ARIA. The schedule shows the shipping of Argon from Sardinia with sufficiently low backgrounds begins in Feb 2024.

6. Clarify what parts of the ARIA project are required for DS-20K. To help us evaluate the credibility of achieving this date, please provide a resource-loaded schedule that details the various steps in ARIA construction, commissioning, process rates, critical path, etc.
7. The TDR states that ARIA will purify the UAr to "detector grade." Please clarify what this means quantitatively, whether distillation by Seruci-0 will be sufficient, and what contingency is there if this level either cannot be achieved or takes too long to achieve. Discuss the schedule and cost risks.

8. Infrastructure and support facilities

The requirements for technical infrastructure systems which are the responsibility of the host laboratory need technical specification to ensure that the experiment will operate as designed with regard to safety, performance, cost effectiveness and for a given length of time. These specifications will enable the host lab to design, size, configure, and evaluate the cost, obtain adequate funding, and provide the human resources needed for the construction and the operation of the infrastructure systems.

The TDR states on page 2 that the support facilities will not be discussed in detail in the document, and in fact the bulleted list on page 237 provides very limited detail and does not provide full evidence that the various solutions are actually viable. This lack of detail extends also the funding part reported in Table 60 on page 235 indicating that 286 k€ for the LNGS Infrastructures are paid for out of INFN-CIPE funds. Clearly it is impossible to judge the appropriateness of the infrastructure system and cost without a more detailed document.

1. Please provide a document containing the **infrastructure and support** requirements, complete with binding technical specifications, for each of the following:
   - layout and integration including the preparation of the floor
   - handling, transport and logistics to allow the installation, maintenance and dismantling sequences
   - access and safety systems (air quality, oxygen deficiency hazard, Ar exhaust, fire, etc.)
   - electricity distribution with the required ratings, normal operation and failure scenarios
   - ventilation with the required ratings, normal operation and failure scenarios
   - cooling with the required ratings, normal operation and failure scenarios
   - liquid Nitrogen and liquid Argon cryogenics with the required ratings, normal operation and failure scenarios
   - radon abatement system with the required ratings, normal operation and failure scenarios
   - additional space (storage, logistics, etc.)
   - control room (safety, equipment installed, electricity distribution, networking, ventilation, air conditioning)
   - clean rooms in Hall C and elsewhere in the lab
2. The **Preliminary Risk Assessment document** showing compliance with Italian and European regulation for the detector major hazards should be prepared as soon as possible to validate the detector and infrastructure design.
3. Clarify the plans and timeline to arrive at the urgently needed **MoUs** between the DS-20K collaboration and the laboratory defining the respective roles and responsibilities.

4. **Installation of the titanium vessel** inside the cryostat is a critical step, especially for what concerns the insertion of the TPC suspended under the Ti-vessel top lid. This operation, done with the 20 + 20-ton arch crane, needs a careful study of the clearance available on top of the cryostat, taking care of the following aspects: clearance under the 20-ton hook at ark center (17 m), reduction of the clearance while the hook is not in the center, space required by lifting devices, chimneys or other structures on top of the cryostat. Please **provide an engineering study** demonstrating that the very small clearance under the crane hook is in fact sufficient for the operation, including the foreseen 6 cm scarification of the Hall C floor. This should include also the request for modifications of the Hall C crane system to extend the operation area of the main crane.
    1. **UAr transportation** is a major logistic enterprise. Please provide a detailed sequence of the space required in Hall C during the unloading phase of the UAr from the transportation containers.
5. It seems that in case of need, the 120 tons of UAr could be recompressed and stored back into the 60 transportation skids. Clarify the plans for having a large noble gas compressor, and the space and person-power requirements.