

# ArgonCube UG Electrical Distribution

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## ArgonCube Electrical

- Spent an hour or two with Dave Featherston yesterday underground
- Dave has a plan (next slides); if we iron out details, we could get an electrician UG next week to make first rough estimate

## ArgonCube Electrical (continued)

- Dave was worried that the number and size of conductors and conduits would not meet current electrical code
- We might be able to grandfather in what was already there, but...
- After some thought, Dave said a more reasonable plan was the following...

## ArgonCube Electrical (continued)

- Disconnect the conductors between the 200 A circuit breaker panels and the wireway
- Instead, put two subpanels on the lower level and another two on the upper level, each subpanel fed from a 100 A breaker (and supplying power to 3 racks)
- The subpanels then would have "short" runs to the racks, in some cases reusing existing wires

## ArgonCube Electrical (continued)

- This also has the advantage that we could concentrate on the lower level downstream subpanel to get power to the MINERvA racks, and then the lower level upstream subpanel for servers and networking
- Dave thinks he can stay below the \$10K limit for the first subpanel so he can use “single source” instead of going through procurement

## ArgonCube Electrical (continued)

- One problem: needs access to front of subpanels and keep-away zones in front of them. This means no cable trays in front, and may alter spacing of racks slightly
- There is already an obvious location on support beam for upstream subpanel; a similar location downstream of all racks exists but a section of cable tray would have to be removed
- I think this is downstream of detector, but would like to check UG with Howard

## ArgonCube Miscellaneous

- Existing EPP panel on west side is 60 A; was fooled by 40 A main breaker switch. The EPP panel is integrated with a transformer and the 40 A was for the 208 V input to the transformer, not the output.
- We also talked about putting a new EPP panel on the east side. Dave did not see any obvious problems with that except money.

## ArgonCube Miscellaneous (continued)

- Also, looking at the old east panel that powered MINERvA originally, it looked like the power went over the ceiling back to the west side and then circled all the way around the downstream end of MINOS and back to the MINERvA platform! Need to check this, but this might be used to our advantage for (more) 3-phase 208 V, either on the west side or the east side