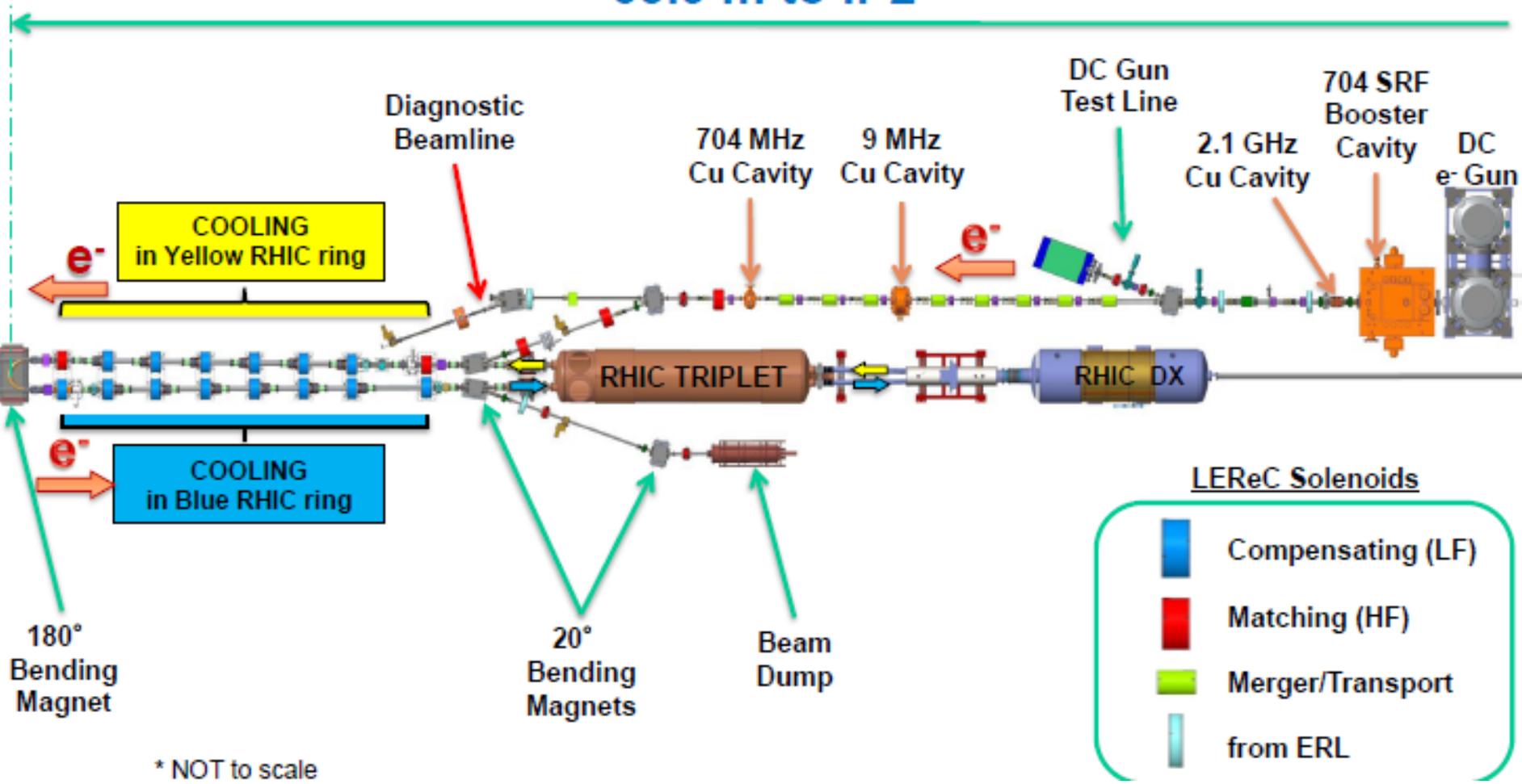


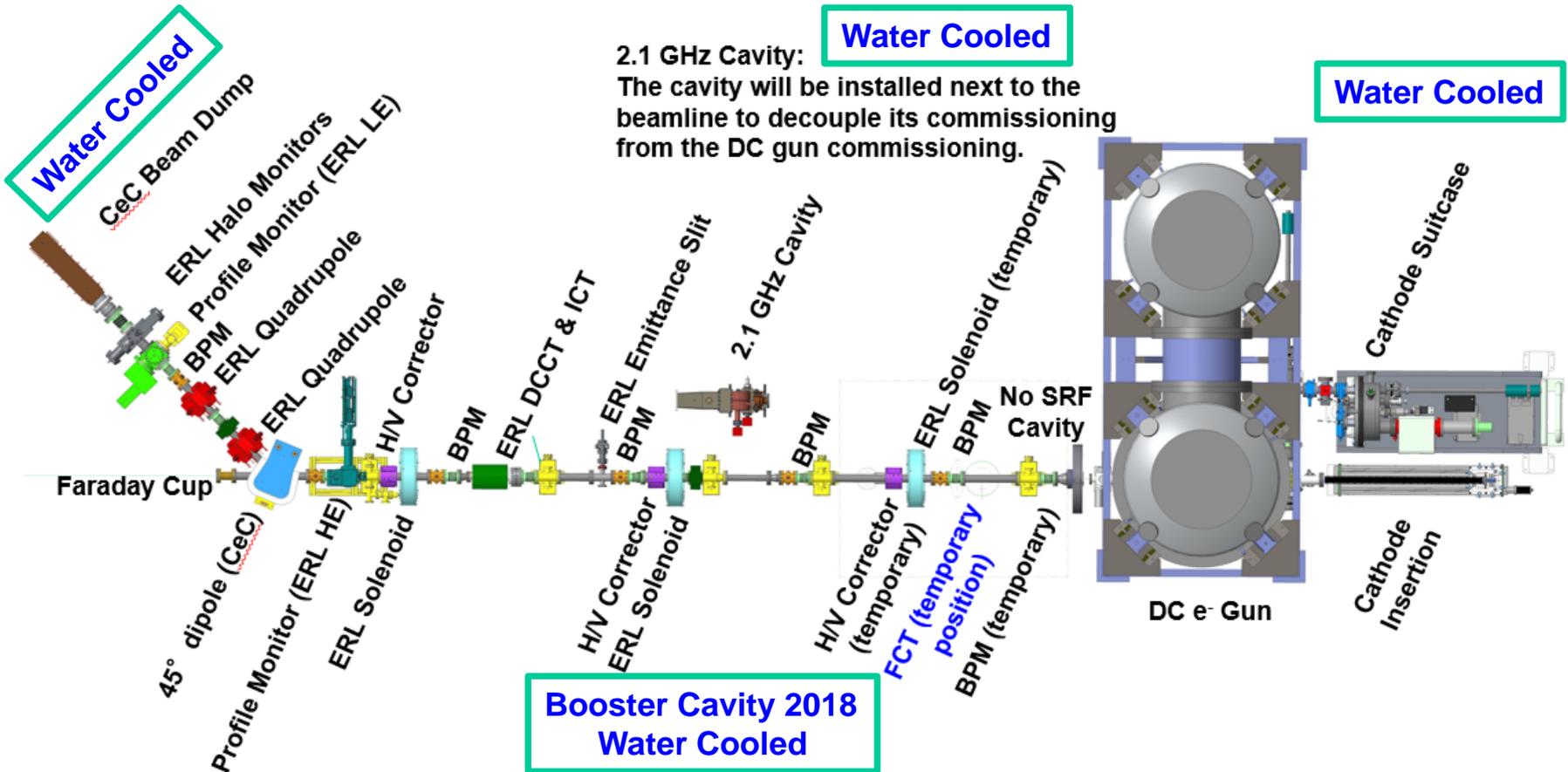
LEReC System

63.9 m to IP2



LEReC DC Gun Installation and Conditioning

- AC power (specification and location)
- Water Cooled: DC gun PS (Liaw, Bruno), Booster Cavity (McIntyre), 2.1 GHz Cavity (Brutus), 704 MHz Cavity (Pai), 45o Dipole (Mahler), Beam Dump (Fite), 9 MHz Cavity (Fite)
- Cable tray

