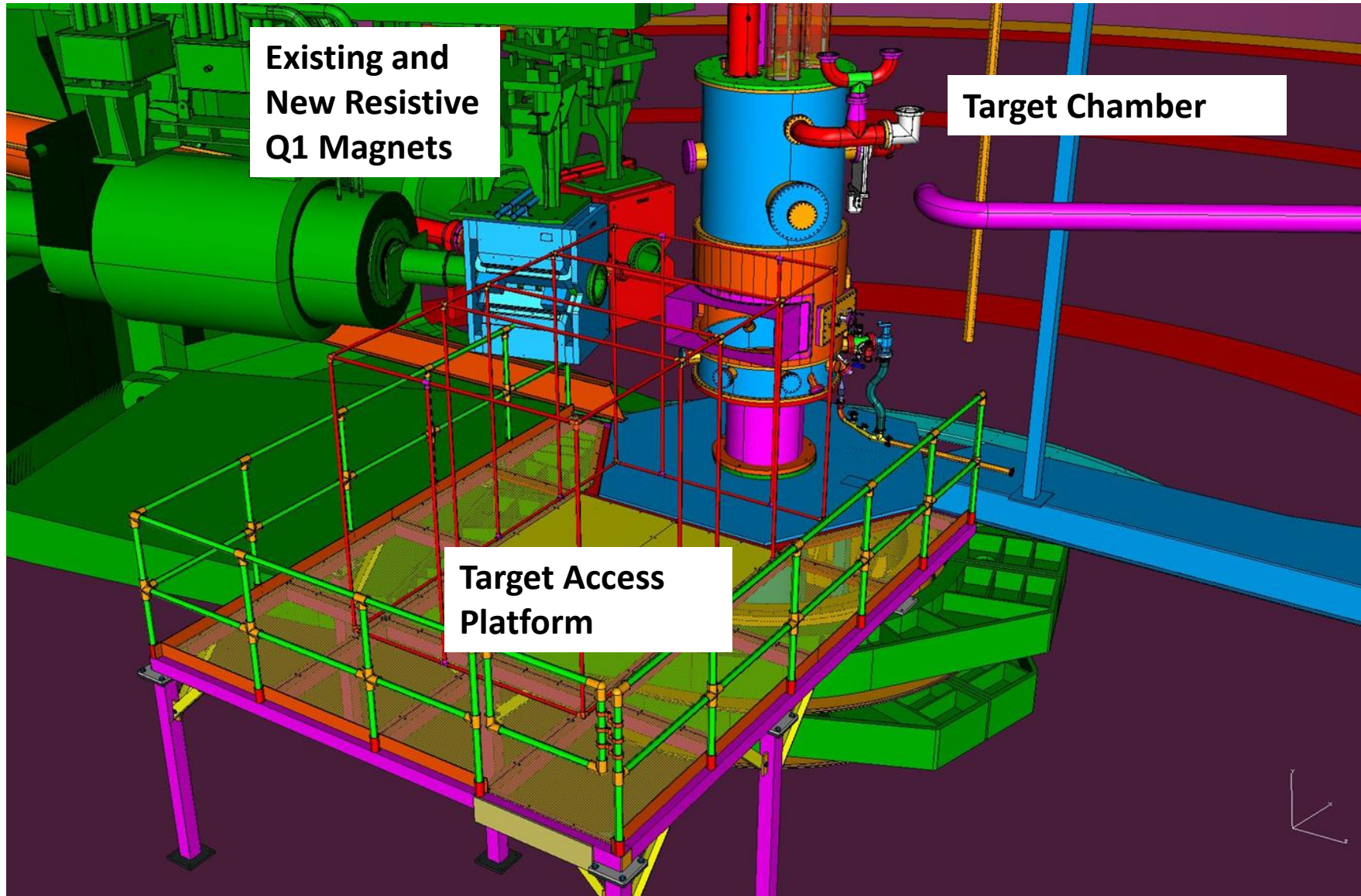




Hall A Configuration and New Quadrupole Magnet

Robin Wines

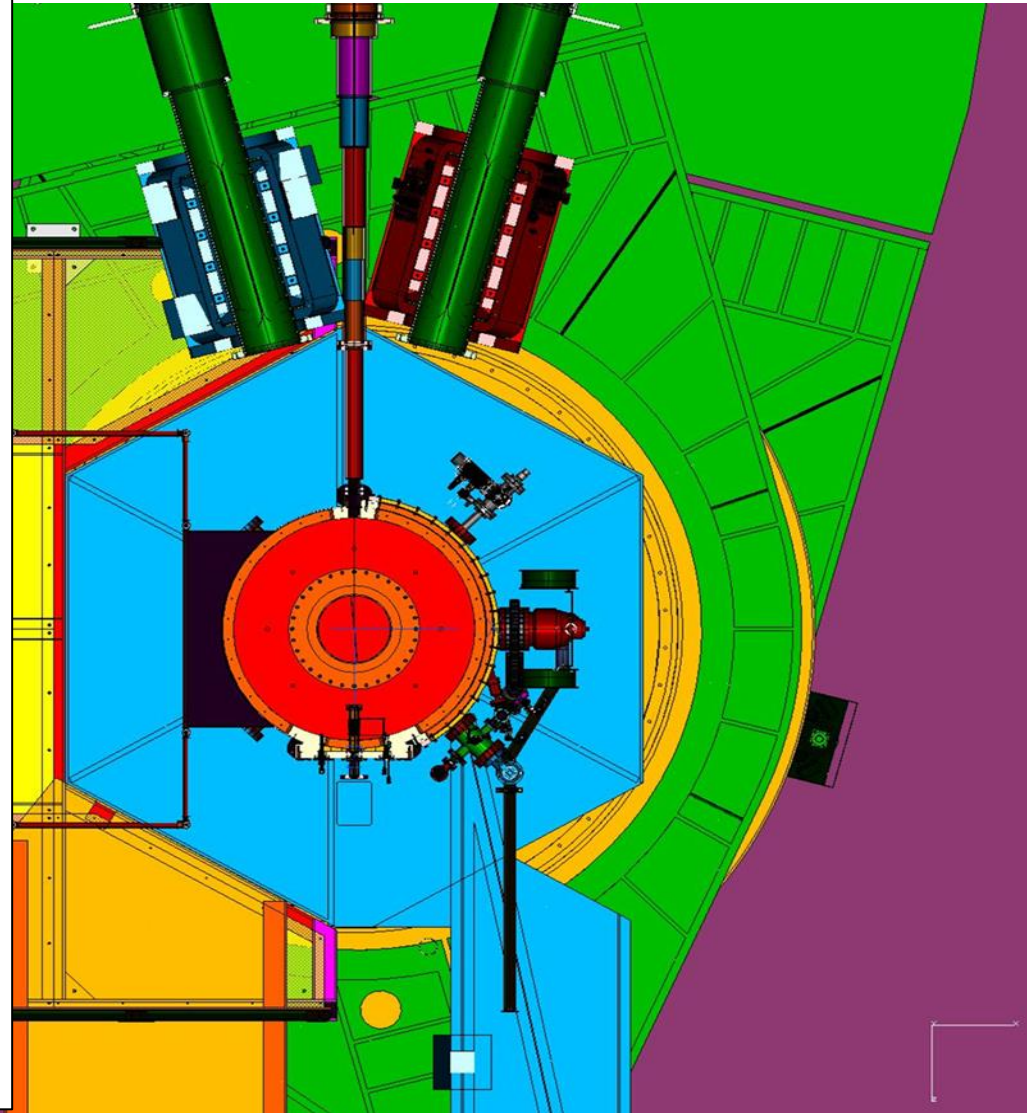
Hall A Configuration



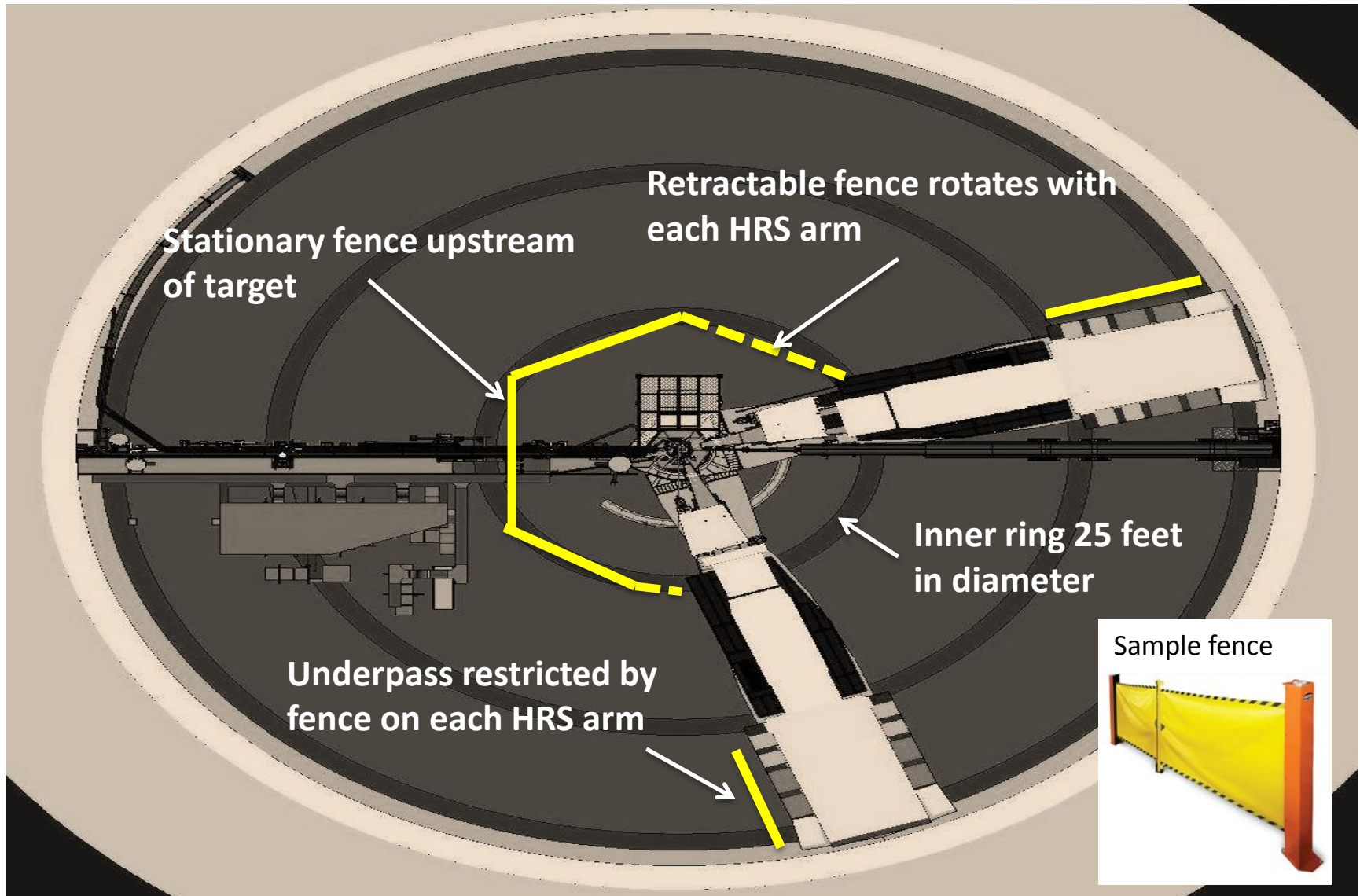
Hall Configuration

Differences, other than target:

- Experiments utilize both HRS arms, configured for angles between 15 and 70 degrees.
- Platform used only for target access, removed for experiments. Platform can be in place for angles between 15 and 24 degrees of HRS-L.
- Support brackets to be modified to allow new and existing resistive Q1 magnets to be installed upstream of present position. This increases acceptance for Tritium Experiments. HRS-R existing Q1 moved to HRS-L to give coil and beam line clearance.
- Install fence barrier for target area.



