# **Toward FD2 PDS Final Design Rewiew**

# Guidelines (discussion at FD2 PDS FDR internal kickoff mtg)

INPUTS from Mary B. (Review Office Chair) reported somehow in order of importance:

- Completeness of Documentation [mechanical and electrical]
  - Compliance Office Evaluation may come later (acceptable if not complete)
- Integration&Installation in Module-0 within schedule: Primary importance and focus of FDR on achievement.
  - Lesson learned from Module-0 (operation) and incorporation in Final Design not expected (no operation and no time given by schedule). If Module-0 installation successfully achieved, important proof of lesson learned on fabrication, integration, assembly.
  - Tests in Cold (and Warm) from new test set up: No Module-0 operation is expected by the time of FDR. Showing (instead) validation from Cold tests of full Module+Electronics(PoF&SoF) prior to installation will be highly valuable - proof of lesson learned on detector Design.
- QA/QC plan & Documentation: if not fully completed, show availability and engagement of Groups (at this 90% Review detailed plan not strictly needed)
- Interface Documents, Risks Assessment Document, high level Schedule and Cost Documents need to be in order.
- Presentations at the FDR Review should be technical showing component choice based of goal or spec to achieve. [Several short talks can be given instead of longer general talks - need to discuss with Chair of Committee and agree on this]
- Chair of FDR Committee: J. Spalding.
- Members of FDR Committee: tbd (presumably from CERN and DarkSide)
- Dates of FDR: April 18 to 20, 2023 at CERN (in person with opportunity of Zoom connection)
- Charge of FDR: in preparation (similar but not identical to FD1 PDS FDR Charge)

## - SUGGESTIONS:

- Do NOT present OPTION A and OPTION B. Use instead "Baseline Design" and "Risk Mitigation Opportunity" (e.g. two-vendors, possible lower cost, simpler installation,...
  - *Warm Electronics (Digitizer): DAPHNE ??* HD-Modified-DAPHNE ?? Other solutions ? Define Baseline Design (and justify choice)
  - HD-style or VD-style CE (signal conditioning stage) for Membrane modules.
    Define Baseline Design (and justify choice) [2 CE types will not be seen favorably]
- Clarify unresolved items/components from PDR (May 2022)
  - DC-DC converter
  - Fibers (for PoF and SoF)
  - Mitigation of light leakage and Optical Noise (PE background)
  - ... any other item from PDR recommendations

### Notes from the meeting (Mon. Feb. 13):

Repository for Documentation (in color active links)

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Prototyping and development	FD2 PDS Doc's in EDMS
Photon Detector Reviews	
PD Electricals	collection of all relevant FD2 PDS
Installation Documents	Documentation
Production Documents	
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Cost/Schedule Documents	
Engineering Reports	



#### FD2 PDS Final Design Review in EDMS

FD2-VD project/Technical Reviews/FDR/PDS Final Design Review

FD2 PDS Final Design Review in EDMS

just created, empty for now

(The list of documents required by Review Office is in preparation)

Documentation provided at the PDR (May-June, 2022). Presumably similar lists of Documents are due for the FDR

FD2 PDS Preliminary Design Review in Indico

Talks at the Review

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2723818 (v.1) Review Document List						
2731245 (v.1) ColdBox 1 Lessons-Learned						
2733252 (v.1) Interface Document Summary						
2734605 (v.1) Answers to Questions From Previous Reviews						
2741858 (v.1) FD2 PDS Preliminary Design Review Questions and R						
2746640 (v.1) PDR Review Answers: Cost Table						

#### FD2 PDS Preliminary Design Review in EDMS

FD2-VD project/Technical Reviews/PDR/PDS Preliminary Design Review Documentation

Preliminary Design Review Documentation in EDMS\_

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2088726 (v.4) PDS and JT DAQ Consortia Interface Documents						
2088726 (v.5) PDS and JT DAQ Consortia Interface Documents						
2648555 (v.1) ICD FD2 VD Consortia PD Specific Appendix						

Technical Documentation in EDMS

(Interface Docs)