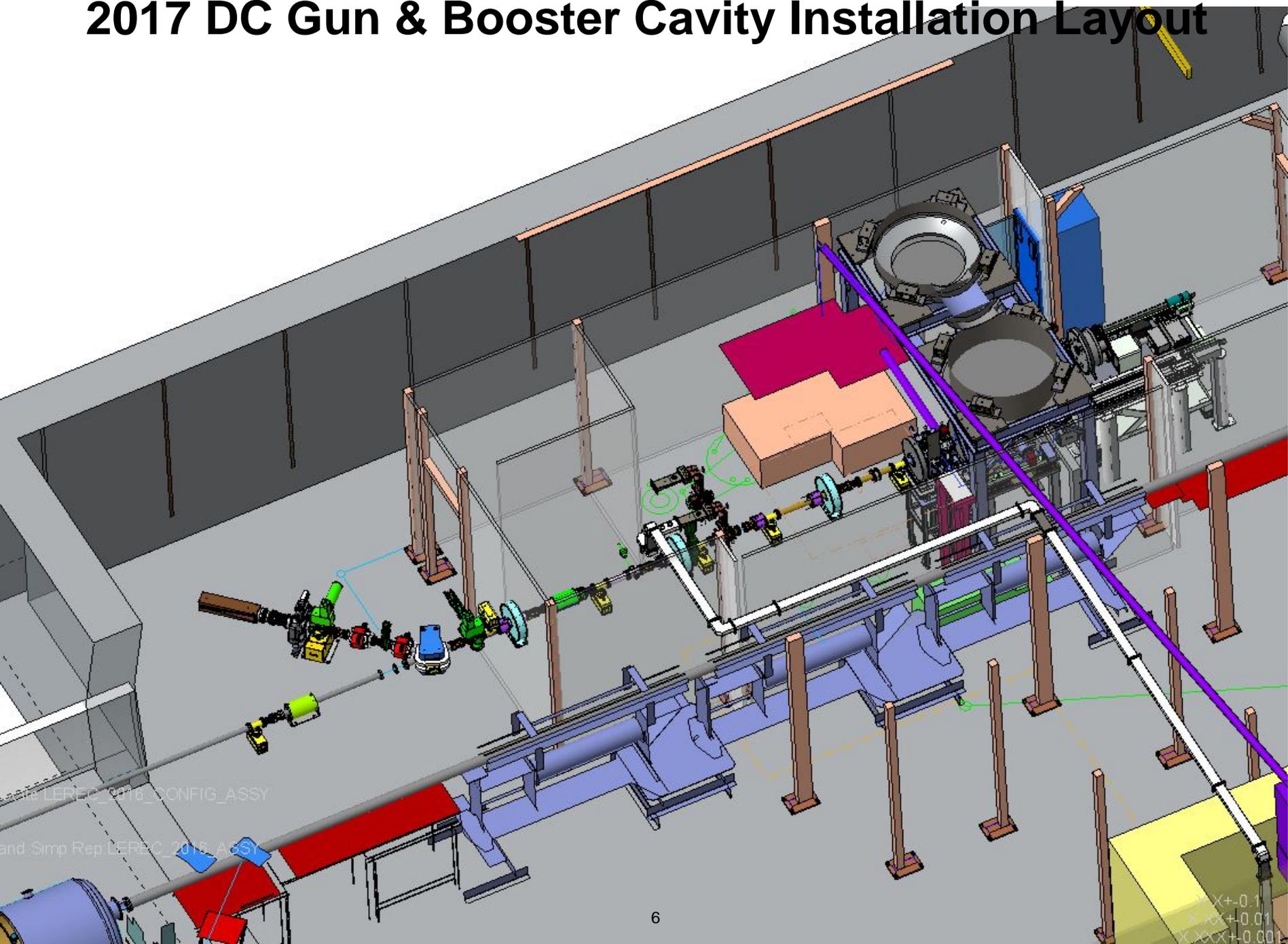


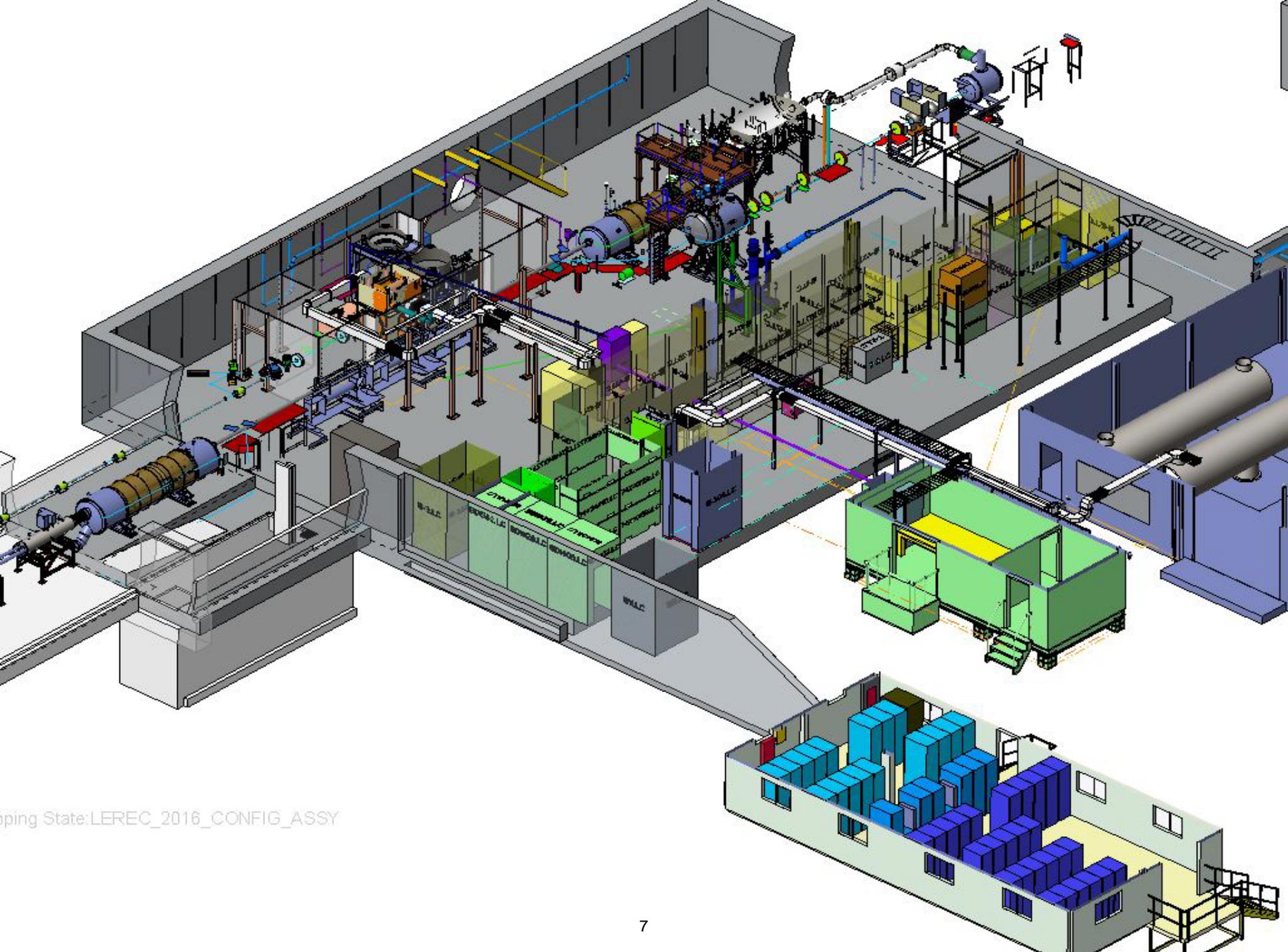
Water so far

	Device name	Heat Load	Rec. dT	Rec. Flow	Cal. Flow	Max Inlet H2O T	Stability	Delta P	Notes
		KW	C	GPM	GPM	C	C	PSIG	
2017	DC Gun Power Supply	19	10	2	7.2	30			Has Power Supply flowmeter
2018	SRF Booster Cavity FPC1 Vac Inner Conductor	0.57	10.8	0.36	0.2	30		30	
2018	SRF Booster Cavity FPC1 Vac Outer Conductor								
2018	SRF Booster Cavity FPC1 Window OD	0.13	0.4	2.3	1.2	30		25	
2018	SRF Booster Cavity FPC1 Air Outer Conductor	0.36	7.3	0.34	0.2	30		30	
2018	SRF Booster Cavity FPC1 Air Inner Conductor	0.09	0.7	0.8	0.5	30		30	
2018	SRF Booster Cavity FPC1 Waveguide and Knob	0.16	1.2	0.9	0.5	30		3	
2018	SRF Booster Cavity FPC2 Vac Inner Conductor	0.57	10.8	0.36	0.2	30		30	
