Signature: **EZP.270.23.2022** Otwock, 22.09.2022

Awarding Entity
Narodowe Centrum Badań Jądrowych
05-400 Otwock-Świerk
ul. Andrzeja Sołtana 7

With reference to the public procurement procedure, procedure is conducted by means of an open, called "**The Design, Manufacture and Delivery including installation of a helium cooling system for the Polish Free Electron Laser - PoIFEL at the premises of the National Centre for Nuclear Research in Otwock-Swierk".**

I. Pursuant to Article 135(5 and 6) of the Public Procurement Law Act of 11 September 2019 (Journal of Laws of 2022, item 1710), the Ordering Party quotes the content of the questions and provides explanations to the submitted questions:

Question 1

Would it also be ok if we upload the bank guarantee from [Bank name] only scanned through the portal and not send it directly to the bank (using SWIFT)? Is the bank guarantee in English enough or does it need to be translated into Polish (certified)?

Answer

The bank guarantee must be submitted in accordance with the conditions described in the SPECIFICATION OF TERMS OF REFERENCE, in particular in Section 16.8.3:

Where evidence in question, other documents or documents evidencing authority to represent, have been issued by authorised parties:

1) *as **an electronic document** - the Economic Operator shall **transfer that document**;*

and in Section 18.3:

If the tender bond is deposited in the form of a guarantee or surety, the Economic Operator shall provide the Awarding Entity with the original guarantee or surety in electronic form. Such a tender bond shall cover the entire tender validity period. The wording of the guarantee or surety shall not contain provisions making its continuation subject to the return of the original guarantee document to the guarantor.

In addition, the Contracting Authority clarifies that according to Section 16.8.5:

The bid should be prepared in Polish. Pursuant to Article 20.3 of the PPL Act, the Contracting Authority allows the submission of a bid, statements or other documents in a language commonly used in international trade - English.

and Section 16.8.6: Subject matter evidence and other documents or statements may be prepared in Polish or English.

Question 2

To recover the cold gas in Cooldown phase 1 to 4 we have to pressurize the cryomodules up to 1.300 bara. Please specify the maximum pressure of the cryomodules during cooldown and which pressure fluctuations are allowed.

Answer

The maximum allowed pressure of the cryomodules during cooldown is 1300 mbara with the tolerance for fluctuation in range of ±50 mbar.

Question 3

TOM III - 6.5: You have mentioned the maximum mass flow of 35 g/s at nominal operating mode for the 2K supply line. Please specify if the HCS needs higher mass flow at any mode of operation. Please consider the case if you have 7 cryomodules in nominal mode and you would like to cool down one more cryomodule - especially consider the case rapid cool down (phase 4) as well.

Answer

As stated in TOM III section 6.5, the flux of 35.5 g/s is the maximum mass flow of helium to the 5K supply line in the nominal operational conditions (temp. 5K and pressure 4 bara). CDS will not require higher mass flow in these conditions. The CDS is planned to be in the stand-by mode (not in the nominal mode - see TOM III, section 6.3.2) when another cryomodule is being cooled down. In the stand-by mode helium has the same temperature and pressure as in the nominal mode but the heatloads to the cryomodules are much lower (see TOM III, section 4.5 and section 6.3.3). As stated in TOM III, section 6.3.1, 6.3.2 and 6.5, HCS is required to deliver additional helium mass flow at ambient temperature, for mixing with cold helium for coolling down and warming up cryomodules with the temperature gradient not higher than 30 K/h.

Question 4

TOM II - 11.2: You mentioned all components has to be in stainless steel especially "vacuum tanks". Please specify if this includes vacuum jackets of the coldboxes.

Answer

The Awarding Entity approves the use of the materials other than stainless still for vacuum jackets of the coldboxes provided that other requirements for these components as specified in TOM III are maintained, independently of the material used.

Question 5

TOM III - 12.2: The helium tightness level is specified to a very high standard which is complicated to put into practice. This will cause a lot of rejects in the manufacturing process especially on plate fin heat exchanger.