Fence Barrier

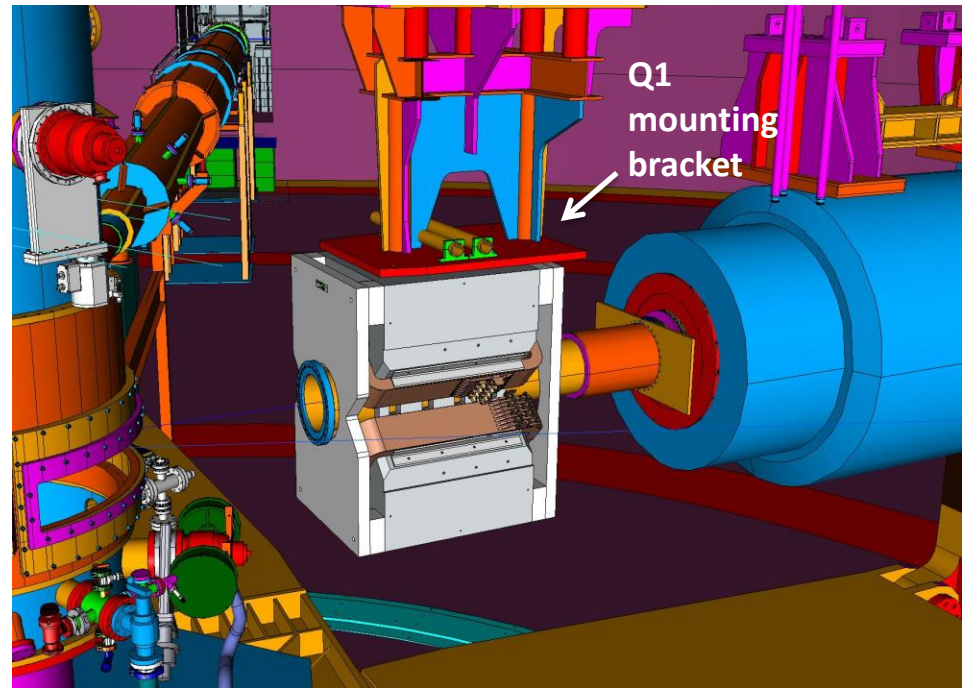
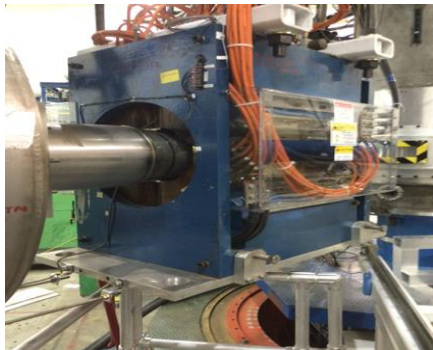


New Quadrupole Magnet

- One HRS Q1 has been replaced by the resistive SOS Q1 magnet. Tested and operable to 1000 A for 1.2 Tesla field at the pole tips.
- The second HRS Q1 will be replaced by a replica of the SOS Q1, with modified coil lead locations to allow clearance to beam line in upstream location.
- The New SOS Q1 is in fabrication and scheduled to be delivered by June 15th, 2016.
- Testing procedures are in place for arrival of the magnet in June as were used for the present SOS Q1.
- The existing SOS Q1 is being powered by the existing BB power supply. The power supply for the new SOS Q1 is in the procurement process, with delivery scheduled for July 1, 2016. Power supply = 1300A, 290V ,377KW.
- The Hall LCW allows for 200 GPM. The two resistive SOS Q1 magnets require maximum of 23 GPM each . The Hall currently has sufficient LCW.

