



EDMS NO.
1768040

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-02-01

Project/Activity: WP1

Title Position/Task: Project Management engineer

Description Project:

As an Organization & Scheduling Support in the Engineering Department (EN), inside the Alignment, Coordination and Engineering Group, within the Organization, Scheduling & Support Section you are responsible for planning and coordination of installation of the HL-LHC project.

Stakeholders of the section are the Beams, Physics, General Services and Technology departments, as well as the other groups within the Engineering department itself

Task: In collaboration with the different stakeholders, you will:

- Plan with Work package leaders of the HL-LHC project, the production, tests and preparation of equipment prior to their installation. Edit and update the corresponding schedules with respect to progress.
- Plan and coordinate all installation activities for the HL-LHC project, ensuring all activities are carried out within the LHC overall schedule.
- Prepare all supporting documentation and liaise between the stakeholders.
- Manage the impact of operational problems affecting the installation work on the schedule, in order to minimize any delays.
- Identify and resolve conflicting co-activity issues with the stakeholders concerned and the HL-LHC Project team.
- In collaboration with the relevant Safety Coordinator, ensure that all safety concerns related to the installation work are identified and that the relevant safety rules/procedures are applied.

Profile: Master's degree in the field of engineering, physics or project management (or equivalent)

Experience:

The training or experience required for this support activity are:

- project management and coordination;
- organization, planning and control processes;
- working with project planning tools;
- communication skills;

Demonstrated experience in the above as well as in engaging stakeholders.

Specific details: Spoken and written English. French is an asset and he willingness to learn French is required..

Requester: EN-ACE

Starting Date: July 2017



EDMS NO.
1768027

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-02-01

Project/Activity: WP2

Title Position/Task: Accelerator physicist to study field quality of HL-LHC magnets

Description Project:

The candidate will study the impact of the expected field quality of HL-LHC magnets in view of determine the impact on the dynamic aperture and more specifically on observables like beam intensity and luminosity lifetime, tail population evolution, core emittance evolution. Integral part of the activity is the determination of the limits to the field quality imposed by beam dynamics considerations. As soon as measured field quality data will become available, these data will be used to provide more estimates of the dynamic aperture and possibly the impact on the above observables.

Task:

The candidate will join the team in charge of the single-particle simulations studies for HL-LHC to:

- Get acquainted with the tools developed to carry out massive numerical simulations and perform the analysis of the results
- Carry out numerical simulations of the impact on DA of the expected field quality of the various classes of HL-LHC magnets
- Provide upper bounds to the field quality of magnets based on beam dynamics considerations
- Whenever measured field quality data become available, these data should be used in numerical simulations to provide more accurate estimates of their impact on the dynamic aperture

Profile: Accelerator physicist with, possibly, PhD

Experience:

Experience in beam dynamics in circular machines, numerical simulations of beam dynamics, use of SixTrack.

Specific details: none

Requester: BE-ABP

Starting Date: September 2017



EDMS NO.
1768023

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-01

Title Position/Task: Accelerator physicist to develop the single-particle code SixTrack

Project/Activity: WP2

Description Project:

SixTrack is the work horse of CERN activities in the domain of single particle beam dynamics. The candidate will take part in the development of the simulation code SixTrack code to tailor it to the needs of the simulations for the specification of the HL-LHC magnets field quality and for the evaluation of the impact on observables like beam lifetime

Task:

The candidate will join the small team in charge of the support and development:

- Get acquainted with the code
- Contribute to the development of the code. This might entail:
 - o Development of new elements as required by the HL-LHC studies
 - o Improve the physics models used in the simulations
 - o Improve the techniques used to perform the post-processing of the tracking data
 - o Enable new types of simulations, like tracking of distributions
 - o Adapt the code to HPC standards

Profile: Accelerator physicist with, possibly, PhD

Experience:

Experience in beam dynamics in circular machines, numerical simulations of beam dynamics, use of SixTrack, programming.

Specific details: none

Requester: BE-ABP

Starting Date: September 2017



EDMS NO.
1768174

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-13

Project/Activity: WP4

Title Position/Task: Mechanical engineer for the HL-LHC Crab cavities

Description Project:

The Mechanical and Materials Engineering Group (MME) of the Engineering department (EN) is in charge of engineering support combining mechanical design, production facilities and material sciences, for the maintenance of CERN facilities and the manufacturing of prototypes as required for CERN projects.

The Crab cavities are superconducting radio frequency cavities that will be used, as part of the future High-Luminosity LHC upgrade, to provide a transverse deflection to particle bunches.