Can you accept the specifications:

The helium-tightness level shall not exceed the following values:

- An individual inleak from the outside to the inside of the tested element through a weld: 1x10E-8 mbar·l/sec.

- An individual inleak from the inside of the component (weld, bellow, elastic hose, valve etc.) to the vacuum: 1x10E-8 mbar·l/sec.

- In operating conditions (temperature and pressure), the measured total inleak of the system to the vacuum: 1x10E-6 mbar·l/sec.

- Sum total inleak of an individual component, installed on the vacuum tank, e.g. a safety flap, a pressure transducer, a cut-off valve etc., measured from the outside of the component to the tank vacuum: 1x10E-5 mbar·l/sec.

- Sum total inleak of an individual pressure-carrying component installed outside of the vacuum tank, e.g. a safety valve, a pressure transducer, a manometer, etc., as measured from the inside of the component to the atmosphere. 6x10E-3 mbar·l/sec.

Answer

1. The Awarding Entity accepts the maximal allowed individual inleak from the outside to the inside of the tested element through a weld at the proposed level of 1x10E-8 mbar·l/sec.
2. The Awarding Entity accepts the maximal allowed individual inleak from the inside of the component (weld, bellow, elastic hose, valve etc.) to the vacuum at the proposed level of 1x10E-8 mbar·l/sec.
3. The Awarding Entity accepts that in operating conditions (temperature and pressure), the maximal allowed measured total inleak of the system to the vacuum is at the proposed level of 1x10E-6 mbar·l/sec.
4. The proposed inleak levels seem to be in contradiction with the values proposed for the complete system (item 3, above).

   The Awarding Entity does not accept the maximal allowed sum of total inleaks of an individual component, installed on the vacuum tank, e.g. a safety flap, a pressure transducer, a cut-off valve etc., as measured from the outside of the component to the tank vacuum at the proposed level. However: the Awarding Entity accepts a maximal total inleak rate for this group of 1x10E-7 mbar·l/sec, with the exception of safety flaps for which the accepted level is 1x10E-6 mbar·l/sec.
5. The Awarding Entity does not accept the proposed value of the individual summed inleak rate for this group of elements (pressure-carrying component installed outside of the vacuum tank, e.g. a safety valve, a pressure transducer, a manometer, etc.), as measured from the inside of the component to the atmosphere. The maximal allowed inleak is 1x10E-4 mbar·l/sec.

Question 6

TOM III - 11.3 - Please consider the required calculations for the vacuum jacket of supplementary refrigerator cannot being provided. Especially not for the case of failure that the temperature is cooled the vacuum jacket down to 195K.

Answer

The Awarding Entity releases from the obligation to perform thermal calculations of the external jacket of supplementary refrigerator, due to the fact, that this element is the property of the Awarding Entity and has been already manufactured.

Question 7

TOM III 16.4: Please specify the maximum mass flow of the supplementary refrigerator. This consists all modes and cooldown stages of the cryomodule . Please consider the case that CDS is in standby and you would like to cool down or test a different cryomodule.

Answer

As stated in TOM III, section 16.4, the supplementary refrigerator is not required for providing helium for cooling down multiple cryomodules. It is required for testing one cryomodule, and for keeping CDS in the standby mode. The most demanding operation that can affect the performance of the supplementary refrigerator is the fast cooling of a single cryomodule. As stated in TOM III, section 6.5, the HCS, during the phase of rapid cooling of a cryomodule must deliver a supercritical helium flow (5 K, 4 bar) to the cooled cryomodule at the rate of not less than 12 g/s.

Question 8

Is the vacuum insulated liquid nitrogen line part of the scope of supply.

Answer

Yes, the vacuum insulated liquid nitrogen line belongs to the scope of supply.

Podpisany elektronicznie przez
Rafał Paweł Blinow
22.09.2022
14:03:39 +02'00'

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(signature of the authorized representative of the Ordering Party)