**Amendment No. 002**

This amendment is being raised to 1) provide a response to Request for Clarification.

**1) Response to Request for Clarification**

Question 1.

Q1. In Annex A, article 3. Requirements, Table 1., section 4. Temperature Control, item 4a: “The temperature instruments of the unit must have National Institute of Standards and Technology (NIST) traceable certificates.” Would DIN EN 60584-2 be acceptable instead of NIST? DIN EN 60584-2 is currently in effect for European products.

R1. DIN EN 60584-2 is not acceptable, since It is applicable to thermocouples being used without calibration. We have not identified thermocouples as the required measurement device, and we have required calibration traceable to national standards. While NIST traceable includes temperature measurement with the thermocouples and traceability of the device(s) used for the measurement and calibration.

Question 2.

Q2. In Annex A, article 3. Requirements, Table 1., section 8. Online Water Conductivity, item 8b: “The water conductivity meters of this unit must measure the conductivity in the range between 0 µS/cm and 100 µS/cm/, or higher.” Physically, no material has a conductivity of zero uS/cm, and every material has a conductivity, even though very small. In the market of water conductivity meters, there is a limitation for the lower limit of conductivity a minimum of 0.5 or 1.0 uS/cm. Our offered water conductivity meter has a range between 0.5 – 100 or more uS/cm; is it acceptable?

R2. It’s acceptable.

Question 3.

Q3. In Annex A, article 1. Background, for station B it is mentioned that: “Upgrade Humidification with Rapid Response and Consumables Kit”. Would you please accurately specify what must be included in the consumable kit and what are the amounts of each item of the consumable kit?

R3. The consumable kit is for options. It could be some parts such as humidifier pump, heat tape, level switch, electro-pneumatic transducer, pressure transmitter, check valves, solenoid valves, and relays etc. The amount of each item depends on the number of parts used in the test staion. Please list the price for the consumable kit for our consideration.

Question 4.

Q4. In Annex C, item M1b: “The unit must provide 200 A or greater current with the accuracy of 0.05% full scale or better.” The accuracy of control or measure of current of the products that exist in the market has a percentage of full scale + percentage of reading value; for example, what is usual in such products for control or measurement is about (0.05 - 0.1)% of full scale (0.05 for control and slow measurement and 0.1 for fast measurement) + 0.2% of reading value.

We'd appreciate it if you reconsider the accuracy of the current, which is mentioned in the M1b item.

R4. The accuracy of current must be 0.05% or lower. 0.1% is not acceptable.

Question 5.

Q5. In Annex C, item M2b: "The voltage measurement must be in the range of -2V and +2V or wider range, and the accuracy of the voltage measurement must be in the range of -1 mV to +1 mV or better." The accuracy of voltage measurement of products that exist in the market is % of reading value +- % of full scale, for example, (0.1 – 0.5)% of reading value + (0.01 – 0.05)% of range. We'd appreciate it if you reconsider the accuracy of the voltage measurement, which is mentioned in M2b.

R5. It is acceptable if the accuracy of voltage measurement is 0.05% of the range or lower.

Question 6.

Q6. In Annex C, item M3b: "The unit must have two mass flow controllers for hydrogen gas and nitrogen gas at anode. The flow rate of each mass flow controller must be able to operate in the range between 0.1 SLPM to 10 SLPM." Must each mass flow controller for the anode support both hydrogen gas and nitrogen gas? In our offer, we offered two mass flow controllers at the anode; one of the mass flow controllers for the anode supports hydrogen gas and nitrogen gas simultaneously, and the other mass flow controller for the anode only supports nitrogen gas, is that acceptable?

R6. It is acceptable.

Question 7.

Q7. In Annex C, item M3c: "The unit must have two mass flow controllers for air and nitrogen gas at cathode. The flow rate of each mass flow controller must be able to operate in the range between 0.2 SLPM to 20 SLPM." Must each mass flow controller support both air and nitrogen gas? In our offer, we offered two mass flow controllers at the cathode; one of the mass flow controllers for the cathode supports air and nitrogen gas simultaneously, and the other mass flow controller for the cathode only support nitrogen gas, is that acceptable?

R7. It is acceptable.

Question 8.

Q8. In Annex C, item M3e: "The unit must have humidifiers for anode and cathode with automatic refill function and must be able to reach 90°C dew point temperature or higher relative humidity." Reaching to a dew point of 90 deg. C at anode or cathode depends on the flow rate

(slpm) in the anode or cathode and the pressure; usual humidifiers can reach dew points of 90 deg. C in 1 bar absolute pressure for flow rates of less than almost 5 slpm in the anode and cathode, and for higher pressures, we can reach 90 deg. C dew point in higher flow rates, for example, for 2 bar absolute pressure, we can reach to 90 deg. C dew point temperature and the flow rate for the anode and cathode can reach almost 10 slpm. Is that acceptable?

R8. It's acceptable.

Question 9.

Q9. Could you extend the closing deadline of solicitation for at least 2 weeks.

R9. It can be extended to October 4, 2023.

**All other terms and conditions of the solicitation remain the same.**