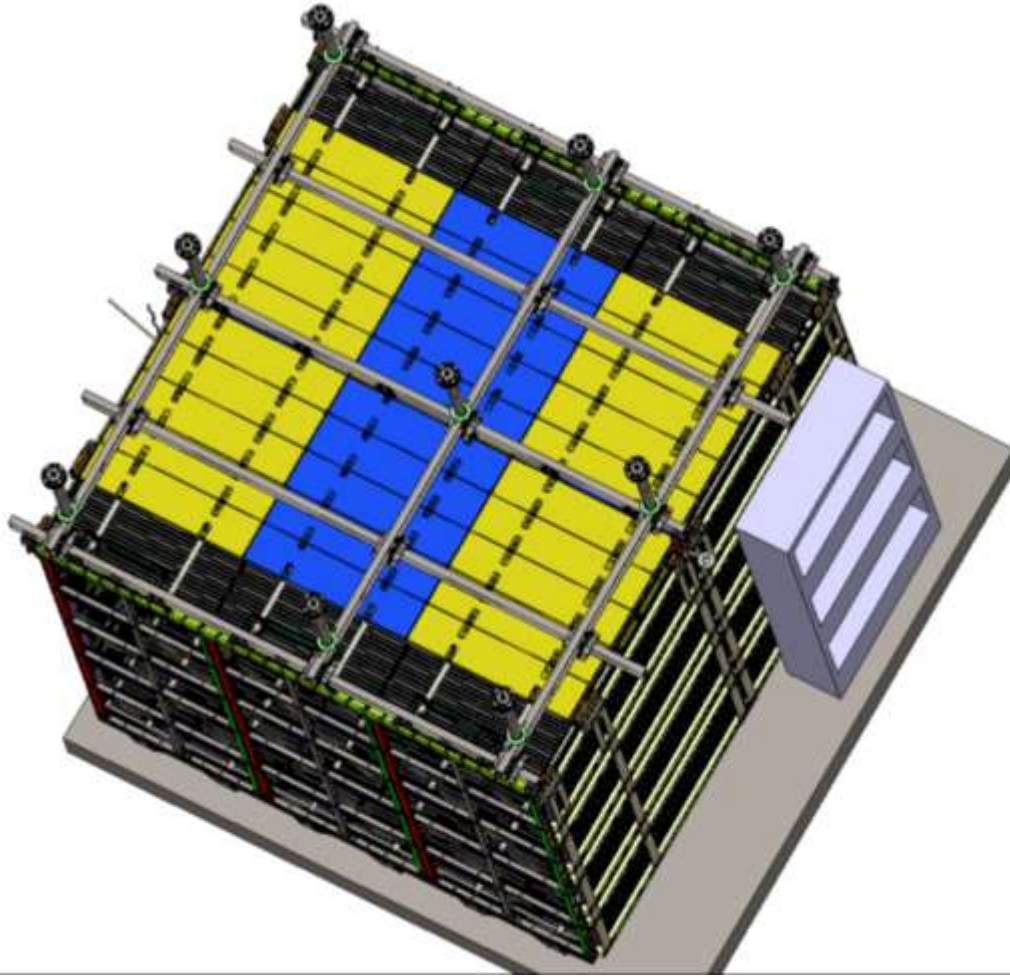


Finishing the TPC

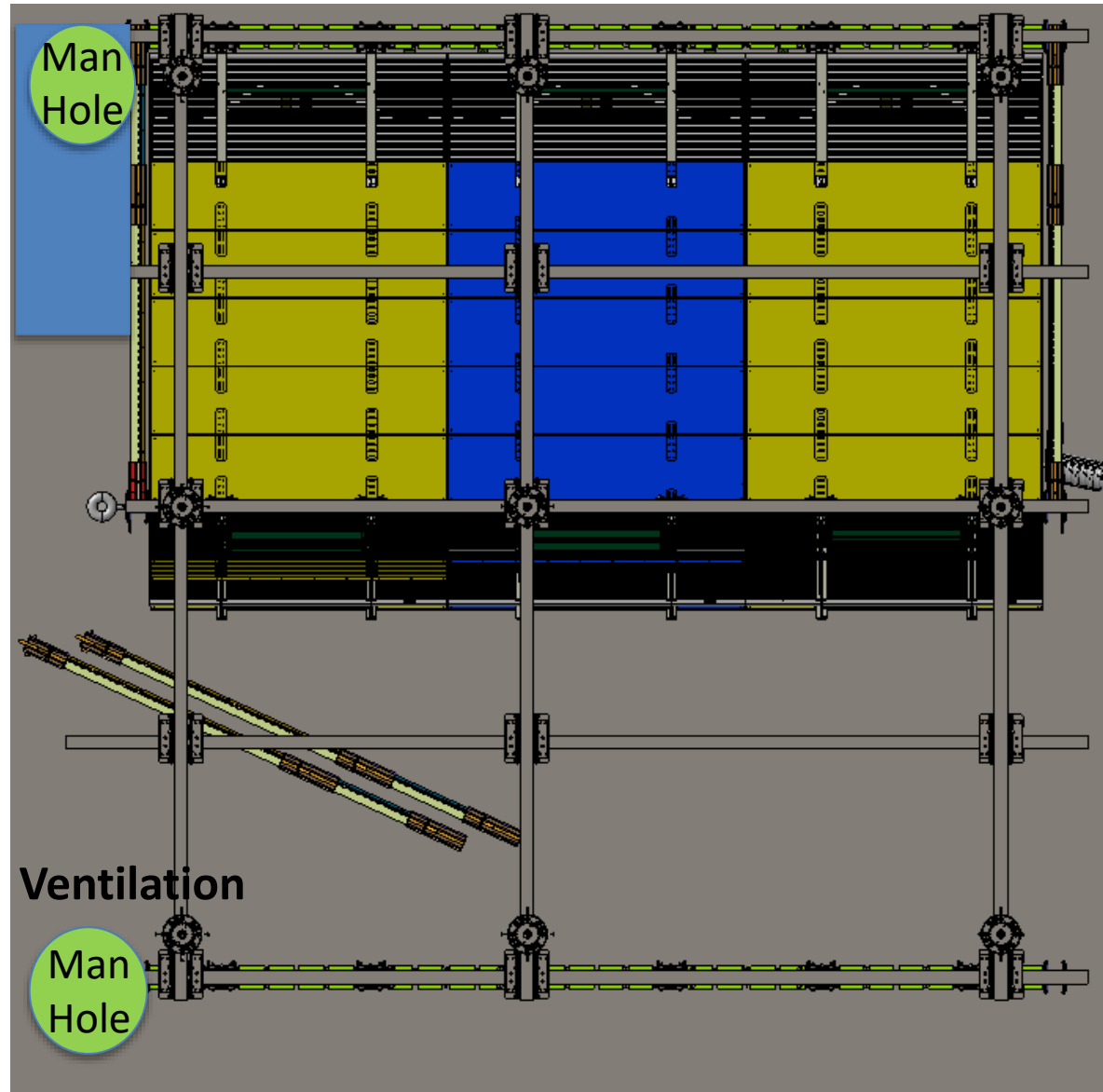
Diamanto Smargianaki
