LHC Injectors Upgrade

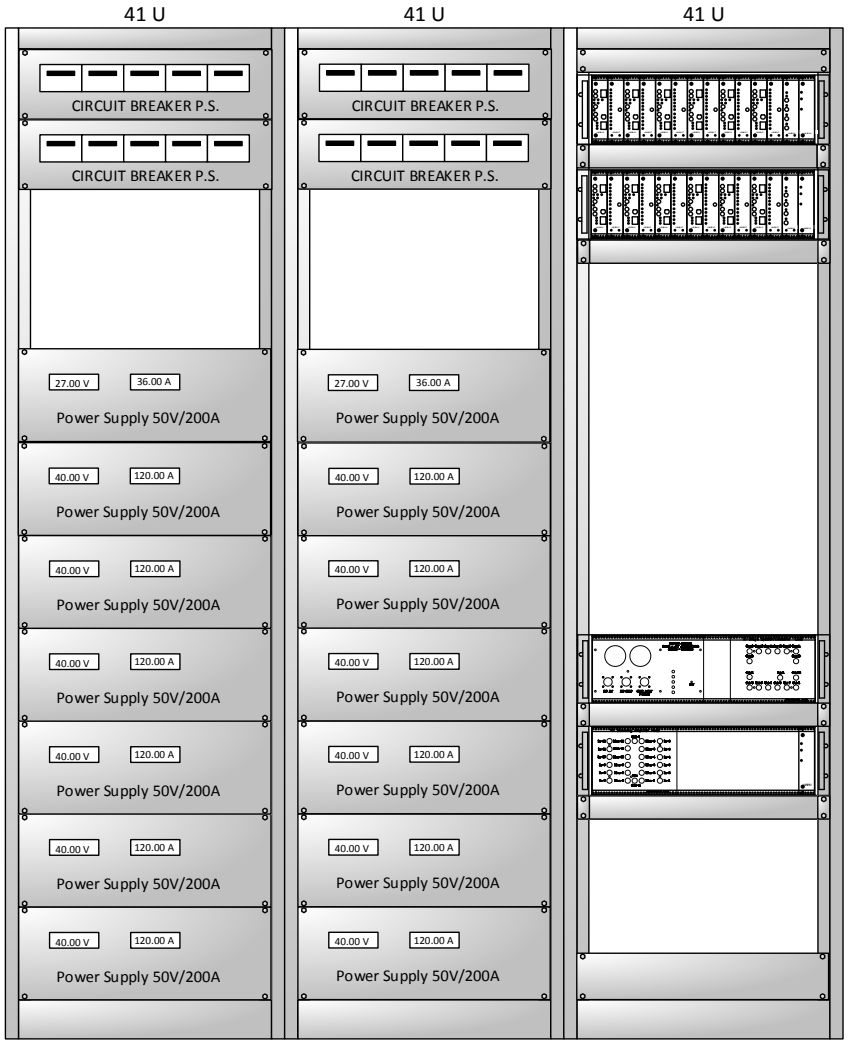
PSB Finemet Cavities LS2

Rack Space Request

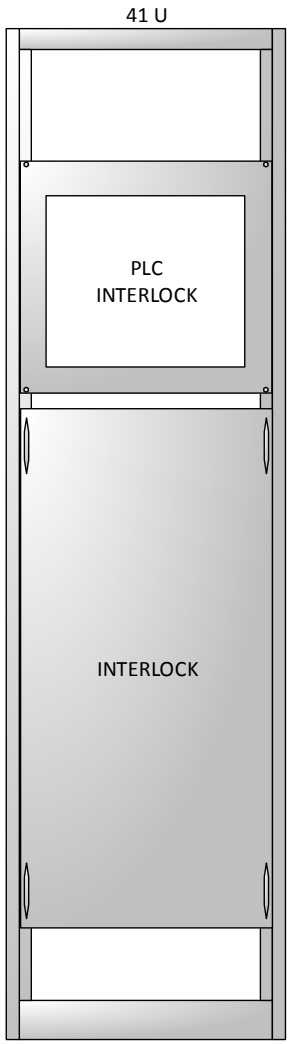
4 June 2015 M.Haase

CERN

FINEMET RACK NEEDS



Power supplies, Controls and RF part for one Cavity



PLC one per Period

FINEMET RACK NEEDS

- In total we need 39 racks for 12 Cavities
- 24 Racks for the power supplies
- 12 Racks for the control and monitor chassis and RF pre-driver, splitter and combiner
- 3 Racks for the INTERLOCK (PLC)

