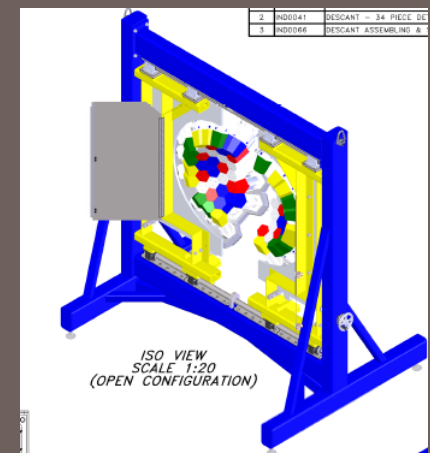
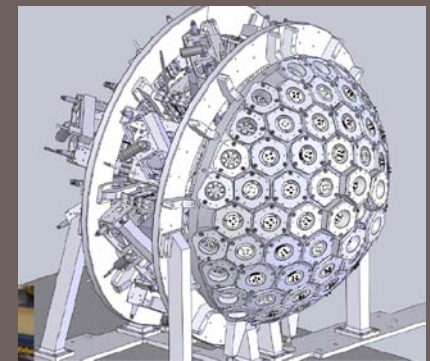


DESCANT space requirements in ISAC-II experimental hall

ISAC Facilities Meeting

October 26, 2011

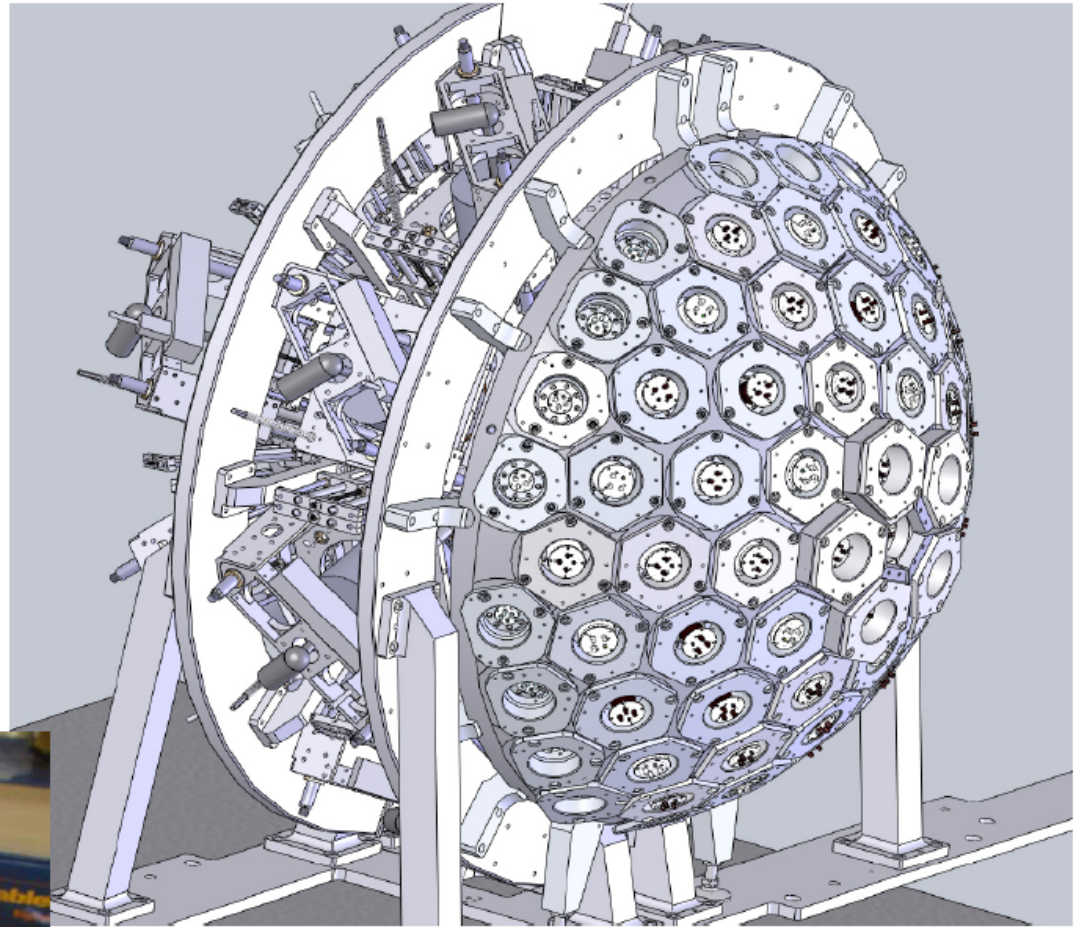
Gordon Ball | TRIUMF





DESCANT array for neutron detection

- New array of neutron detectors based on deuterated liquid scintillator
- Designed to couple to TIGRESS for fusion evaporation studies, and GRIFFIN for β -delayed neutrons
- Commissioning 2012

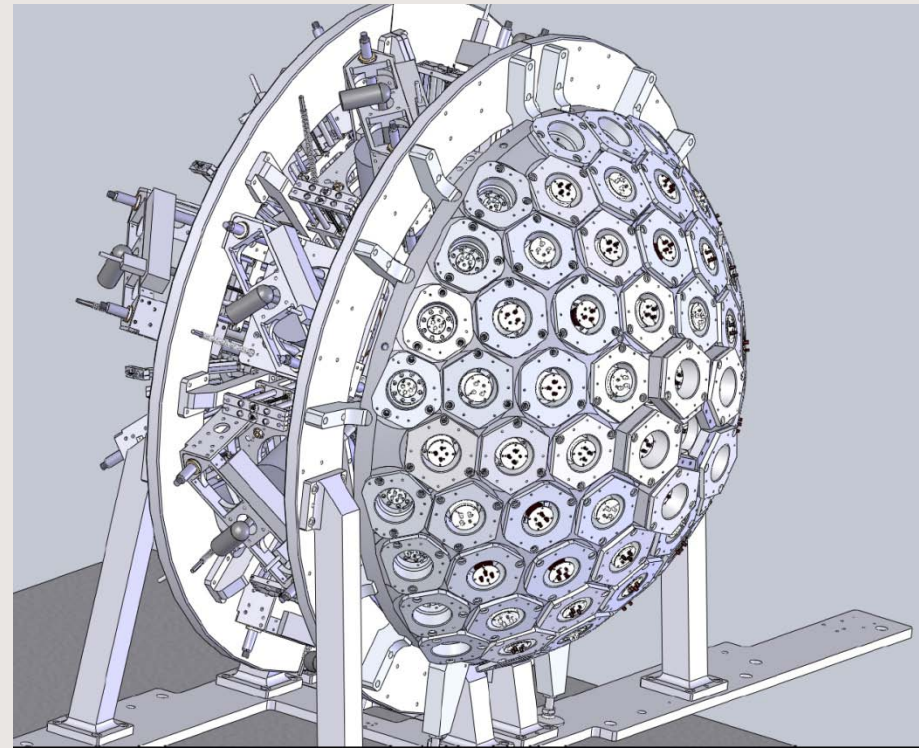


Liquid scintillator detector cans 15 cm deep. 70 ~hexagonal detectors, removable inner rigs to allow for downstream auxiliaries

Each detector contains 1-2.5 l deuterated benzene

DESCANT space requirements

- Storage of DESCANT detectors, support shell, and stand in ISAC-II hall
- Detectors require three 86cm x 95cm fire cabinets mounted to an interior wall for temperature stability
- When not attached to TIGRESS/GRIFFIN, the hemispherical shell requires storage/assembly stand 3m x 2m area.
- Crane shell and attach to TIGRESS/GRIFFIN
- Shell and detectors must be transportable to GRIFFIN in ISAC-I
- Storage for 72 16-gallon drums for detector transportation



