

# **Review of BNL VTF plans to address high pressure issue after MQXFAP1 quenches**

## **Goal & Charge**

MQXFAP1, the first HL-LHC Q1/Q3 magnet prototype, is under test at BNL Vertical Test Facility. During the first training quench, the burst disk on the top plate of the test facility ruptured. The helium recovery line was partially changed in the attempt of reducing peak pressure after quench. Nonetheless the burst disk on the top plate ruptured again during the following two training quenches.

The BNL team developed three options for resuming testing in the short (options #1<sup>†</sup> and #2<sup>†</sup>) and long term (Option #3<sup>†</sup>), based on updated assumptions for computing peak pressure after magnet quench.

The goal of this review is to assess that assumptions and computations used to develop the three options are adequate to avoid overpressure issues when MQXFAP1 testing is going to resume, and that the short-term technical solutions are adequate to prevent burst risk rupturing after quenching.

The committee is requested to answer the following questions:

- Are the assumptions and computations used to develop the three options adequate to avoid overpressure issues when testing MQXFAP1?
- Are the plans for implementation adequate to assure high probability of success?
- Do you have any other comment or recommendation to assure successful resuming of MQXFAP1 testing?

## **Committee**

D. Orris, R. Rabehl (chair).

## **Date and Time**

December 19, 2017 starting at 12:00/2:00/3:00am (LBNL/FNAL/BNL)

## **Location/Connection**

The review is by video-mtg. FNAL people will use IB3 mezzanine mtg room. Video-link is by Zoom, info by email.

## **Link to talks**

<https://indico.fnal.gov/event/15962/>

<sup>†</sup>Options are available at: <https://indico.fnal.gov/event/15873/>