Problem: VOLTAGE DROP

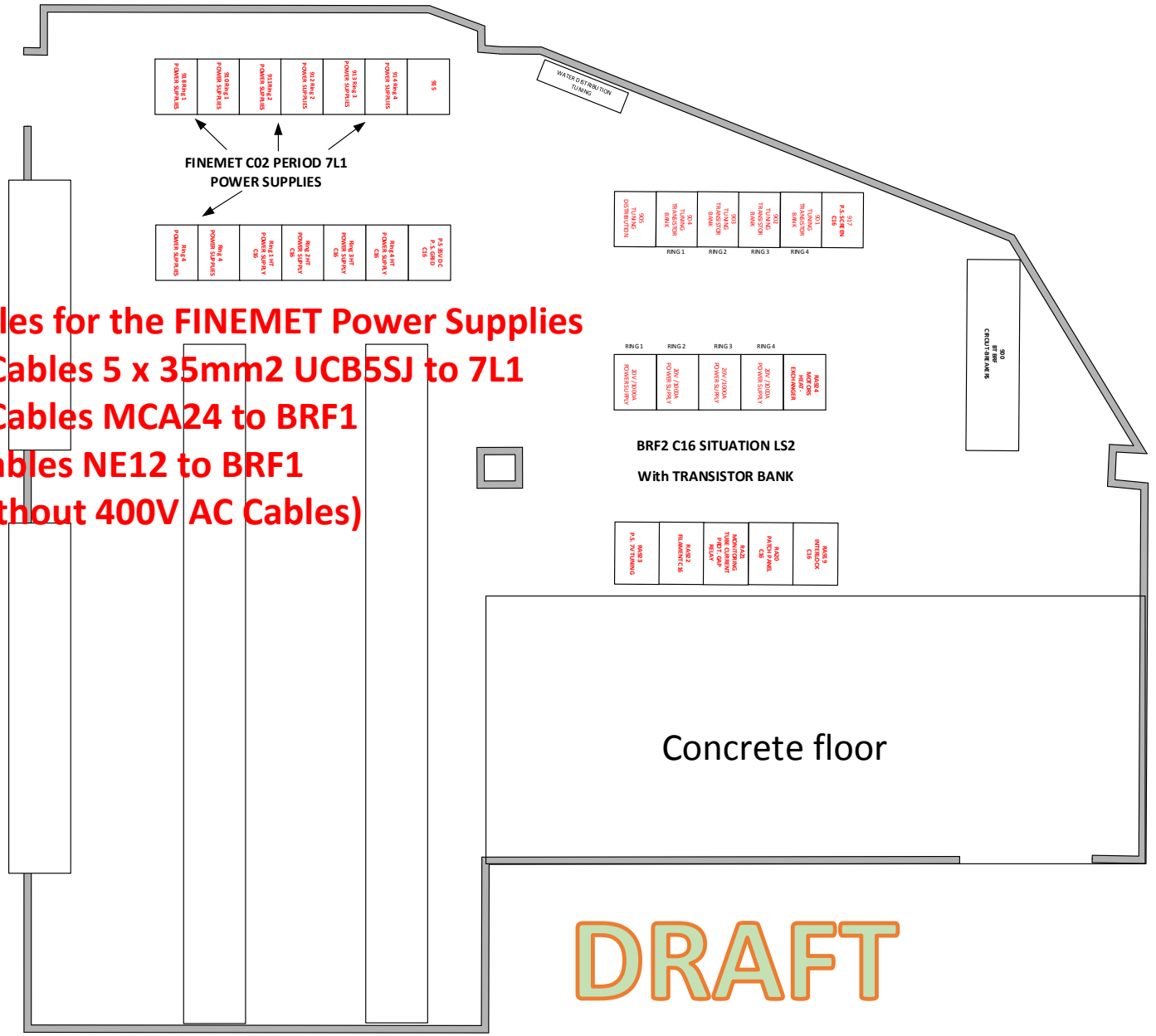
- Especially for the Period 7L1 the distance from BRF1 to the Ring is too long ca. 100m, (power lost in cable ~18%).
- Different Solutions:
- Installing the Racks for the Power Supplies in BRF2 distance to the ring ~70m (power lost in cable ~13%)

  or
- Installing the Racks for the Power Supplies in BAT distance to the ring ~40m (power lost in cable ~7%)
- For the Period 10L1 the distance from BRF1 to the Ring is ~60m (power lost in cable ~11%)
- Perhaps we can also find a place in the BAT (~40m)
- For the Period 13L1 the distance from BRF1 to the Ring is about 40m
- Cable length must be checked by Georgi