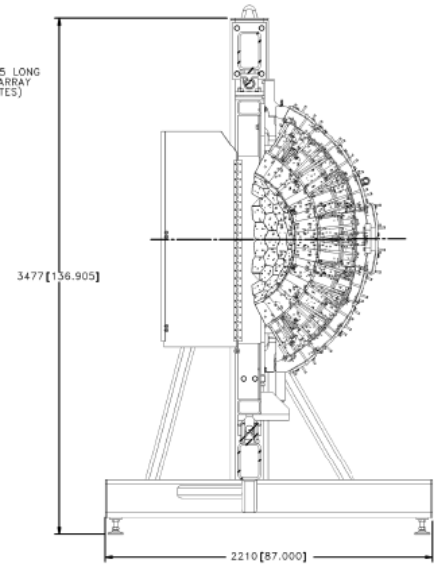
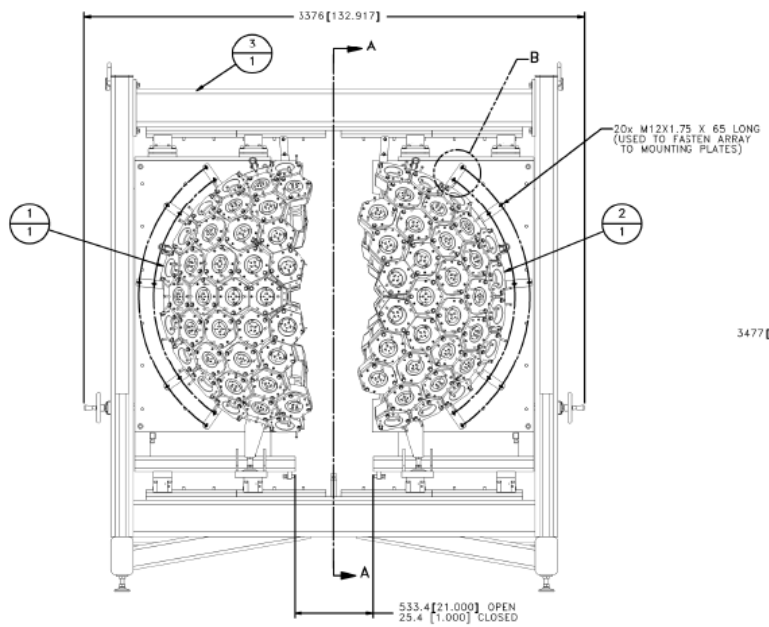
DESCANT Assembly/Storage Stand

ITEM	REF. No.	DESCRIPTION	MATERIAL	QTY
1	IND0040	DESCANT - 36 PIECE DETECTOR SUB-ASS'Y		1
2	IND0041	DESCANT - 34 PIECE DETECTOR SUB-ASS'Y		1
3	IND0066	DESCANT ASSEMBLY & STORAGE STAND		1

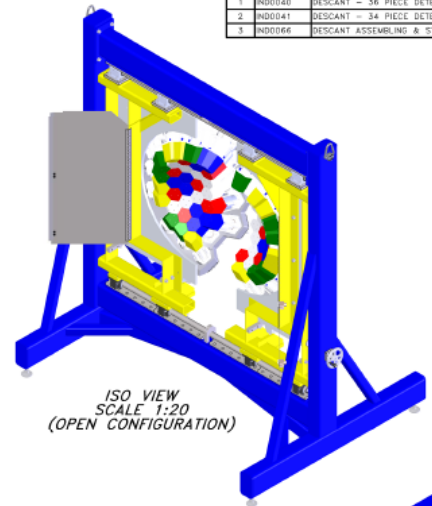
NOTES:
 - APPROX. WEIGHT - 3300KG [7240LB]
 - CLOSE AND LOCK DOORS WHEN NOT IN USE



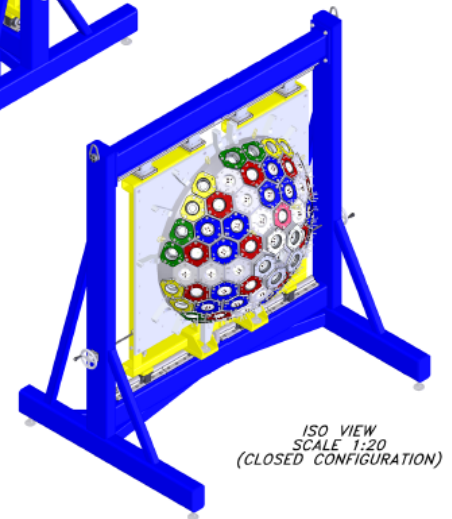
DETAIL B
SCALE 1 : 5



SECTION A-A



ISO VIEW
SCALE 1:20
(OPEN CONFIGURATION)



ISO VIEW
SCALE 1:20
(CLOSED CONFIGURATION)

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 ANY PERSONS WITHOUT PERMISSION IN WRITING
 FROM TRIUMF LABORATORY OR ITS REPRESENTATIVES