William Miller

24 May, 2018



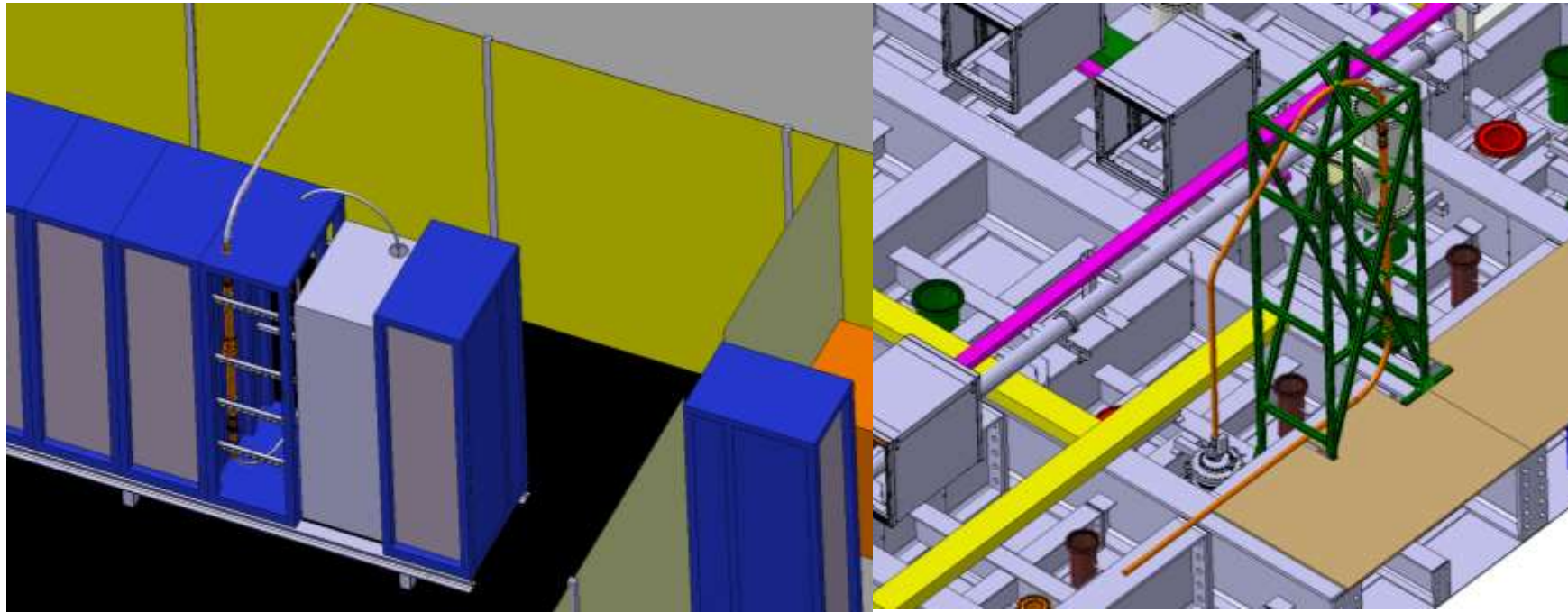
Egress

- Egress is via scaffolding located on the Saleve side
- Ventilation comes down the manhole from the Jura side. It can be removed for emergency access if needed