BRF 2 Layout today

DRAFT

BRF 2 LS2 with Finemet Power Supplies C02 7L1



Cables for the FINEMET Power Supplies
48 Cables 5 x 35mm2 UCB5SJ to 7L1
48 Cables MCA24 to BRF1
8 Cables NE12 to BRF1
(Without 400V AC Cables)

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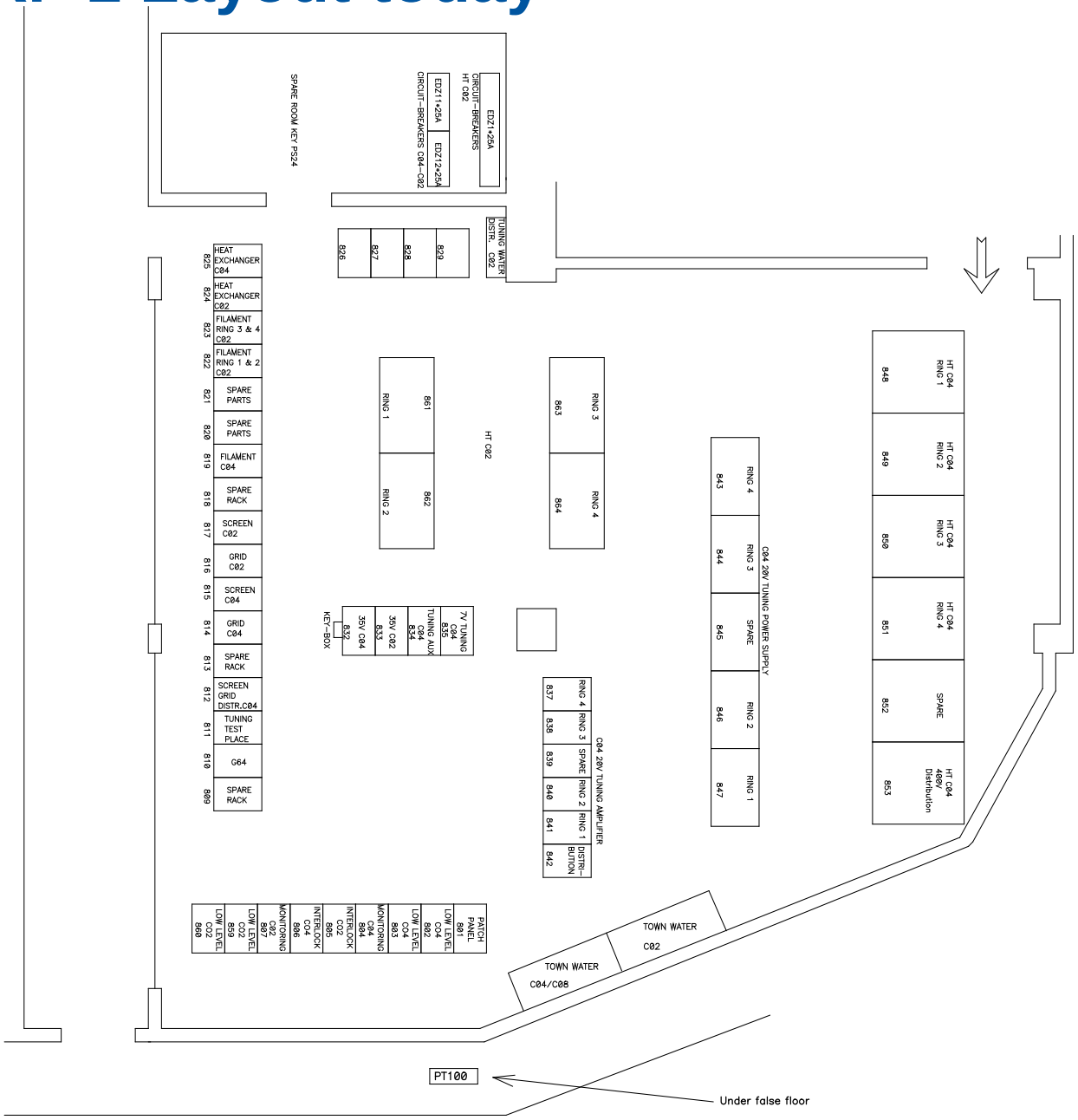
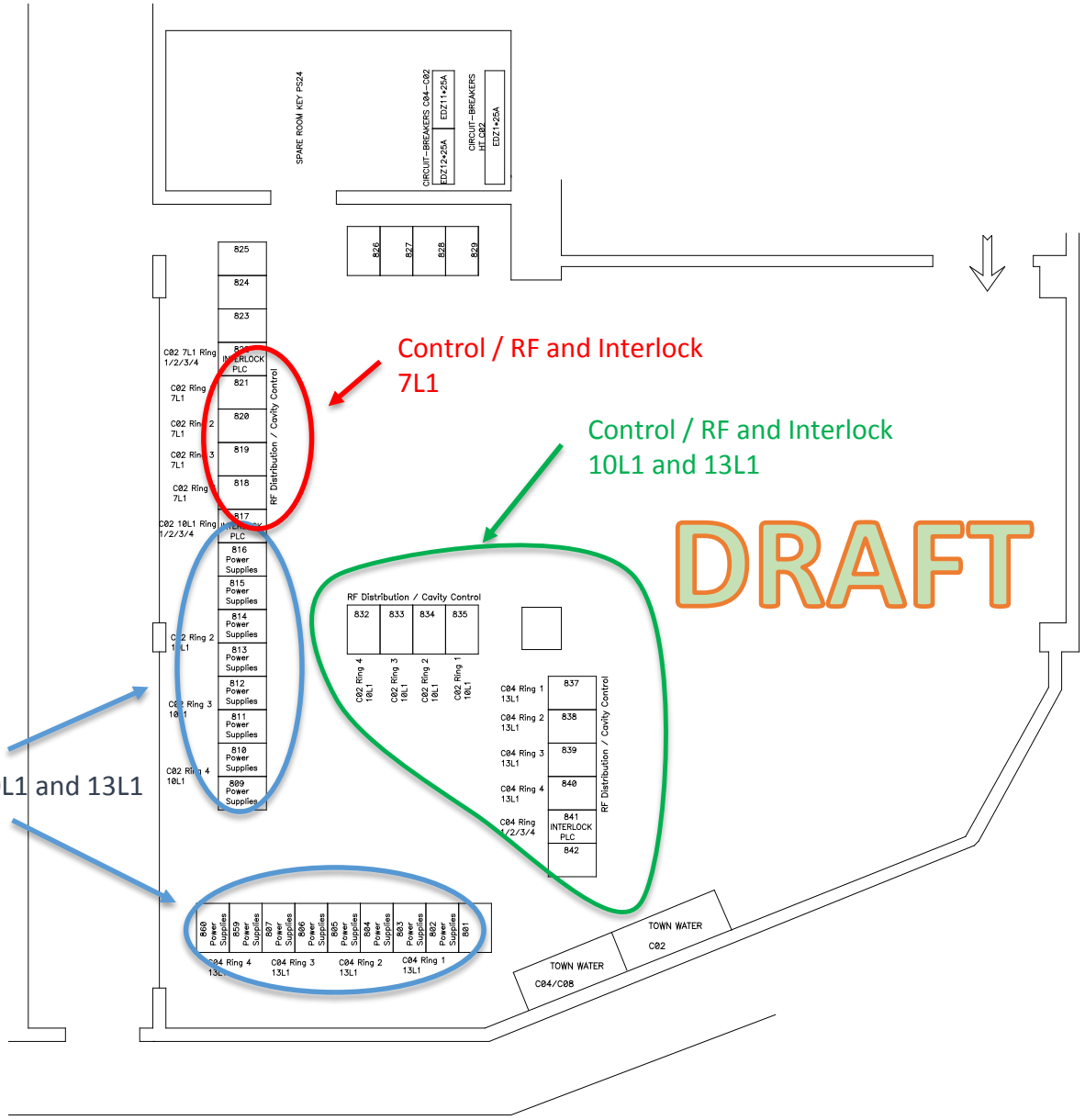
BRF 1 Layout today



