



EDMS NO.
1771853

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-21

Project/Activity: WP7

Title Position/Task: New generation energy extraction systems for HL-LHC

Description Project:

To extend its discovery potential, the LHC will require a major upgrade to increase its luminosity (rate of collisions) by a factor of 10 beyond its design value. The HL-LHC is the project that will develop the new technologies and be in charge of the design, production, installation and commissioning of the equipment required to reach this objective. New superconducting magnets based on Nb₃Sn will be used in the insertion region of the two high-luminosity experiments and will require new generations of energy extraction and protection devices to safely discharge the stored energy. The development, design and production of these devices for the magnet test benches and the LHC is one of the tasks of WP7.

Task:

In the framework of WP7 (Machine Protection and Availability) you will join the energy extraction section of the MPE group. The corresponding model and prototype magnets will have to be tested within facilities equipped with those extraction systems. The TE/MPE Group is at present developing and manufacturing several units, with many more in the schedule already for the years to come. The scope of work relates to the manufacturing, tests, installation, commissioning and operation of the energy extraction systems for SM18, Inner Triplet String as well as for other facilities within the HL-LHC programme. The primary focus will be the qualification of the available technologies (vacuum switches vs semiconductor) and the comparative studies on the different choices.

Profile: Electrical or electro-mechanical engineer

Experience:

Experience with power electronics, Electrical Engineering. Knowledge in the domains of control Systems and Data Acquisition Systems are an asset.

Specific details:

Requester: TE-MPE

Starting date: July 2017