

6<sup>th</sup> QTAWG meeting, March 28, 2014

# **Towards BLM Thresholds: The new BLMTWG**

# Joining BLMTWG and QTAWG

- The intention of combining the QTAWG with the BLMTWG was to aim at a global view
  - not only on the technical side of setting thresholds,
  - but also on the relevant models (quench levels, damage levels).
- For this we invite all the responsible teams, over time, to share their knowledge and present their findings regarding thresholds in the working group.
- Member list is the union of both (already near 100% overlap).
- <http://cern.ch/blmtwg>

# BLM Thresholds Working Group - Mission Statement

The BLM Thresholds WG takes a global view on thresholds and the way they are implemented in the machine.

It relies on the analyses and operational experience of the responsible teams (collimation, LIBD, magnet protection, BLM, etc.).

Its tasks, *in close collaboration with the responsible teams*, are to

- collect and discuss information on performance and protection aspects of BLM thresholds during LHC beam operation;
- study BLM thresholds in the context of beam-losses due to dust particles (or "UFOs");
- propose changes to BLM thresholds and to the BLM sensitivity range for approval to rMPP/MPP or LMC;
- trace threshold changes in a consistent way;
- propose and analyze controlled beam-loss tests ("quench tests") to validate and improve the numerical models and to improve the understanding of beam-loss scenarios;
- trigger complementary analyses of beam-loss events in order to increase the global understanding of quench- and damage levels;
- review the composition of BLM families and the designation of relevant beam-loss scenarios (per family, energy level, and loss-duration), as well as the tools for the production and deployment of BLM thresholds.

# Next Steps

1. Calculation of thresholds for MQ family 1 to compare to past thresholds and corrections.
2. Review of the final Run1 thresholds.
3. Strategy proposal for the update of all BLM thresholds.
4. Threshold calculations.
5. ...
6. Propose quench tests.