DAQ/SC Installation plan and interface milestones

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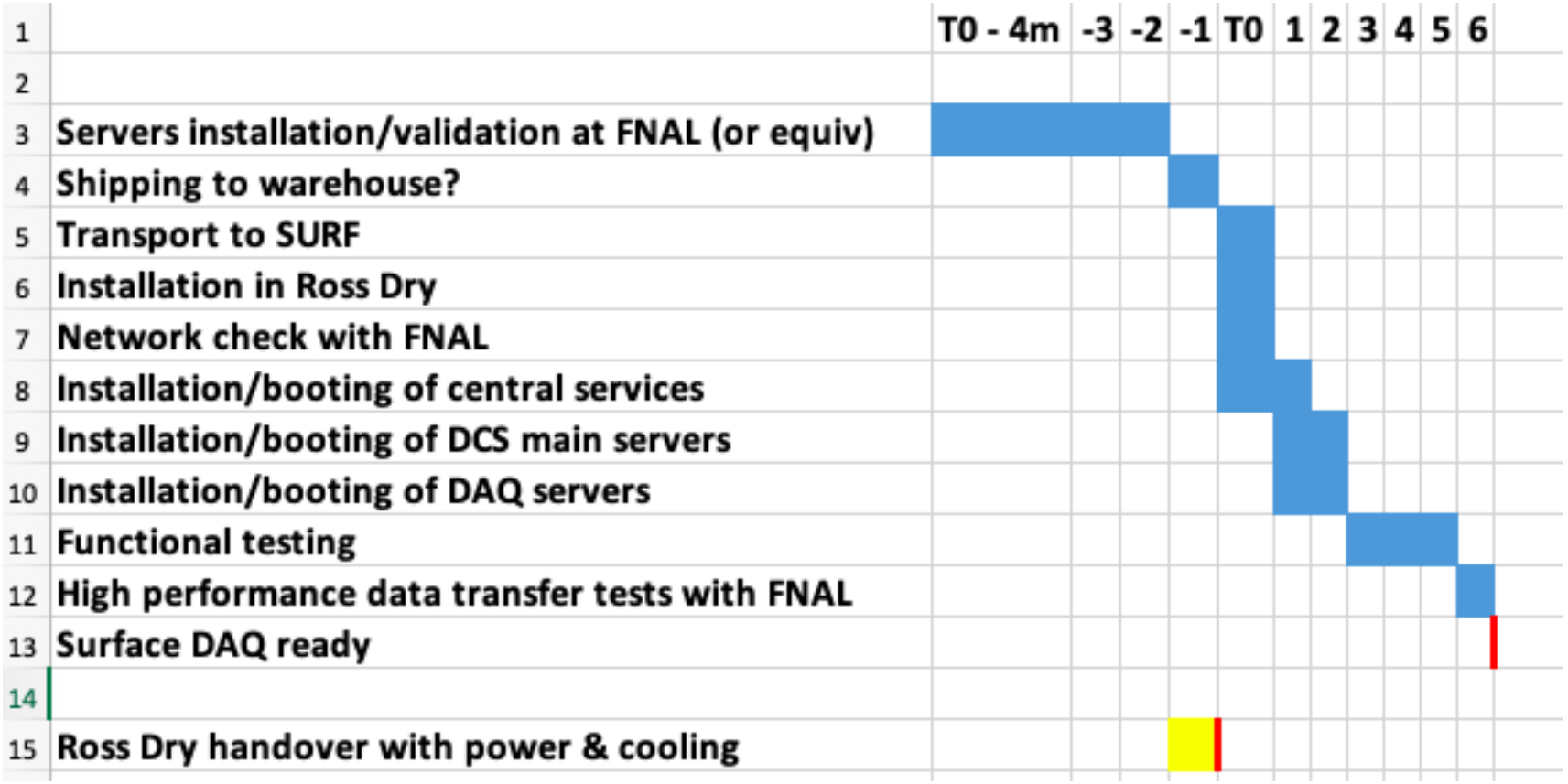
FS Installation/Integration Planning