Task:

Within the Engineering Design and Measurements section of EN-MME group and in the frame of the Crab cavities mechanical engineering related activities, the selected candidate will carry out three types of actions:

- He (she) will use advanced analytical and numerical methods (Finite Element Method, Multiphysics analyses) to perform calculations in several domains such as: structural mechanics, thermo-mechanical calculations, modal analyses;
- He (she) will be in charge of the documentation management of all the data produced by the group;
- He (she) will help with the coordination of the Crab cavity activities in the group including: mechanical design validation, prototyping, set-up of production facilities, manufacturing process, quality assurance implementation and follow-up.

Profile: Mechanical engineering diploma or equivalent

Experience:

The selected candidate has experience in the design and advanced mechanical analyses using analytical and numerical methods.

Ideally, he (she) has some knowledge of manufacturing technologies, material properties and use of non-conventional materials, analysis and testing methods, pressure vessels standards, cryogenics, ultra-high vacuum technology.

He (she) has excellent organization and communication skills.

Requester: EN-MME

Starting date: December 2017



EDMS NO.
1768012

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-13

Project/Activity: WP5

Title Position/Task: Mechanical Measurements Laboratory Engineer

Description Project:

The Mechanical and Materials Engineering Group (MME) of the Engineering department (EN) is in charge of engineering support combining mechanical design, production facilities and material sciences, for the maintenance of CERN facilities and the manufacturing of prototypes as required for CERN projects.

The Laboratory of Mechanical Measurements, part of the Engineering Design and Measurements section (EN-MME-EDM), is composed of 10 persons. It is specialized in measurements of mechanical stresses and strains, of displacements, pressures and vibrations applicable to a wide range of components and devices for present and future high energy physics projects. The measurements are carried out in a large variety of environments, including cryogenic temperatures, high radiation environment and high magnetic fields.

The laboratory develops and performs these measurements on superconducting magnets, detectors of LHC experiments and prototypes for future upgrades, including high field accelerator magnets and accelerating structures.

Task:

The candidate will be involved in the thermo-physical characterization of composite materials developed for high energy beam intercepting devices. The characterization is composed by the measurements of thermal diffusivity, specific heat, density, thermal expansion and thermal conductivity from room temperature up to 2000°C. Best materials will be tested in front of intense proton beams. The candidate will participate to the meetings and reports regularly on the progress of his (her) research. The main results will be summarized in several reports for each activity and inside a final report to the intention of the project management.

Profile: Mechanical engineering diploma or equivalent

Experience:

The selected candidate has experience with mechanical measurements technics.

Ideally, he (she) has some knowledge of cryogenics, high radiation environment and high magnetic fields.

Good organization and communication skills.

Requester: EN-MME

Proposal: December 2017

EDMS NO.
1771856REV.
1.0VALIDITY
VALID**REFERENCE : NOT REQUIRED**

HL-LHC Resources request

Date: 2017-03-21**Project/Activity:** WP7**Title Position/Task:** HL-LHC circuit modelling and simulation**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, stronger superconducting magnets based on Nb₃Sn will be required to achieve the final focusing required by the two high-luminosity experiments. The modelling and simulation of the operational behaviour as well as the transients during failure scenarios and the definition of the resulting protection requirements is one of the tasks of WP7.

Task:

In the framework of WP7 (Machine Protection and Availability) you will join the Performance evaluation section of the MPE group to

- perform and/or compile a coherent set of simulations for all the new HL-LHC magnet circuits
- These simulations will be done using the STEAM framework, and should include the quench detection system as well as different quench protection systems (Quench heaters, CLIQ, Energy Extraction)
- Simulations should be done for the different operation modes (ramp, Fast Power Abort, quench) and failure scenario's (non-conform protection, short-to-ground)
- Results of the simulations should be included in the future documentation of each circuit.

Profile: Physicist, electrical, electro-mechanical engineer or computing engineer**Experience:**

Experience with electromagnetism and/or electrodynamics and superconductivity. IT competencies, primarily in Java and the use of FEM software (especially Comsol and/or Ansys) are an asset.

Specific details:**Requester:** TE-MPE**Starting date:** July 2017

EDMS NO.
1771853REV.
1.0VALIDITY
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



EDMS NO.
1767976

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-01-31

Project/Activity: WP8

Title Position/Task: Production engineer

Description Project:

To extend its discovery potential, the LHC will need a major upgrade to increase its luminosity (rate of collisions) by a factor of 10 beyond its design value. Part of the upgrade are the manufacturing and/or in-situ modifications of heavy steel shielding structures. The HL-LHC WP8 is the work package that will be in charge of the design, production, and installation of the equipment required to perform these tasks.

