

Review Office

Steve Kettell

LBNF/DUNE Installation Retreat

2–4 February 2020



What is the Review Office

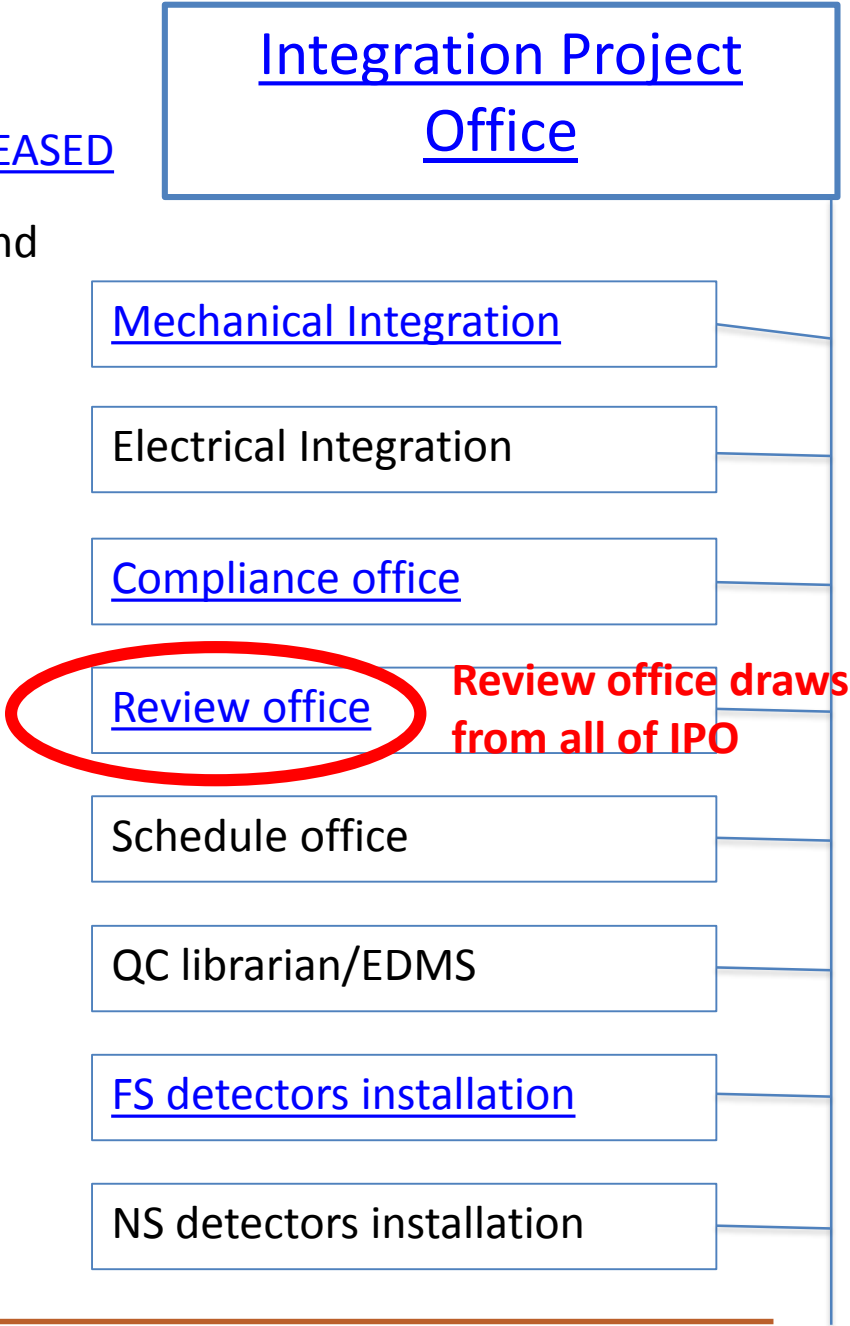
https://edms.cern.ch/document/2173197/LAST_RELEASED

The Review Office is part of the Joint Project Office and reports to the Project Integration Director.