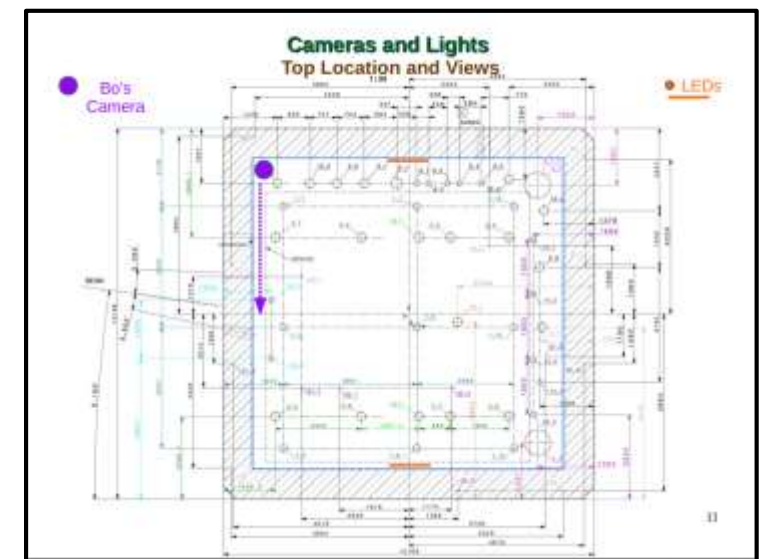
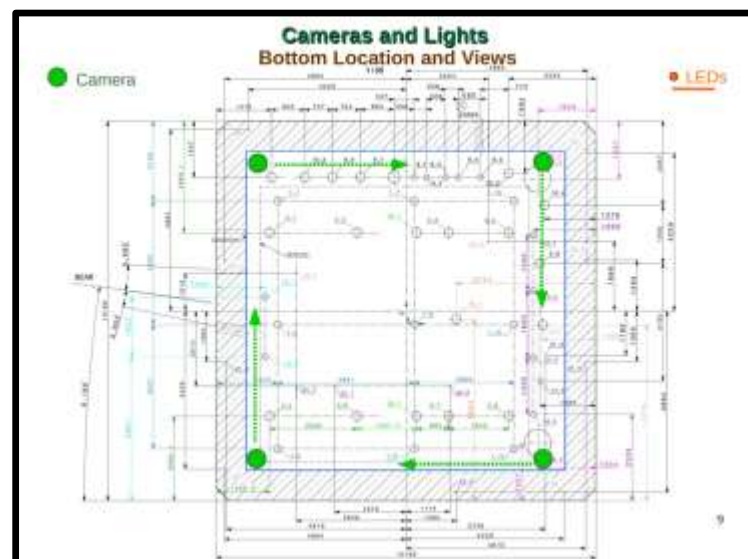
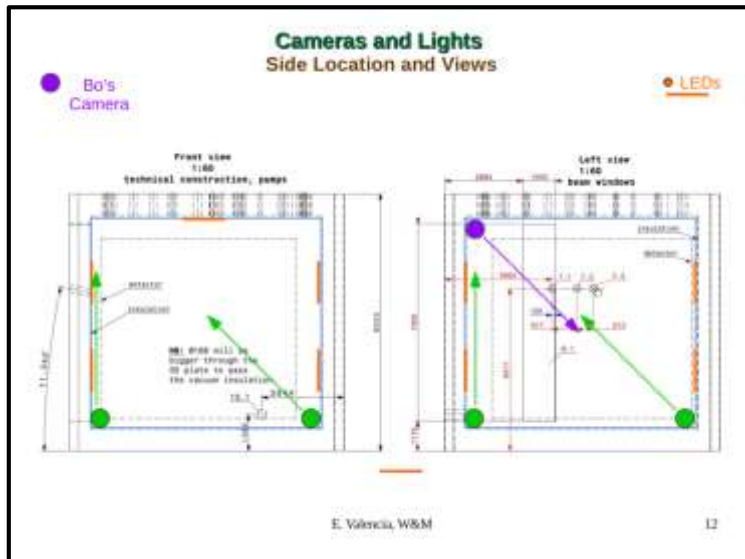
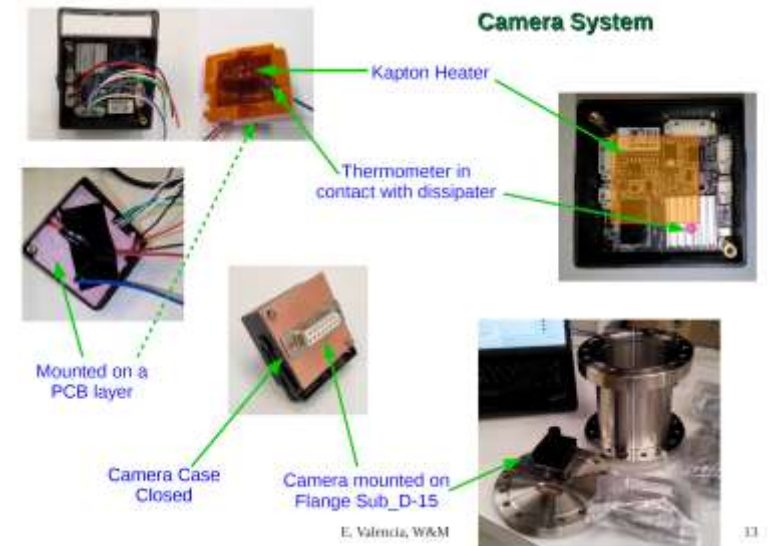
HV Filter, Cable and Probe

- The HV Filter, cable and HV rack needs to be installed 6-8 June
- The HV probe can not be installed until ~29 June



Revotech and Acrylic Cameras

- We would like to check location and install the brackets for the Revotech cameras and lights ~5-8 June
- Final installation for the Revotech cameras ~11-15 June.
- I do not have any details about the acrylic cameras? I assume that they need to be leak checked somehow? Is the upstream one in port 18.2?