Task:

You will join the WP8 engineering team in the EN-EA group to:

- Participate in the final design modifications performed in shielding structures of LHC experiments, focusing on the needs in terms of access and compatibility with general and technical services.
- Follow-up and take responsibility in the worksite preparation and installation schedule. Ensure the safety of related activities, identifying possible issues at very early stage and proposing pro-active solutions considering possibly conflicting requirements from different system owners.
- Identify possible cost and time saving or intervention improvement solutions and prepare installation layouts that take into account the installation sequence optimized for schedule and costs
- Follow up the manufacturing of the main elements, interfacing between the experiments groups and the different LHC machine groups when necessary.

Profile: Industrial engineer (Mechanical/Quality). In-situ works/production oriented.

Experience:

Experience with machining/welding and follow up of manufacturing of heavy metal with high tolerances and/or installation in worksites (nuclear or power plant, chemical, industrial assembly chain) or civil engineering construction are assets.

Specific details: Spoken and good proficiency in written English is required: French is an asset and the willingness to learn French is required. Good working knowledge of CATIA and MS Project would be an asset.

Requester: EN-EA

Starting from: September 2017



EDMS NO.
1767975

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-02-06

Project/Activity: WP10

Title Position/Task: Beam-machine interaction calculations for the experimental insertions.

Description Project:

In the context of the HL-LHC project, extended energy deposition calculations are regularly required to assist the machine design evolution by the detailed assessment of the impact of the different kinds of losses on the operational conditions and lifetime of the various beamline elements.

Task:

You will join the FLUKA team to:

- Maintain and develop the HL-LHC FLUKA models of the four experimental insertions, integrating the new elements as being designed and implementing the relevant optics configurations;
- Follow up the power and dose evaluation from the TAXS to the Dispersion Suppressor for both IR1 and IR5, as a function of the TCL settings;
- Analyze accidental loss scenarios as defined by WP5;
- Quantify the radiation profile for ion luminosity;
- Study the implications of the further LHCb luminosity upgrade.

Profile: Post-Doc physicist with a solid knowledge of radiation-matter interaction

Experience:

Robust experience in Monte Carlo simulations of particle showers

Specific details: Familiarity with the FLUKA code

Requester: EN-STI

Starting date: October – November 2017



EDMS NO.
1767951

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-02-06

Project/Activity: WP10

Title Position/Task: Radiation to electronics studies.

Description Project:

In the context of the HL-LHC project, the installation of electronics equipment requires the assessment of its sensitivity to radiation as well as of the relevant radiation levels, in order to minimize downtime due to single event effects and cumulative damage.

Task:

You will join the FLUKA and R2E teams to:

- Liaise with the equipment groups and WP15 to keep updated the plan of the underground electronics and the indication of the sensitivity to radiation of the various devices;
- Characterize the radiation environment in all relevant locations;
- Link monitor measurements to radiation level expectations and correlate the R2E-related dump rate with operational parameters, such as integrated luminosity, beam intensity, vacuum conditions;
- Help to identify suitable irradiation tests at the available facilities;
- Contribute to radiation effects modelling.

Profile: Post-Doc physicist/engineer expert in radiation environment characterization and radiation effects on electronics

Experience:

Experience in Monte Carlo simulations of particles showers and/or sensitivity to radiation of electronics devices

Specific details: Familiarity with the FLUKA code, radiation monitors, irradiation tests

Requester: EN -STI

Starting date: July – August 2017



EDMS NO.
1771841

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-02-20

Project/Activity: WP12

Title Position/Task: Engineer / Physicist for adsorption isotherms studies of aC coatings

Description Project:

In the framework of the design of the vacuum system for the HL-LHC beam screens, adsorption isotherms studies are of great importance to evaluate the impact of the vacuum chamber walls on the future machine performance. In particular, adsorption isotherms of amorphous carbon coatings in the 50-100 K range are needed.

Task:

Ex. You will be part of the WP12 study team to:

- Install and commission a new experimental system designed to measure, in the laboratory, adsorption isotherms in the 5 to 150 K range.
- Coordinate and operate the system during the year.
- Analyse, present and publish data.
- Evaluate the impact of the observations on the HL-LHC vacuum system.
- Propose potential upgrades to the system and/or HL-LHC.