2018	SRF Booster Cavity FPC2 Vac Outer Conductor								
2018	SRF Booster Cavity FPC2 Window OD	0.13	0.4	0.13	1.2	30		25	
2018	SRF Booster Cavity FPC2 Air Outer Conductor	0.36	5.2	0.36	0.3	30		30	
2018	SRF Booster Cavity FPC2 Air Inner Conductor	0.09	0.8	0.09	0.4	30		30	
2018	SRF Booster Cavity FPC2 Waveguide and Knob	0.16	1	0.16	0.6	30		3	
2017	2.1 GHz Cavity (body)	1	1	4	3.8	30		1	
2017	2.1 GHz Cavity (Tuner)	0.4	1	2.5	1.5	30		1	
2017	2.1 GHz Cavity (tuner Port)	0.4	1	3	1.5	30		1	
2017	45o dipole magnet	Air Cooled							
2017	Beam Dump 1 (Test)	10	10		3.8	30			
2017	704 RF Cavity	36	10		13.6	30		4	
2017	704 RF Cavity (Tuner)	2.6	10		1.0	30		10	
2017	9 MHz RF Cavity								
2018	704 RF Diagnostic Cavity								
2018	Beam Dump 2 (diagnostic)								
2018	Beam Dump 3 High Power	130							

