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Preparatory phase of new ESFRI research infrastructure projects
TOPIC ID: HORIZON-INFRA-2021-DEV-02-01

pre-TDR Vacuum Pipe kick-off meeting

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4th December 2024



<https://etpp.ifaes.es>

Description of Process

- pre-TDR is one of the deliverables of the ET-PP project (Deliverable 6.2) prepared by CERN
- Given the importance of the document ETO initiated a light review
 - Aim is to provide the document to European Commission before end 2024
 - Half-day meeting on December 16th to discuss comments with ETO and CERN
 - Based on this discussion prepare a 2-4 pages report on findings recommendations/corrections
- International review panel has been formed
 - Julien Gargiulo (EGO)
 - Aniello Grado (INAF)
 - Mario Martinez(IFAE) Chair
 - Albert Lazzarini (Caltech)
 - Romuald Levallois (GANIL)
 - Yasunori Tanimoto (KAGRA, KEK)
 - Nick Van Remortel (Uni. Antwerp)
 - Alessandro Variola (INFN)
 - Michael Zucker (LIGO, Caltech and MIT)

The charge of the review

As anticipated by ETO

1. In general, assess the pre-TDR document in its form, its completeness and its coherence with the beampipe requirements and the recommendation expressed by the ET Pilot Sector Peer Review
2. Evaluate the pumping scheme and the bake-out procedure proposed
3. Provide peer advice on the validity of choices made for various technical systems (e.g. the supporting system, the manufacturing process, the valves, the pumps, and the gauges, etc.)

Goal for this meeting

- Collect first impressions on the document from the panel
- Organise and (eventually) divide tasks for commenting different sections if needed
- Identify (in any) areas in which the panel might need extra help & extra time
- Build a timeline for concluding the work

- Tools
 - Google docs available for collecting comments — initiated by CERN
 - Asked Paolo to give me a .doc version of the document — google drive —

The document

Table of Contents

1. Overview and assumptions.
2. Functional specifications, scientific requirements and technical constraints.
3. Materials for the vacuum pipes.
4. Mechanical design of the vacuum pipes.
5. Fabrication and surface treatments.
6. Vacuum layout.
7. Installation.
- 8. Bakeout: thermal insulation, electrical configuration and procedure.**
9. Vacuum control system.
10. Vacuum commissioning.
11. Vacuum operation and maintenance.
12. Quality assurance plan.
13. Risk management.
14. Logistics and sustainability.

1. Lets make a first round of comments / impressions
2. Identify areas that required more attention — divide tasks
3. Decide if new panel members need to be added

Timeline

- Add comments in the google drive sections by December 11th
 - Based on the input I will prepare slides for our meeting with ETO on Dec 16th
 - Based the input I will start preparing a v0 of report document & distribute
- Meeting on Dec 16th with ETO
- Preparation of v1 report in time for Xmas [within a rather aggressive schedule]
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