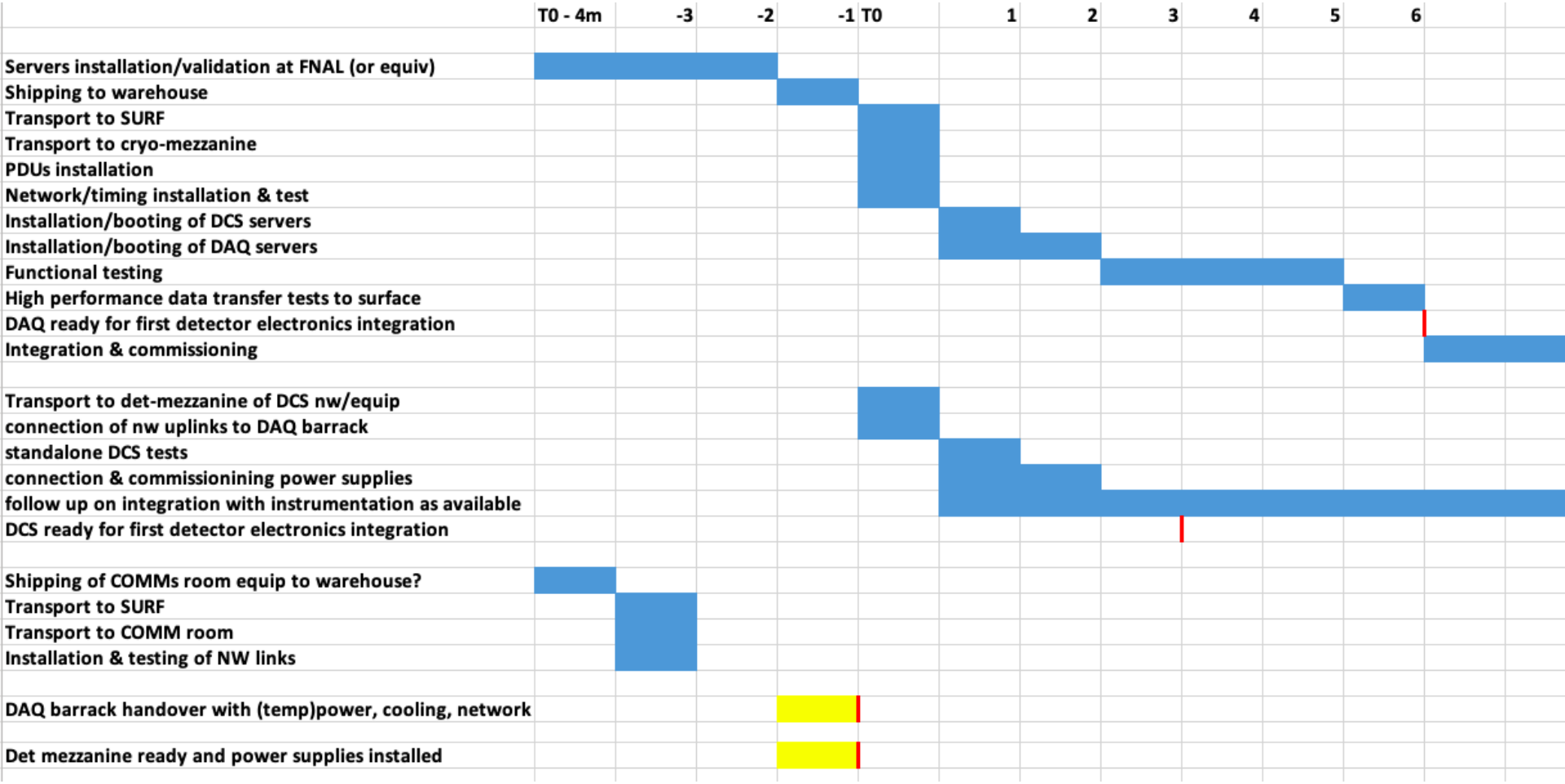
February 3rd 2020

Installation plan - Surface

- Very first pass



Installation plan - Underground



Rehearsal installation at PD II

- Plan a complete re-installation of DAQ HW at PD II in Oct 2020
  - Layout and inventory in DB
  - Labeling
    - Opportunity to exercise DUNE UIDs? QR codes?
  - Hardware installation @ connection
    - Trial run – tools, procedures, time
  - OS installation and servers' configuration
    - Trial run – tools, procedures, time
- Of course we are still in a simplified environment
  - Local setup
  - Network handled by CERN and already available
  - All edge fibers already pulled

Rehearsal integration at PDII

- Timing/data interfaces all to be tested in labs by Q4-2020
  - In PDII by Q1-2021?
- Software integration by Q1-2021
  - Steady running with det software included by Q2-2021
- Main running modes to be defined by Q1-2021
  - Impact on data formats and offline!

DAQ/SC Integration - HW

- Mechanical:
  - Racks are the interface (+ correctly cooled and clean rooms)
- Electrical:
  - DAQ
    - Power distribution at racks level || PDUs; no connection to det ground
  - SC
    - electrical distr on det mezzanines || 24V distribution for ctrl instrumentation?
    - On det ground, thus subject to all noise control measures
- Cooling:
  - We provide DAQ specs
- Cable trays:
  - Cable trays provided up to racks level

DAQ/SC Integration - HW

- Fibers:
  - Underground fibers connected to DAQ purchased by DAQ
    - validation of all fiber runs by whoever is installing or by us?
  - Connection DAQ/COMM room to be designed
  - Connection det/DAQ: 2 patch panels along each path (on cryo top + in DAQ rack)
    - Actual cabling outside DAQ barrack to be agreed upon
- Other cables (SC) still to be refined:
  - Responsibility of other consortia up to SC devices?
    - E.g. Power supply cabled, SC takes over for network connection?
    - E.g. control signal cables up to device, SC takes care of connections

DAQ/SC integration - Signalling

- DAQ
  - timing & synchronous commands
  - data from electronics to DAQ
  - ethernet for CCM
- SC
  - Ethernet
  - 4-20 mA , 0-10V analog signals
  - digital logic (thresholds crossing, interlocks, trips, …)

DAQ/SC Integration - SW

- Bulk of the interfaces for DAQ and SC
  - I'll spare you the details for this meeting….

Status of integration docs

- Docs with CE well advanced
- Docs with PDS still several open questions
- Doc with HV to be revised, but content cleared
- Docs with CALCI in embryonic state
- Doc with COMP, general but fairly complete
- Docs with Facility to be revised