REV	DATE	ZONE	REVISION DESCRIPTION	APPROVED
1			DESCANT STAND W/ DETECTOR ARRAY	
2			DESCANT - ISAC II	

TRIUMF
 1800 KESWICK HILL
 VANCOUVER, BRITISH COLUMBIA
 CANADA V6T 1A5

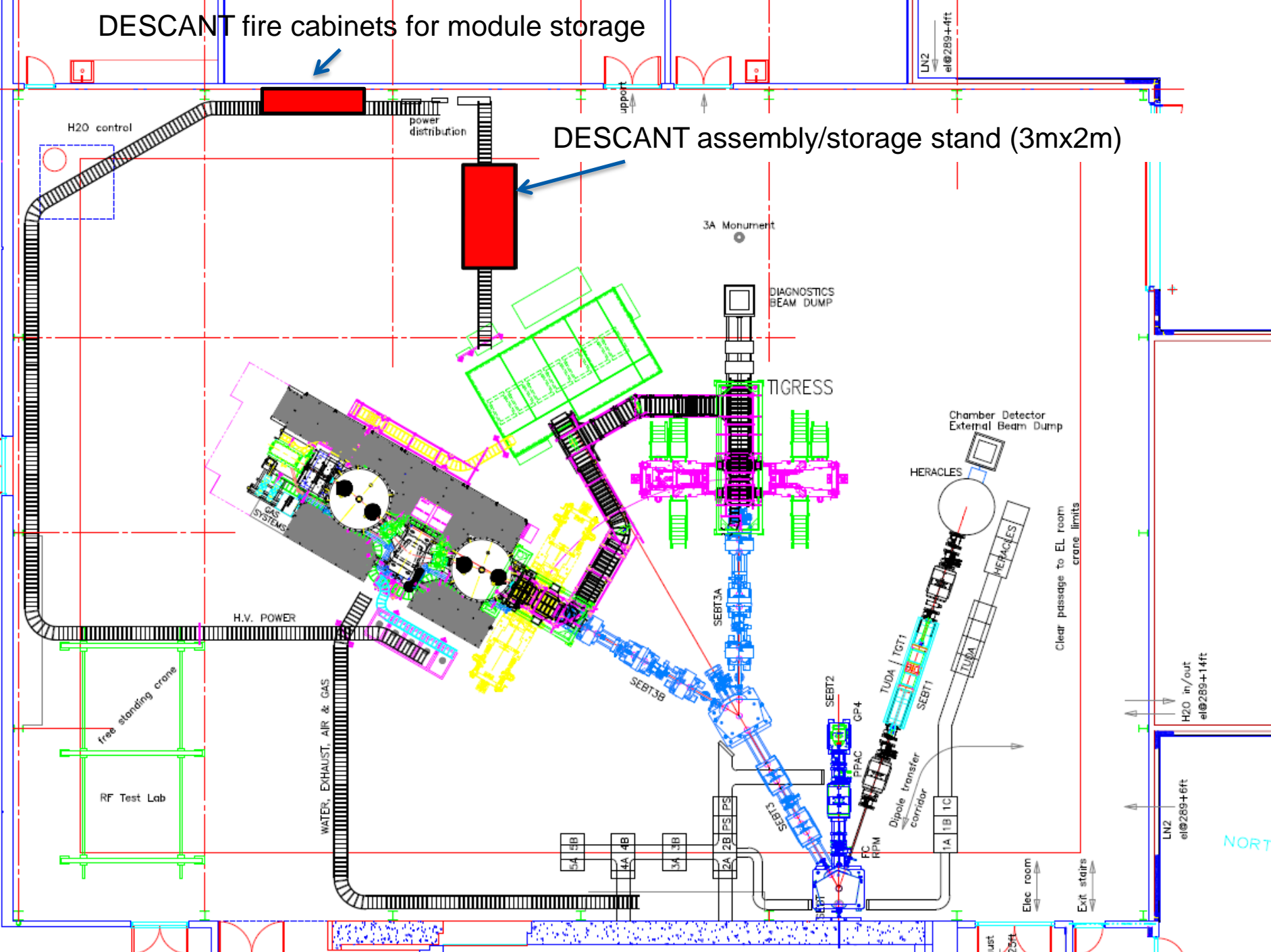
CANADA'S NATIONAL LABORATORY FOR
 PARTICLE AND NUCLEAR PHYSICS

DRAWN: Mike West
 CHECKED:
 DESIGNED: Frank
 SCALE: 1:15
 DATE:

IND0119
 D
 .04

DESCANT fire cabinets for module storage

DESCANT assembly/storage stand (3mx2m)



Clear passage to EL room
crane limits

H2O in/out
el@289+14ft

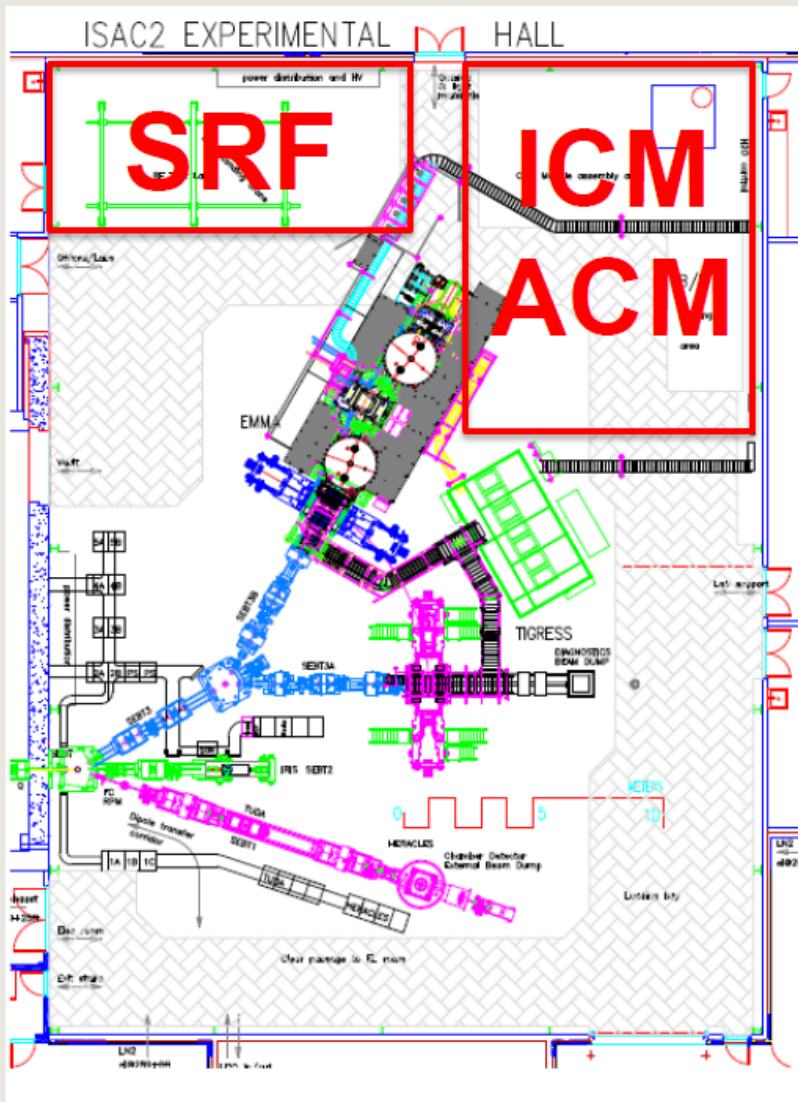
LN2
el@289+6ft

NORTH

DESCANT Schedule

- Support structure out for manufacture (Sept-Dec 2011)
 - design review of assembly and storage stand (Oct 2011)
 - detector modules tested at Guelph (Sept-Dec 2011)
 - delivery of all detector modules to TRIUMF (Dec 2011)
 - fabrication of assembly stand completed (Jan 2012)
 - assembly of DESCANT array (Feb-May 2012)
 - first test experiment (second half of 2012)
-
- CFI project must be completed by Dec 31,2011
 - TRIUMF is responsible for support structure