BRF 1 Layout LS2



Control / RF and Interlock 7L1

Control / RF and Interlock 10L1 and 13L1

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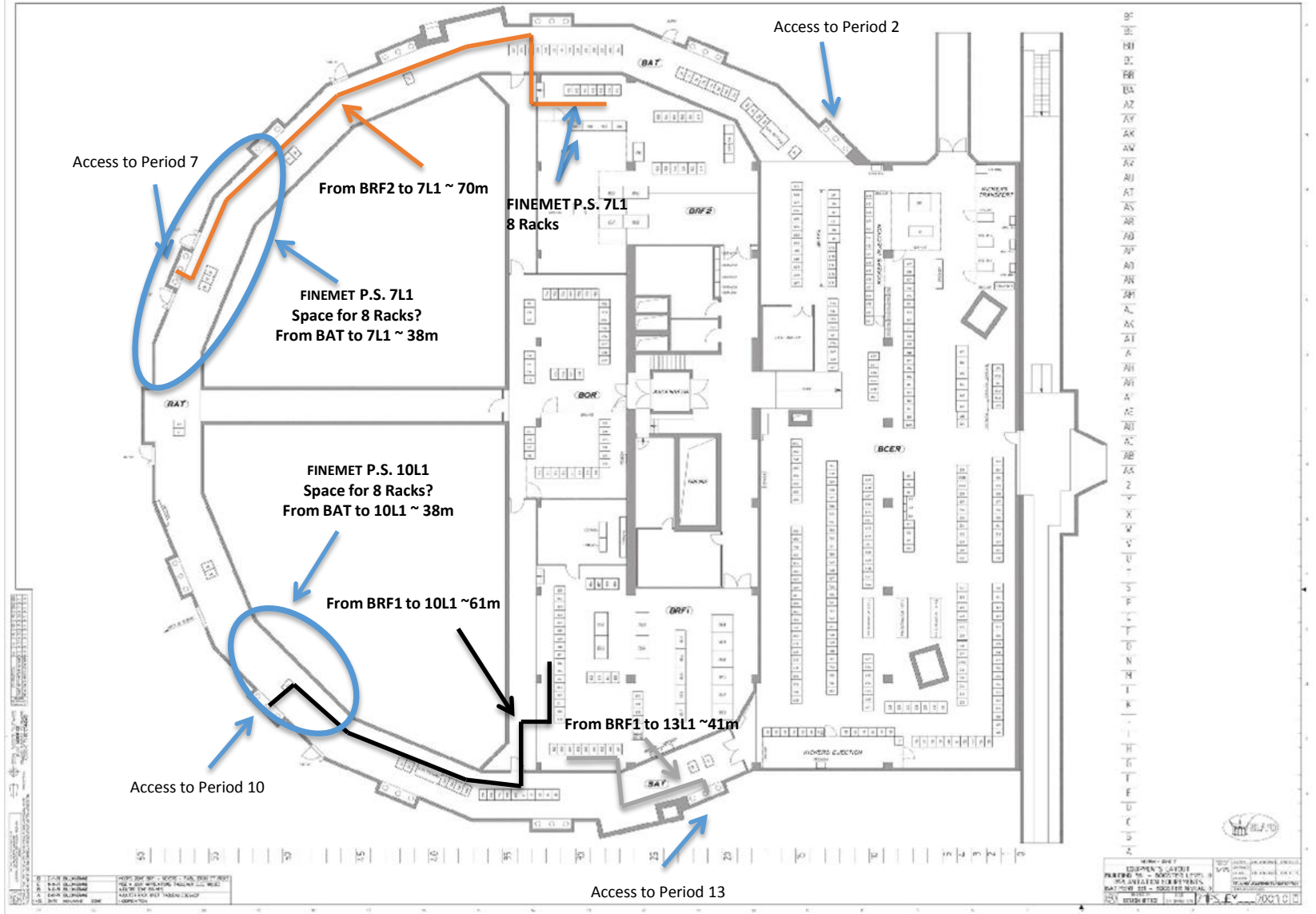
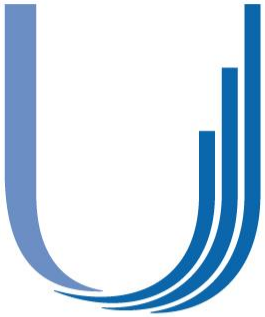
Power Supplies for 10L1 and 13L1

Booster 361/1





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THANK YOU FOR YOUR ATTENTION!