

Subpanel for the Civil Engineering Cost  
CEPC Technical Design Report (TDR) International Cost Review

**Charge**

The CEPC Study Group, hosted by the Institute of High Energy Physics (IHEP), has been working on the design and development of a forefront circular  $e^+e^-$  collider as a Higgs factory that can also extend to energies corresponding to the Z, WW and the top quark pairs, with the upgrade potential to a high energy pp collider. The CEPC represents a grand plan proposed, studied, and to be constructed by Chinese scientists in close collaboration with international partners. Since the release of the CEPC Conceptual Design Report in 2018, the CEPC Study Group has devoted significant effort to the design optimization, the R&D of key technologies and the study of the technical systems of the CEPC.

The CEPC Study Group has produced a draft Technical Design Report (TDR) of the CEPC accelerator. An International Review Committee (IRC), headed by Dr. Frank Zimmermann (CERN) has conducted a comprehensive review of the technical aspects of the CEPC accelerator during June 12-16, 2023, HKUST-IAS, Hong Kong, China.

The CEPC accelerator TDR International Cost Review Committee (ICRC), chaired by Professor Leonid Rivkin (PSI) will review the cost of the CEPC TDR accelerator (excluding the civil engineering cost) from September 11-15, 2023 at HKUST-IAS in Hong Kong, China.

To review the CEPC TDR civil engineering cost, a Domestic (Chinese) Civil Engineering Experts Review Committee (DCEERC), chaired by Mr. Zongyin Guan (关宗印, vice chief engineer from China Renewable Energy Engineering Institute), conducted an evaluation of the cost of the civil construction of the CEPC facility on June 26, 2023.

To assess the civil engineering cost and facilitate communication between the DCEERC and the ICRC on the civil engineering cost review, a Subpanel of the ICRC committee, chaired by Dr. John Andrew Osborne (CERN), has been established. The Subpanel is specifically asked to comment on the following aspects:

1. Are the conditions considered for the CEPC candidate sites reasonable?
2. Are the costing methods utilized and the inputs adopted financially sound?
3. Are the civil cost estimates credible?
4. Any other findings, comments or improvements you may suggest.

On July 17, 2023 the Subpanel will hear a report (live via Zoom) from the DCEERC committee, and will discuss and ask questions on the CEPC TDR civil engineering costs in multiple candidate sites. Please be advised that the information presented at this Zoom meeting is considered confidential and should not be disclosed beyond the Subpanel.

It is requested that a brief Subpanel report responding to this charge be forwarded to the IHEP Director, Professor Yifang Wang by **August 17, 2023**, and that the Subpanel chair present a report (via Zoom) to the Committee for the International Cost Review of the CEPC Accelerator(ICRC) at an appropriate time during September 11-15, 2023, when the committee will conduct the review of the cost of the CEPC TDR accelerator systems at HKUST-IAS in Hong Kong, China.