SRF/e-linac activities space requirements



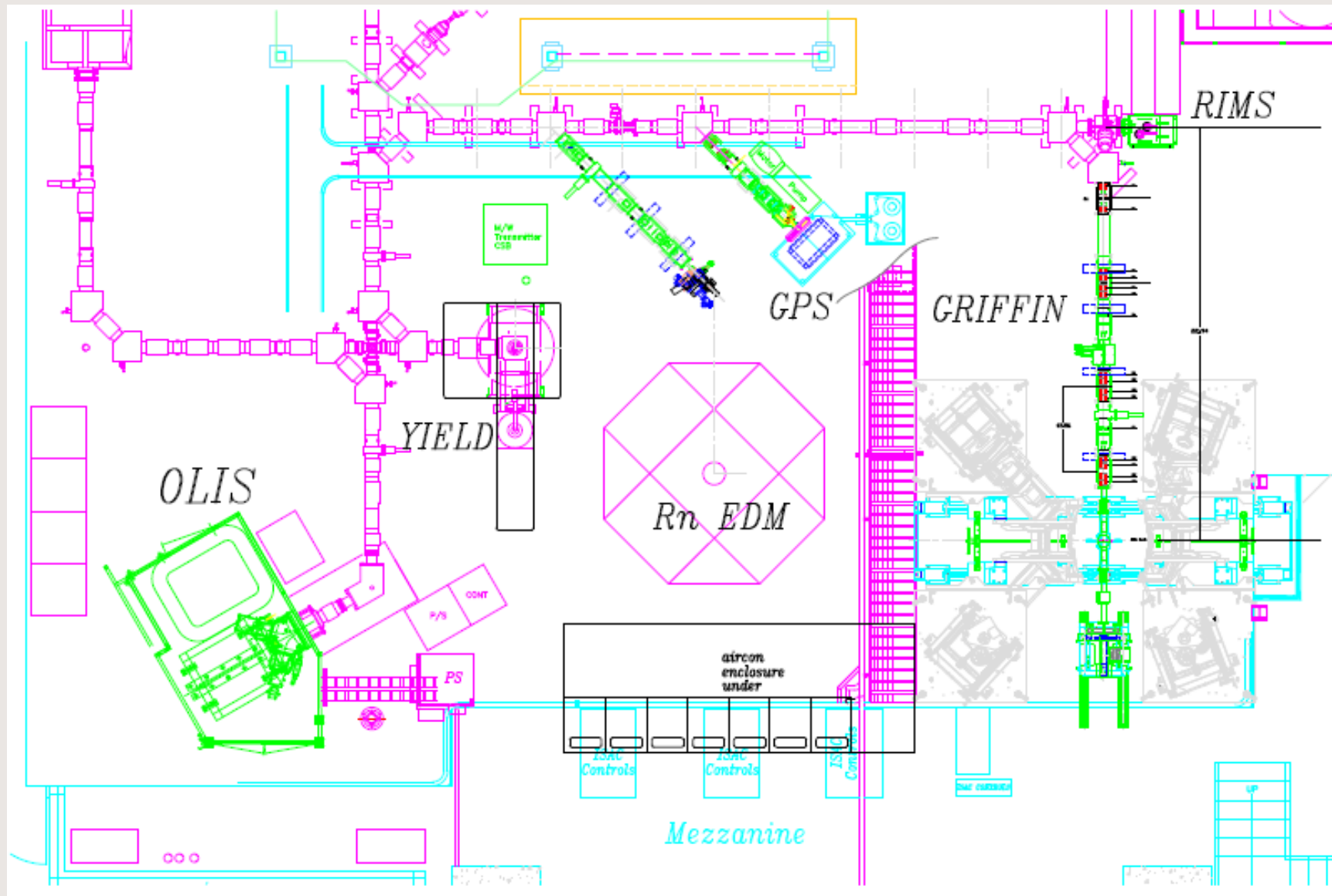
SRF activities (permanent space):

- 1.3 GHz cavity warm tuning
- bead pulling
- 1.3 GHz wave guides test
- amplifier (ISAC II) test and maintenance

ICM/ACM activities (2010-2020):

- ICM (Injector CryoModule) assembly
- ACM (Accelerator CryoModule) assembly

GRIFFIN beamline and proposed relocation of RnEDM and GPS



GPS installation tasks

- Approval of proposed location (outcome of this meeting)
- Confirm optical design (November 2011)
- Submit required REA's (November 2011)
- Installation of existing beamline components (winter shutdown 2012)
- Installation of electrical services and controls (spring 2012)
- Design and fabrication of upgraded tape transport system (summer 2012)
- GPS commissioned and ready for running (fall 2012)