Purity Monitors

- The purity monitor does not have completed written installation procedures and we have not started the safety approval.
 - Need details on lifting points, clearances required for crane

Detector components to be installed

Top-flange



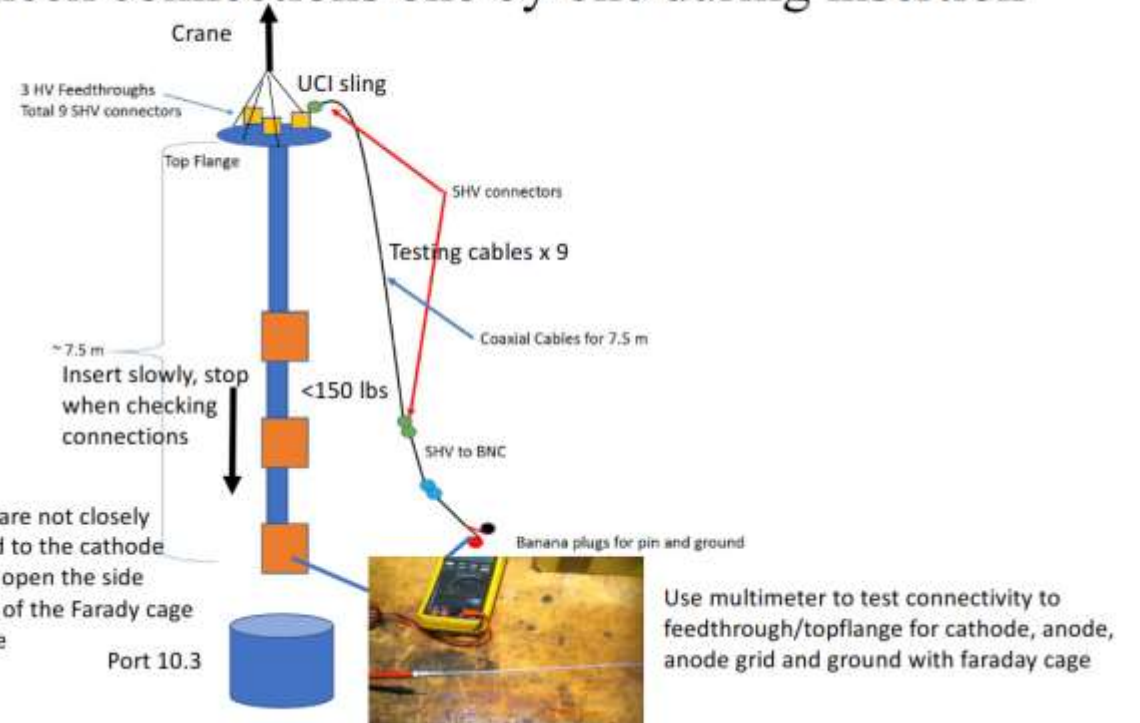
Mounting rods



PrMs



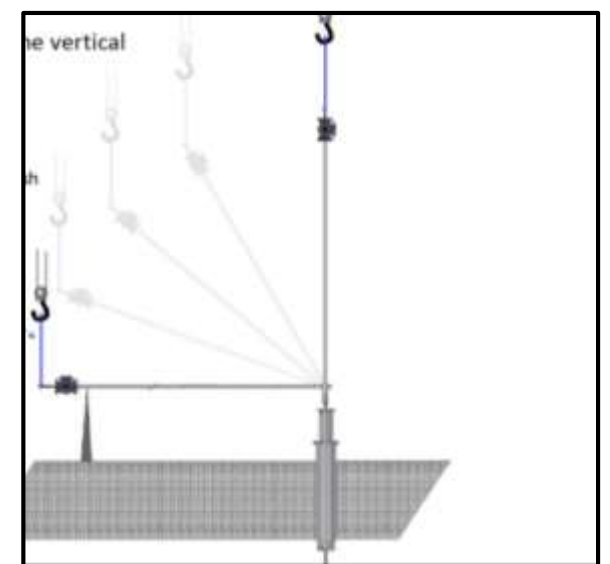
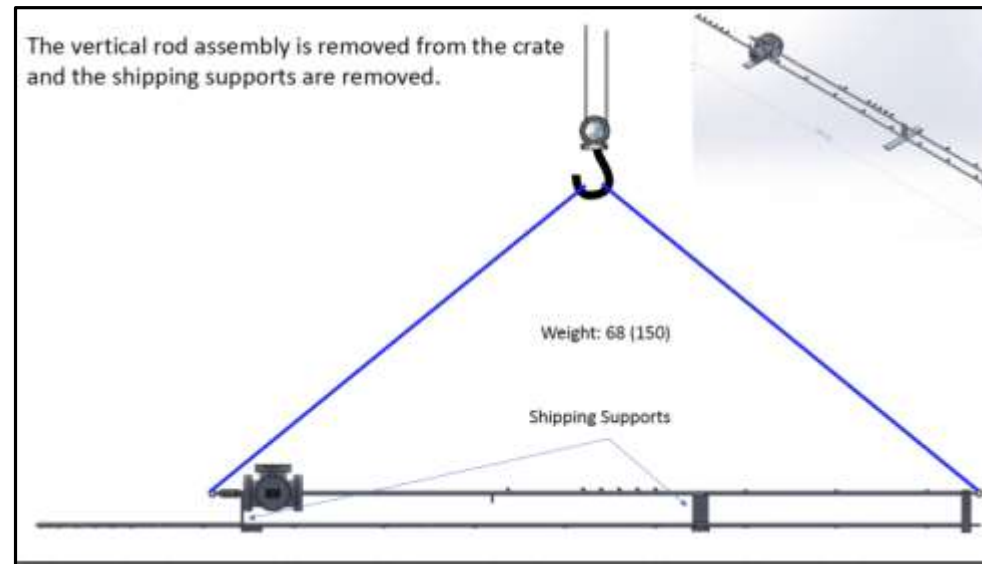
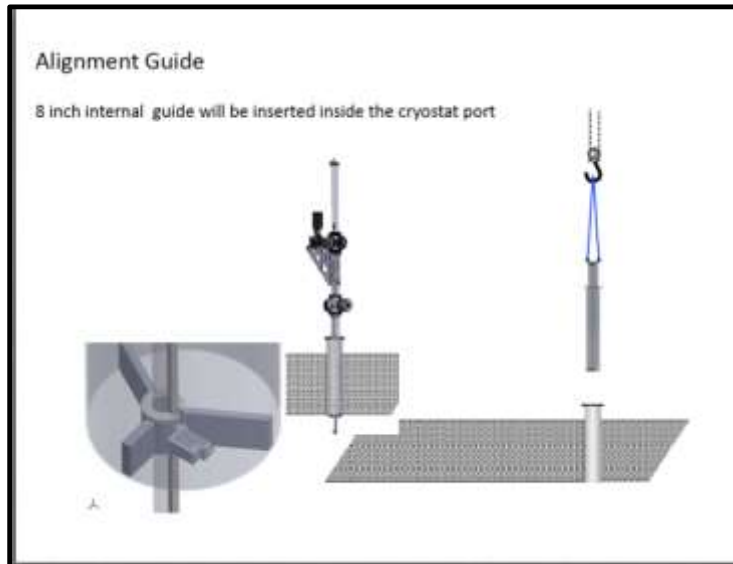
Check connections one by one during insertion