Profile: Engineer / Physicist

Experience:

Experience with ultra-high vacuum systems is needed. Hability or commitment to learn data acquisition and data analysis softwares is desired. Knowledge of cryogenics together with the coordination and operation of small systems in a laboratory environment are assets.

Specific details: Candidates will be expected to possess a good working knowledge of either English or French.

Requester: TE-VSC

Starting date: July 2017



EDMS NO.
1771827

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-20

Project/Activity: WP12

Title Position/Task: Mechanical Engineer-Beam Screen

Description Project:

Design of the HL-LHC beam screen

Task:

The candidate will carry out magnetic thermal mechanical analyses of the HL-LHC beam screens and of the representative prototypes. He will in particular analyse the behaviour during a magnet quench. He will prepare and participate to the characterisation and validation thermal and mechanical tests. He will analyse the test results and cross check them with the estimations. He will study the influence of the different design modifications on the behaviour of the beam screen.

Profile: Mechanical engineer (structural analysis)

Experience:

Magnetic thermal mechanical simulations in cryogenic environment.

Specific details: Candidates will be expected to possess a good working knowledge of English and French.
Use of CATIA and Comsol

Requester: TE-VSC

Starting date: July 2017



EDMS NO.
1771809

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-02-20

Project/Activity: WP12

Title Position/Task: Engineer / Physicist for the COLD bore Experiment, COLDEX

Description Project:

Ex. The COLD bore EXperiment, COLDEX [1, 2], is an experimental system which mimics a LHC type cryogenic vacuum chamber. It is currently installed in the SPS to study the interplay of the electron cloud induced by LHC beams with the cryogenic vacuum system.

[1] Recommissioning of the COLDEX experiment at CERN. R. Salemme *et al.* Proc. of IPAC 2015, Richmond, VA, USA

[2] Amorphous carbon coatings at cryogenic temperatures with LHC type beams: first results with the COLDEX experiment. R. Salemme *et al.* Proc. of IPAC 2015, Richmond, VA, USA

Task:

- Install new instruments and, in particular, Laser Engineered Structured Surfaces beam screens at the COLDEX.
- Coordinate and operate the COLDEX during the year.
- Analyse, present and publish data.
- Evaluate the impact of the observations on the HL-LHC vacuum system.
- Propose potential upgrades to the COLDEX and/or HL-LHC.

Profile: Engineer / Physicist

Experience:

Experience with ultra-high vacuum systems is needed. Hability or commitment to learn data acquisition and data analysis softwares is desired. Knowledge of cryogenics together with the coordination and operation of systems in an accelerator environment are assets.

Specific details: Candidates will be expected to possess a good working knowledge of either English or French.

Requester: TE-VSC

Starting date: July 2017



EDMS NO.
1771820

REV.
1.0

VALIDITY
DRAFT

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-20

Project/Activity: WP12

Title Position/Task: Mechanical engineer

Description Project:

Vacuum system for the 11T and collimator by-pass in the DS

Task:

You will join vacuum team in charge of the cold vacuum system to:

- follow the procurement of the vacuum components
- follow the qualification tests of the components
- follow the installation, on the surface and in the tunnel, of the vacuum system in the 11T magnets, connection cryostats and by-pass
- Define, produce and keep up to date the quality assurance documentation for this project

Profile: Mechanical Engineer

Experience:

Experience with the design of mechanical assembly and project management

Specific details: Candidates will be expected to possess a good working knowledge of either English or French. Documentation shall be produced in English, CATIA software is used for 3D models and 2D drawings.

Requester: TE-VSC

Starting date: July 2017



EDMS NO. 1771839	REV. 1.0	VALIDITY VALID
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REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-20

Title Position/Task: Mechanical Engineer - vacuum system in high radiation environment

Project/Activity: WP12

Description Project:

Design of vacuum system in high radiation environment

Task:

After having characterised the thermal mechanical behaviour of shape memory alloys, the final geometries of the shape memory alloy connectors have to be designed depending on the vacuum chamber sizes. The long term performance of the assembly has to be assessed in accelerator environment. In addition, an unclamping device, based on a cooling of the connectors, has to be designed.

The implementation of this new UHV connector design has to be addressed for the HL-LHC project (collimators, Q1/TAS areas).