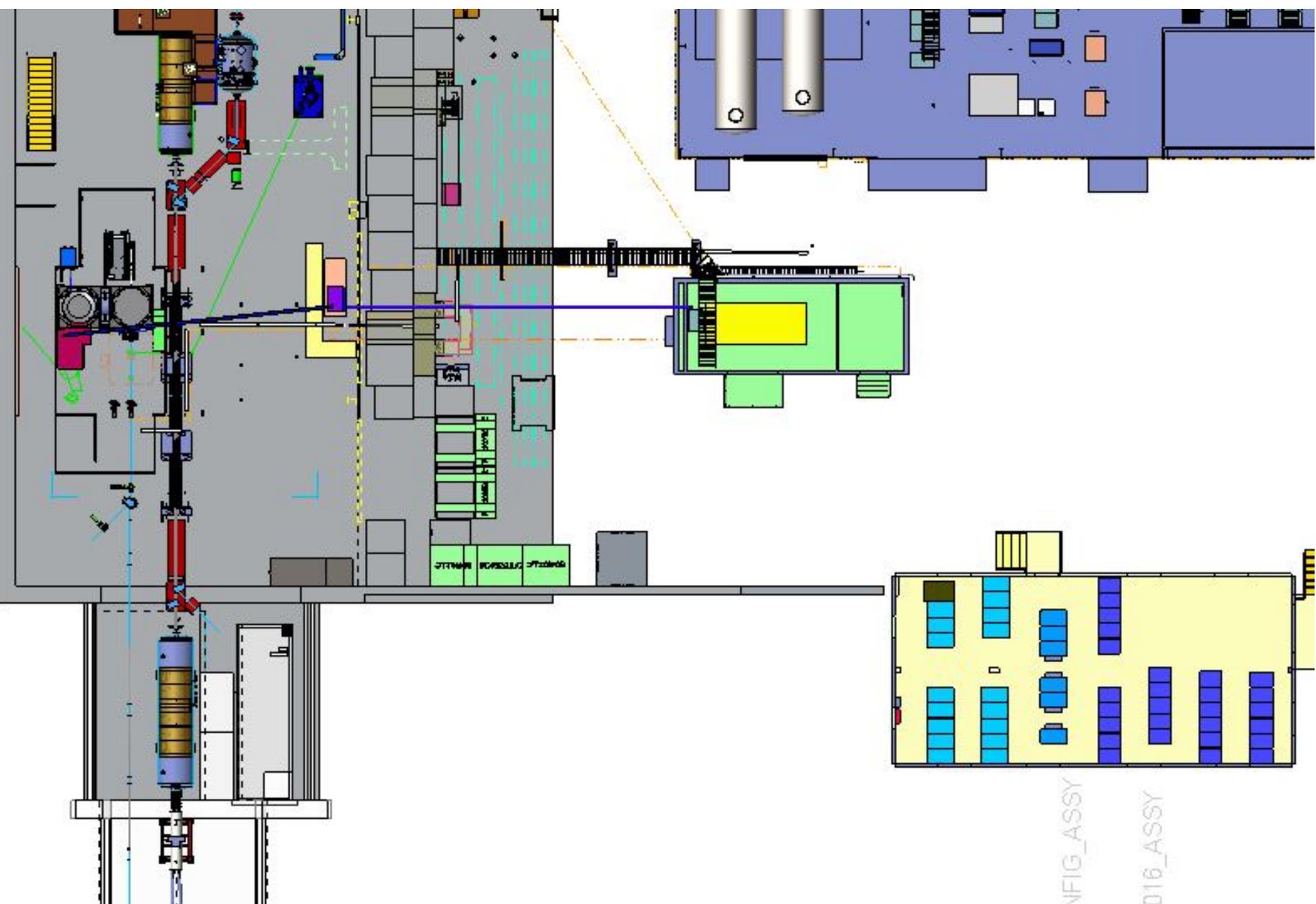


2017 DC Gun & Booster Cavity