Reviews organized by the Review Office

- Final Design Review (FDR)
 - Production Readiness Review (PPR)
 - Installation Readiness Review (IRR)
 - Operations Readiness Review (ORR)
- + progress reviews

The Review Office works with the DUNE TC, LBNF PM and DUNE Consortia leadership teams to organize reviews and the followup to those reviews... FDR recommendations must be signed off by the Review Office before proceeding to a PRR. Before significant funds can be obligated for production purchases, the DUNE TC or LBNF PM will verify that PPR recommendations have been signed off by the Review Office.



Who is the Review Office

The Review Office members consist of

- Steve Kettell
- Sam Zeller
- Philippe Farthouat

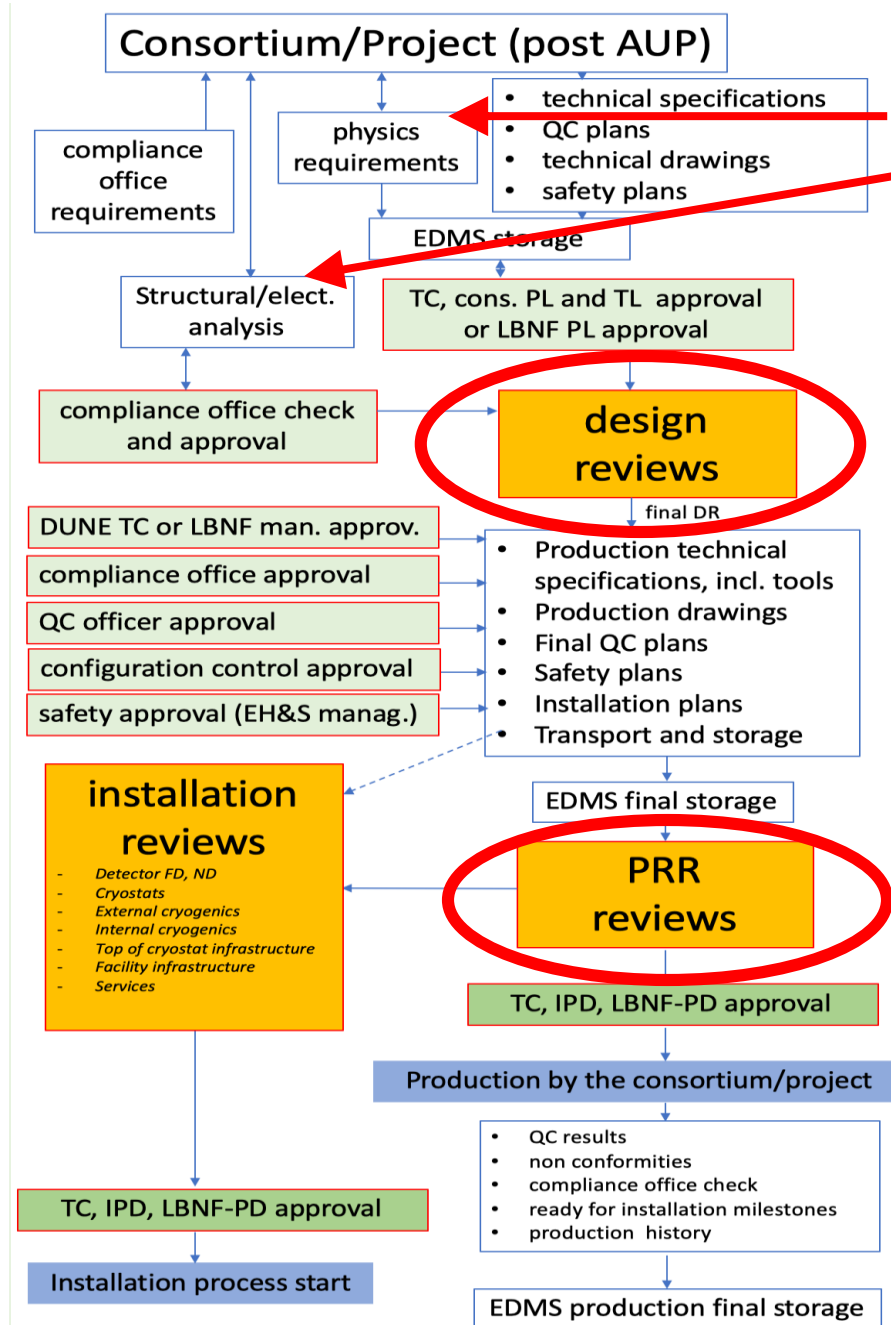
We rely heavily on and coordinate closely with the entire integration team:

- Systems Engineering
- Compliance Office (CO)
- Quality Assurance
- ES&H
- Coordinate closely with CO on mechanical and electrical design safety (EDMS-204072)
- We draw on scientific and technical personnel within and from outside the collaboration

- We work closely with consortia and LBNF subsystems managers.
- We have accomplished quite a few reviews for ProtoDUNE and have now initiated several Preliminary Design Reviews for LBNF and for DUNE.
- We expect to move to the first FDRs and PRRs this year.

- Our mandate is for full system FDR, PRR, IRR and ORR; but if you want us to help organize other reviews, please let us know — we have been doing many PDRs for example

Overall review process



- Verify requirements
- Insure engineering design safety via CO
- Verify model and drawings
- Verify interfaces
- Update manufacturing plans, QC plans, installation plans, safety plans
- Review schedule, risks resources

Review schedule

<https://edms.cern.ch/document/2303959>

EDMS Home Favourites Inbox Caddie approval process Settings

Navigator
No active tags.

- LBNF/DUNE
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 - DUNE
 - LBNF-Cryogenics
 - LBNF-Cryostat
 - LBNF-Beam
 - 2173197 (v.2) Review process organisation
 - 2303959 (v.2) Review Schedule
- Schedule office
- QC librarian/EDMS
- Far Site Installation
- Near Site Installation
- SDSD Project Office
- 2302829 (v.1) Approval process

2303959 v.2 In Work Public access
Review Schedule by STEVE HERBERT KETTELL

Created on 2019-1
Last Modified on 2020-0

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Info

Description: Links to Review Schedule

External reference:
Keywords:

Details

Local administrators: List of Administrators

Context: CENF-LBNF-DUNE
CENF-LBNF-DUNE

Equipment code:
Release procedure: DOC-OWNER
Simple document release procedure

Associated Links: <https://indico.fnal.gov/category/586>
<https://web.fnal.gov/project/LBNF/ReviewsAndAssessments>

This page <https://edms.cern.ch/document/2303959/2>

Files

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Name	Size	Last modified date	Last modified by
2020-Reviews_preliminary_schedule.docx	17.3 KB	2020-01-30 06:54:32	STEVE HERBERT KETTELL

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More info

Past Reviews

DUNE & ProtoDUNE

<https://indico.fnal.gov/category/586>

Reviews

March 2020

11 Mar - 12 Mar DUNE PDR: Cold Electronics WIB and System

February 2020

05 Feb - 07 Feb DUNE PDR: TPC electronics ASIC/FEMB

November 2019

18 Nov - 20 Nov DUNE PDR: APA Electrical Review

June 2019

04 Jun - 05 Jun DUNE PDR: HV

March 2019

27 Mar - 28 Mar DUNE PDR: APA Review

February 2019

11 Feb - 13 Feb DUNE PDR: Cold Electronics Mechanical Review

December 2018

03 Dec - 04 Dec DUNE CDR: DAQ Review

LBNF: Beam, Cryogenics, Cryostat

<https://web.fnal.gov/project/LBNF/ReviewsAndAssessments/SitePages/Reviews,%20Workshops,%20Meetings.aspx>

Reviews, Workshops and Assessments

- View **Upcoming** LBNF/DUNE Reviews/Workshops
- View a **Searchable** list of all reviews, meetings, workshops
- View DUNE Indico **Reviews**
- View DUNE Indico **Workshops**
- View **All** DUNE Indico Meetings
- View older **LBNF** Reviews/Workshops
- View **Instructions** on requesting a new review site

Click on each Tab for a list of Reviews, Meetings and Workshops

Beamline	CF	Cryo	Detectors	DOE, Dir, LBNC	Interface, Risk, Requirements
✓	Edit	Item	Preparation URL	Location	Date
Category : Event (1)					
Category : Meeting (3)					
Category : Review (8)					
Process Controls Preliminary Design Review October 2019				Fermilab	October 2-3, 2019
LBNF Cryogenics Systems Preliminary Design Review				Fermilab	July 29-31, 2019
LBNF IN2 System SOW Review Follow-Up				Fermilab	February 5, 2018