**Needs to be installed 14-15 June
so it can be leak checked 16-June**

Dynamic Temperature Sensor

- Safety and Installation documentation has been submitted to Letizia and the first round of questions have been responded to.
- Clearance with the overhead crane need to be confirmed
- **Install Saturday, 16 June because of crane usage**



Static Temperature Sensor

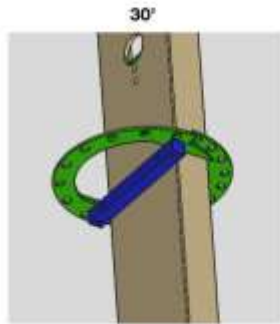
- There are two stages to the installation-
 - It needs to be hung vertically (inside the cleanroom) so the stainless steel rods can be installed: **25-27 June**
 - It is installed in port 14.4: **28-29 June**
- We do not have completed installation documentation including any lifting points and clearance for the crane or safety approval

Installation procedure 5

On the crane

- Use ladder on ground and/or first floor

Add FR4 rings to route the SS rods



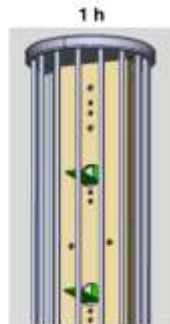
Araceli Corvea Vilanova, IFC (JY-CSC) - Valencia

Add SS rods starting by the top section



16

Connect sensors

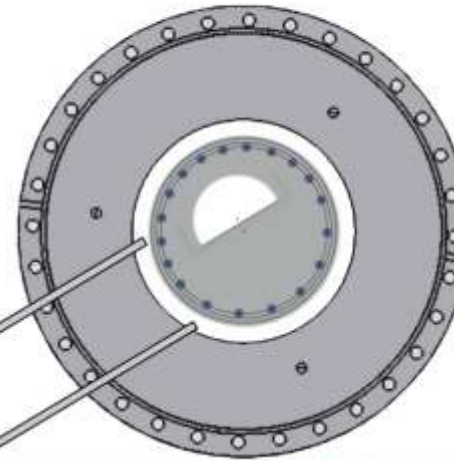
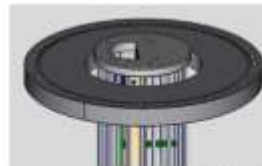


DUNE DEEP UNDERGROUND NEUTRINO EXPERIMENT

Installation procedure 7

On the crane

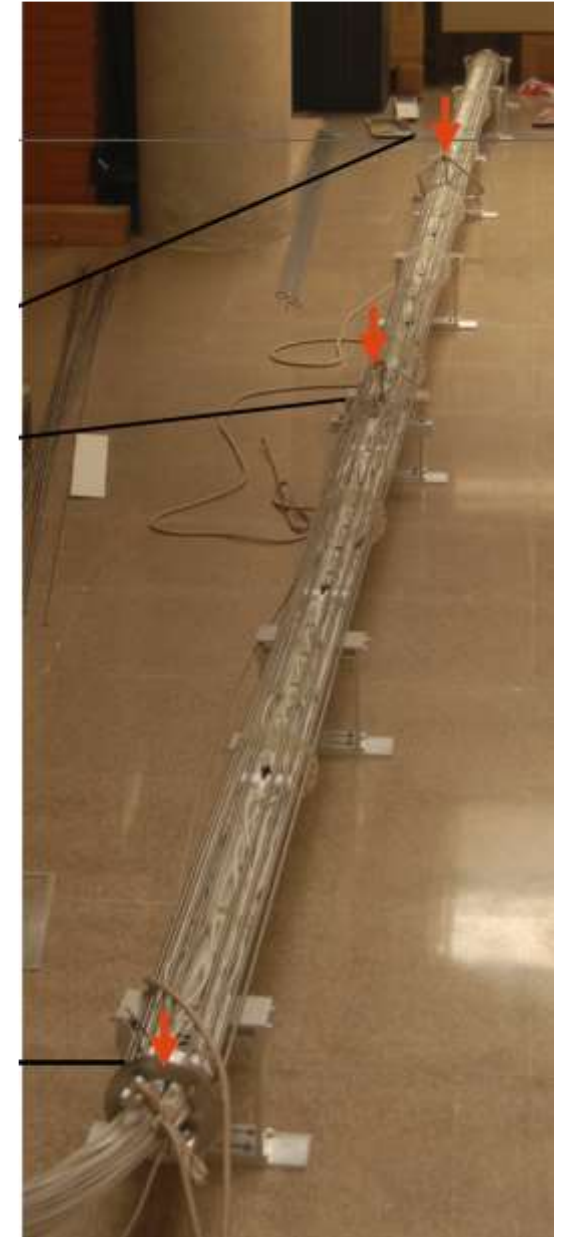
- Use special SS piece to suspend the system while connecting the top tube and changing the crane to the top of the tube