Installation Layout





Working State:LEREC_2016_CONFIG_ASSY

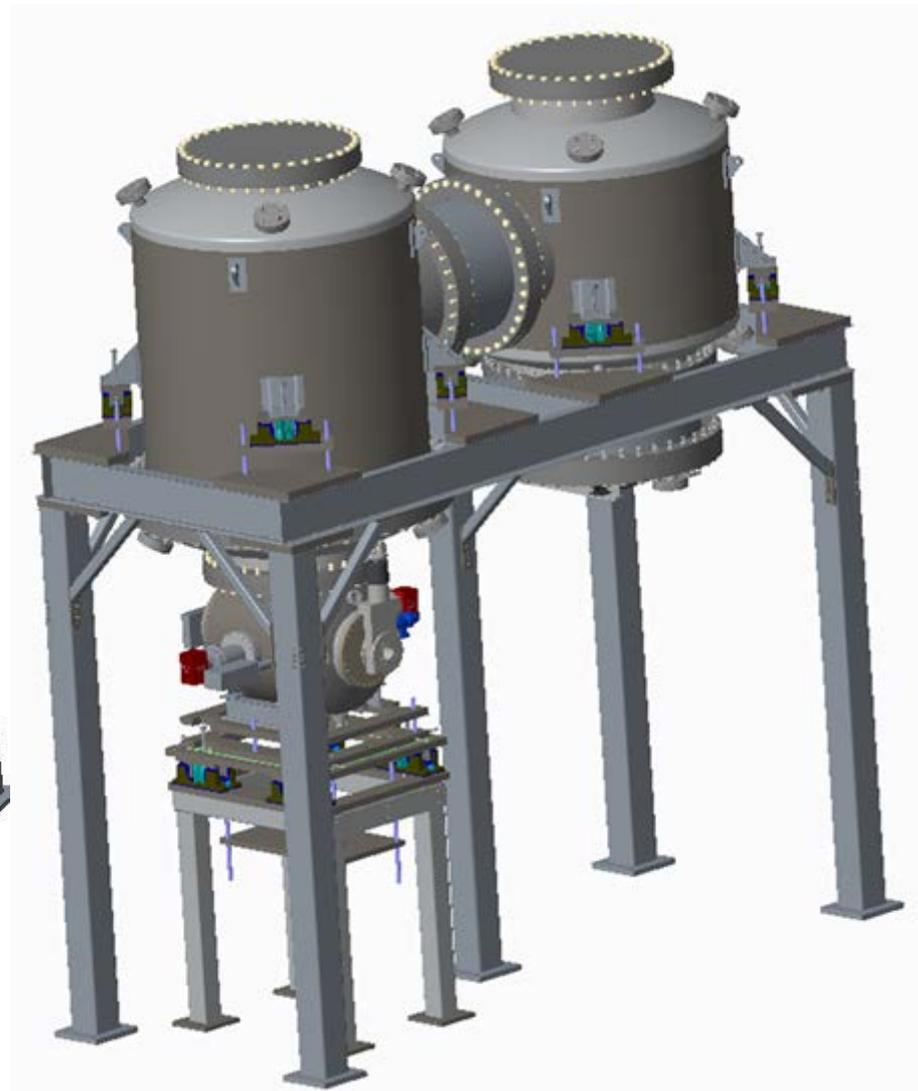
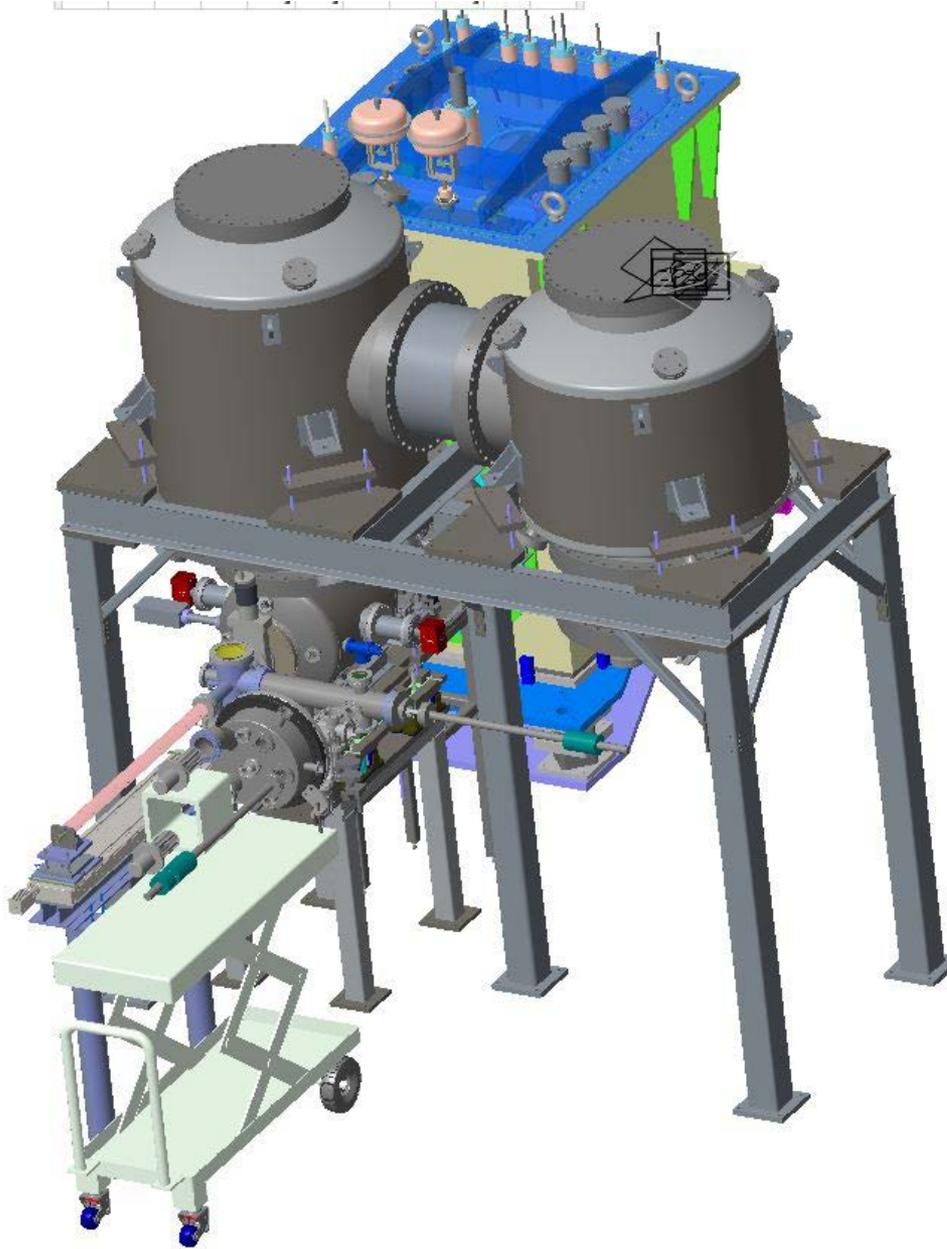