Profile: Mechanical – material engineer (PhD)

Experience:

Shape memory alloy characterisation and modelisation.
FE simulations

Specific details:

Requester: TE-VSC

Starting date: July 2017



EDMS NO.
1768018

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-01

Project/Activity: WP13

Title Position/Task: Development of Long Range Beam-Beam (LRBB) & Hollow Electron lens

Description Project:

The main challenges for the design of electron lenses for halo diffusion (hollow e-lens) and for long-range beam-beam compensation, are generating high current electron sources and transporting the high density electron beam. Studies are required to simulate the electron transport and experimentally measure e-gun performance.

Task:

Contribute to the design of electron lenses for long-range beam-beam compensation and halo diffusion. The work will include:

- Simulation of the electron transport of high current electron beams from the electron gun through the e-lens up to the collector, and subsequent optimization of e-lens parameters.
- Constructing a test bench for the development of such systems
- Using the test bench to characterize e-gun emission, measure the e-beam profile and validate simulations.

Profile: Applied physicist with a degree in Physics or Engineering. PhD is an advantage.

Experience:

This post requires laboratory experience, in particular the set-up of experimental stations, experimental measurements and data analysis. Knowledge of electron (or plasma) beam dynamics and accelerator physics would be an asset.

Specific details: Candidates will be expected to possess a good working knowledge of either English or French. Familiarity with simulation codes such as CST, E-GUN or ULTRASUM would be an advantage.

Requester: BE-BI

Starting date: asap



EDMS NO.
1768015

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-02-03

Project/Activity: WP17

Title Position/Task: Electrical engineer for design of HL-LHC power distribution

Description Project:

In the context of the HL-LHC project, the candidate will support the project manager in designing the low and high voltage distribution networks in LHC1 and LHC5.

Task:

In the context of the design of the power distribution network for the HL-LHC project you are expected to participate actively to:

- Identify needs and requirements from the users;
- Prepare feasibility studies for the electrical infrastructure;
- Participate in integration studies (definition of the layout, including 3d integration);
- Support the project manager in preparing technical documents, planning and cost analysis;
- Participate in site surveys;
- Prepare bills of material for electrical-related equipment;
- Develop functional specifications;
- Verify calculations notes for cables, equipment, earthing, lighting, etc.);
- Verify rack design and drawings;
- Prepare the requests for interfacing with the SCADA system;
- Prepare safety documents.

Profile: Electrical Engineer with knowledge of LV and HV distribution systems

Experience:

Principles of design of HV and LV distribution system

Specific details: Candidates will be expected to possess a good working knowledge of English or French

Requester: EN-EL

Starting date: Summer 2017



EDMS NO.
1768012

REV.
1.0

VALIDITY
VALID

REFERENCE : NOT REQUIRED

HL-LHC Resources request

Date: 2017-03-13

Project/Activity: WP17.3

Title Position/Task: Cooling and ventilation Engineer

Description Project:

The Engineering Department (EN) that provides engineering competencies, infrastructure systems, and technical coordination for the world's largest particle accelerator complex and its experimental facilities.

The Cooling & Ventilation Group (CV), responsible for designing, constructing, maintaining, and operating cooling, ventilation and air conditioning systems and large scale fluid distribution systems for the whole Laboratory, particularly in accelerators' and Experiments' underground areas;

At point 1 and Point 5 of LHC accelerators CERN will build a number of surface buildings and underground premises to supply services for the radiofrequency cavities that will be installed in the LHC tunnel. The EN/CV group shall design and install all the technical infrastructures (cooling and ventilation systems) required to evacuate the heat dissipated by these services (cryogenics, power supply, power cables, etc.).

Task:

- Execute design calculation for component selection (pumps, valves, pipes, ducts, fans, etc.);
- Integrate the selected components in the 3D model of the buildings and underground premises using AutoCAD Revit;
- Create and constantly update the bill of quantity of the installation;
- Contribute to the exchange of information between CV project team and the other teams (civil engineering, electrical engineering, etc.);
- Contribute to the definition and editing of the technical notes of the project and the technical specifications for the tendering phase;
- Contribute to the evaluation of the offers received from bidders.

Profile: Master's degree in the field of mechanical engineering, preferably with a specialization in industrial ventilation and/or hydraulics installations, or equivalent

Experience:

- Sizing and design of ventilation installations and their related hydraulic components or cooling systems;
- Selection of related cooling or ventilation equipment and their instrumentation;
- Use of AutoCAD Revit or other similar 3D modelers.
- Spoken and written English or French. Ability to draw up technical specifications in English and to make oral presentations in at least one of the two languages.

Requester: EN-CV

Starting date: Summer 2017