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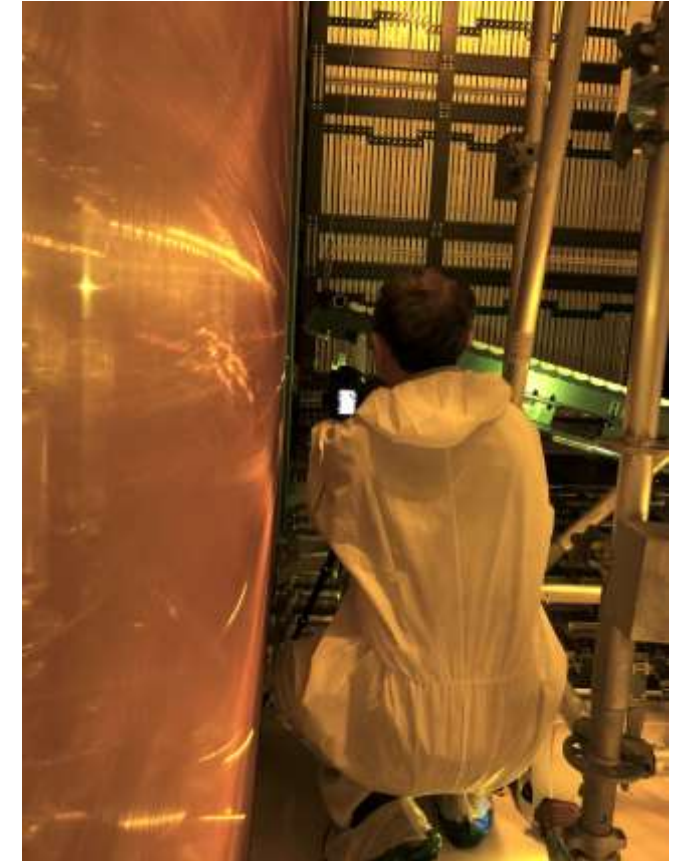
18

DUNE DEEP UNDERGROUND NEUTRINO EXPERIMENT



Completing the TPC- Has Top Priority

- Upstream End Wall-2 days
- Downstream two End Walls-2 days
- Position APSs-3 days
- Deploy Upstream FC-1 day
- Deploy Midstream FC-1 day
- Deploy Downstream FC-2 days
- Install HV probe and leak check
- Remove final scaffolding and floor sections



General Comments

- We **HAVE** to have WiFi installed in cryostat
- We must have new floor sections and second scaffold in place before we can start
- We need updated detailed installation documentation which includes loads, lifting points, dimensions by the end of this week to start the process or they will be not approved for installation when needed
- Confined space access to the cryostat is limited to a small number of approved people, not everyone will be allowed to enter
- Access to the ceiling is only via scaffold, once the scaffold has moved to the next position there is no more access
- Maximum of 4 people in the cryostat at one time, if someone else enters someone else must come out slowing down TPC work
- This means scheduling of vacuum leak checking for beam plug, purity monitor and dynamic temperature sensor **MUST happen on 16-17 June or TPC deployment will be delayed**
- With the later start of our work we will be forced to work longer shifts and on the weekends, this will include PT for the crane operators-This needs to be approved with a proper PPSPS.
- Dimitar's team will remove all floor sections out of the cryostat this work can usually occur without interfering with TPC installation