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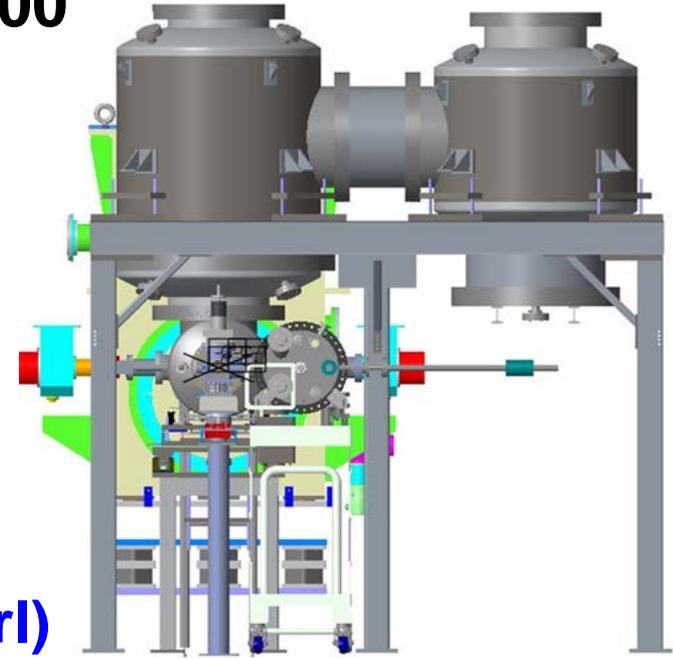
DC Gun Installation at IP02:00

September 12

- Bake out DC gun and establish 10-11 vacuum
- Install power supply support frame.
- Remove bake-out blankets.

September 19

- Assemble components on top of ceramic. **(Karl)**
- Install DC gun SF6 vessel. **(Karl)**
- Install power supply SF6 vessel. **(Karl)**
- Install power supply into bottom of SF6 vessel **(Karl)**
- Install PS to Ceramic resistor (from Cornell) **(Karl)**



Minutes July 18, 2016 DC Gun Assembly and Installation Meeting

- DC Gun Clean-room assembly and pre-survey at BNL

Two versions were presented. From the discussion at the meeting, delivering the DC Gun to 912 is the best approach. Dave's concern about shipping the gun on a small truck re-enforces that the best approach would be to remove the heavy top flange and cathode stalk to reduce stress on the HV ceramics. The 912 cleanroom is the best place to reinstall these components. 912 also provides more elbow room for survey. It gets rid of the concern about building a large and tall temporary cleanroom at 02:00, Mike doesn't have one available.

To be discussed further is whether we should check the survey of the cathode when it reaches the tunnel – another cleanroom set-up.

- Tunnel preparations: power, water cooling, cables, survey, red-heads

PK is looking at the power requirements today and discussed with Jon Sandberg on access controls contactors. Also discussed with Jonathan Reich this morning.

Will meet next week with PK, Joe S., Dave P. and Bob Meier to locate power on the wall, water routes, and cable tray.

- DC Gun installation and survey

John Halinski will provide drawings for red head locations to Frank and Matt. Dave will arrange carpenters. The DC gun and SF6 vessel stands will be shipped separately. They can be sent directly to the tunnel. There will be time to install the DC gun stand before the gun arrives from 912.

- DC Gun vacuum bakeout

Cornell will be using our vacuum blankets. Mike noted that the schedule is optimistic for the time needed for bakeout process.

- DC Gun power supply installation: cables, water cooling, controls, SF6 transfer

SF6 transfer. CJ will work with Chuck Carlson to get support for the transfer.

- DC Gun conditioning

Alexei noted that conditioning in the past has taken longer than 2 .5 weeks, the duration provided by Cornell.



Topics:

AC power (specification and location) Water Cable tray

2.1 GHz Cavity:
 The cavity will be installed next to the beamline to decouple its commissioning from the DC gun commissioning.

