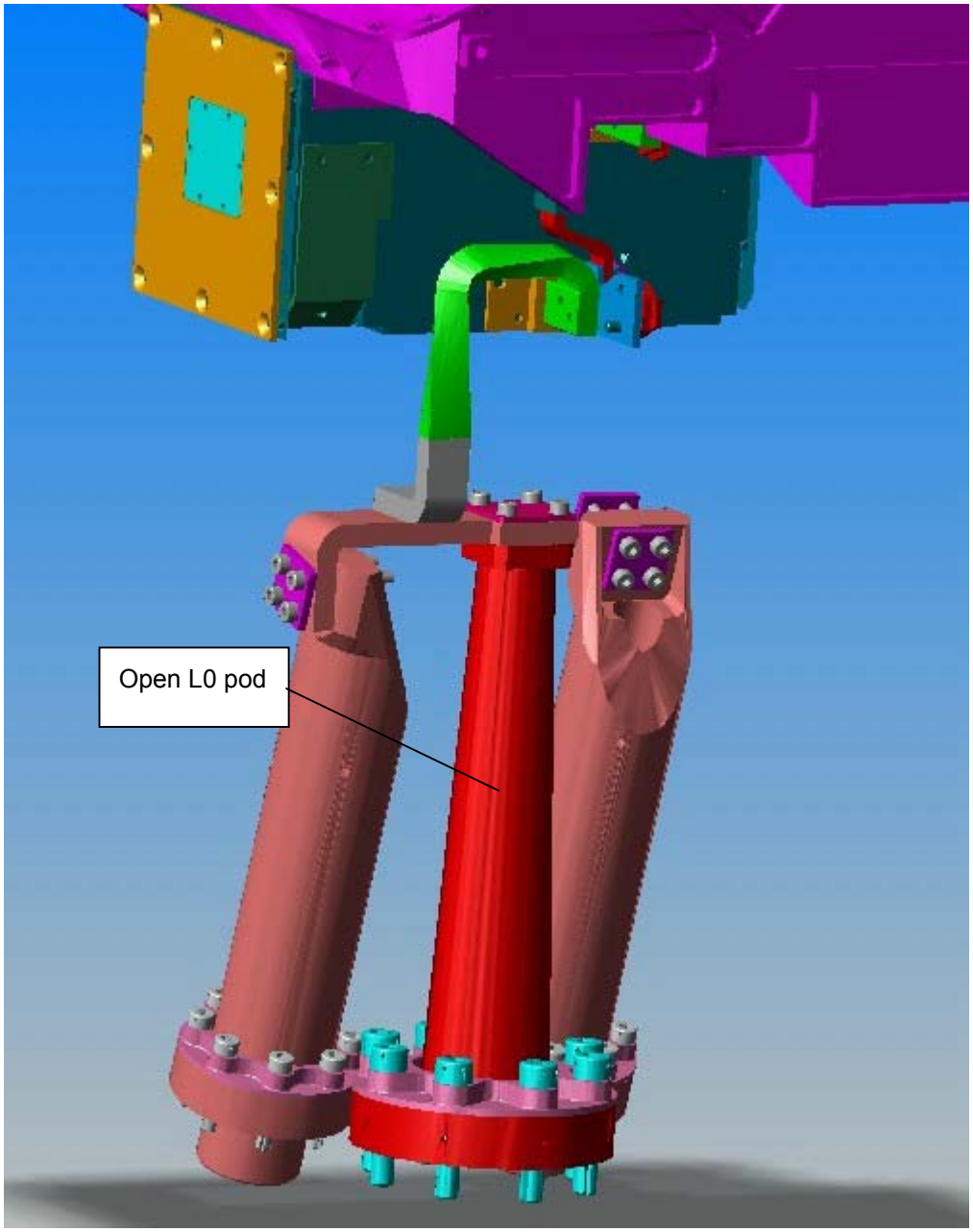


Figure 4.4.1-3: Additional open tank L0 pod for PACS evaporator with flexible link to FPU I/F.