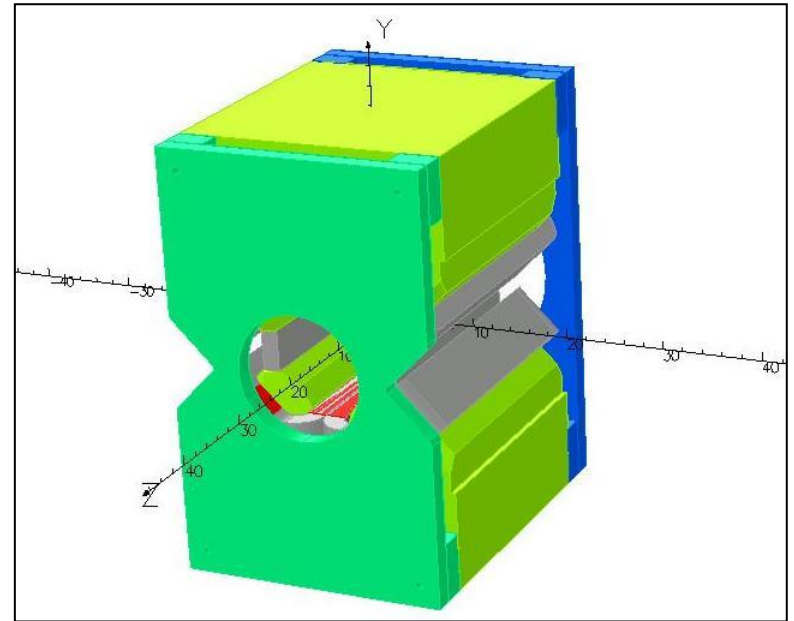
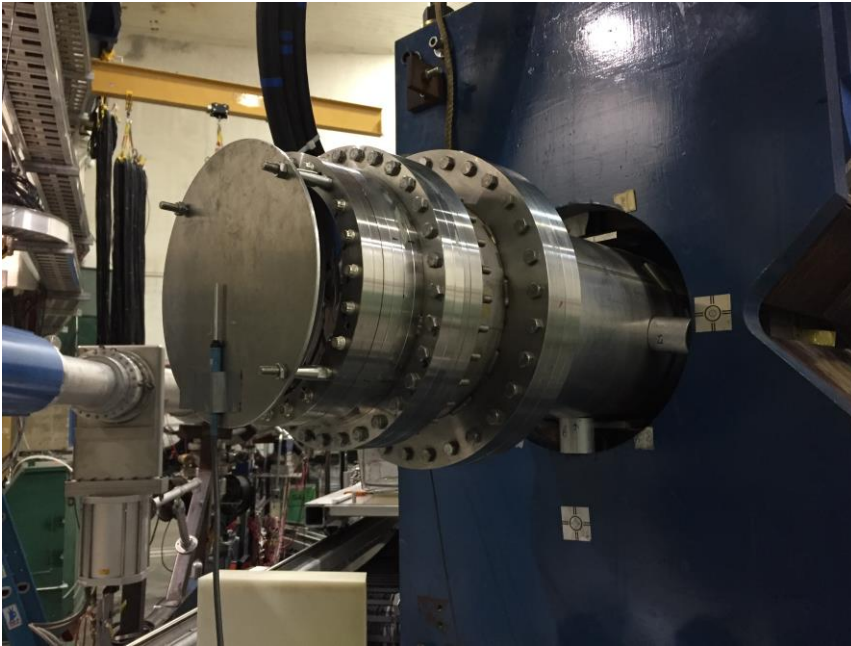
New Quadrupole Magnet

- Tritium experiments require HRS-L and HRS-R to operate at minimum angle of 15 degrees each, with center of target to center of Q1 to be distance of 187 cm. This requires the Q1 magnets to be relocated upstream of their present position for better acceptance.
- The existing mounting brackets for the Q1 magnets will be removed in June and modified to allow different positions of the magnet. Modified drawings for the brackets exist.



New Quadrupole Magnet

- Measured field data : Field falls off to 2.5 Gauss at 21" from field clamp (along axis of magnet) and 5 Gauss at 36" from sides of magnet iron. Areas in Hall to be marked accordingly.
- Tosca magnet simulation in progress to confirm field profiles of magnet.



In summary,

- **Design activities are complete and Hall Configurations are known.**
- **Refer to Installation presentation for scheduling of activities. (Jessie)**
- **Refer to Target presentation for integration with target. (Dave)**
- **Questions ?**