Current Schedule of Reviews

- Cold Electronics ASIC/FEMB Review at CERN (February 5-7)
- Proton beam transport optics FDR at FNAL (February 24)
- Far Site I&I Review at FNAL (February 27)
- LBNC Meeting at FNAL (March 4-6)
- Cold Electronics Systems Review at BNL (March 10-11)
- APA Shipping Box Review at Liverpool (~April 24)
- Cryogenics PDR KLOE/MPD at FNAL (April)
- Cryogenics PDR LAr-ND at FNAL (April)
- LBNF/DUNE Director's Review at FNAL (April 28 – May 1)
- DSS Review at CERN (May 11-12)
- HV System Review at CERN (May 13-14)
- PD System Review at FNAL (May 27-28)
- APA Final Design Review (June/July)
- DOE IPR at FNAL (July 14-17)
- LBNC Meeting at FNAL (July 15-17)
- Post AUP facility needs review (August 2020)
- Calibration Design Review (September 2020?)
- Cryogenic Instrumentation Design Review (September 2020?)
- APA PRR (~October 2020)
- HV FDR (December 2020)
- CE FDR (February 2021)
- PD FDR (Feb 2021)
- DAQ preliminary Design Review (April 2021)
- Cryostat Readiness Review (April 2021)
- DAQ FDR (April 2022)

Confirmed Reviews

Tentative (estimated)

Review

External events

What are we missing? What else do we need to fit in? Do we need to change any of these proposed dates?

Preliminary Design Review deliverables

- Design choice identified
- Design in accordance with detector requirements
- Detail engineering drawings, schematics, models, interface drawings and preliminary parts list
- Interface documentation review with other systems
- Engineering analyses and documentation
- Installation and testing plans
- Incorporation of ProtoDUNE & other prototyping lessons learned
- Finalization of applicable design codes and standards
- Manufacturing methods and acquisition strategy
- Plans for production and evaluation of prototypes
- Draft manufacturing, quality assurance, testing and procurement plans
- Installation plans including special tools and fixtures
- Preliminary cost and schedule estimate
- Value engineering exercise
- Resolution of TDR or relevant ProtoDUNE review recommendations

Final Design Review deliverables

- Approved system requirements
- Complete manufacturing drawings, schematics, and specifications
- Engineering and safety analysis reports including calculations related to the design
- Procurement specifications
- Interface drawings and documents
- Production site plans for all production sites
- Evaluation of prototypes and design modifications
- Final quality assurance plan and quality control tools
- Final cost and schedule estimate
- Related risks and mitigations
- List of deliverables to the installation sites (Parts Breakdown Structure)
- Resolution of PDR recommendations
- Installation plans, schedules, procedures as understood at the time, to assess the adequacy of design related to installation.

Production Readiness Review deliverables

- Validation of a “module-0” is expected as input to a PRR.
- Final QA plans
- Final list of deliverables and Parts Breakdown Structure (PBS)
- Final production drawings, specifications and manufacturing and test procedures
- Final assembly drawings, where applicable
- Final safety documents (i.e., Hazard Analysis documentation and engineering final safety reports)
- Component QC plan (i.e., travellers, test plans and reports, software verification and validation documents, supplier documentation)
- Final procurement documents per institution practice,
- Completion and evaluation of prototypes, review of production process and QC results
- Resolution of FDR recommendations
- Acquisition Plan and Advanced Procurement Plan packages as required
- RFIs, RFPs and RFQs
- Total estimated cost and baseline cost estimate
- Delivery Schedule, timeframe, total number of calendar days
- Specific Roles and Responsibilities
- QA and ES&H requirements for purchasing
- Risks summary

Review process is critical for our own internal validation (and provide confidence to external stakeholders)

- Work with the Review Office to schedule reviews as needed
- Check our draft schedule and provide updates
- Respond to recommendations
- Prepare all documentation in EDMS (with required approvals)