

**Question & Answers
On**

Invitation to tender N°TREN/I1/81-2009

Supply contract for FORK detectors – contract notice JO S 153-222578

Updated: 23/09/09

Before submitting any written question to the Commission, the tenderers should consult this frequently asked questions section relating to the invitation to tender. Questions and answers are published here with full respect to the anonymity of the enquiring tenderers.

Question 1: Chapter I.2.1 Detector head c) - Construction of the detector. Please confirm the required thickness of Cadmium around the polyethylene cylinder?

Answer 1: The Cadmium sheet thickness can have any value between 0.5mm and 0.75mm

Question 2: Chapter I.2.2 Preamplifiers i) - Please confirm the expected thickness of lead shield to be used to protect the A111 amplifiers?

Answer 2: Front: $\geq 17\text{mm}$ (towards the irradiated fuel elements), $\geq 11\text{mm}$ laterally, $\geq 16\text{mm}$ at back

Question 3: Chapter I.2.6 Other mandatory requirements. Please confirm the precise nature of the rubber protections used to avoid radioactive contamination of the FDET. It is our understanding that this may be a thin rubber or plastic cover that is to be put over the surface of the FDET to prevent it becoming contaminated. Please clarify?

Answer 3: During the spent fuel verifications, when the assemblies are manoeuvred 5 -10 meters under water into the Fork detector, loose contaminated particles from the fuel or floating in the pond water might be accidentally rubbed into the polyethylene fork body. In order to avoid this potential radioactive contamination, the (disposable) rubber protection is put over both Fork detector arms and the surface in between. Doing so, there is no more physical contact between the Fork detector surface and the fuel assemblies.

Question 4: Do you require the underwater pipes and detector head assembly to be leak tested?

Answer 4: It is implied that the whole system has to be permanently watertight during deployment. Accidental leakage will result in an immediate ingress of radioactive contaminated pond water, which contains several more chemical elements. The fission and ionisation chambers plus preamplifiers and other components would be damaged beyond repair and water in the pipe would create additional hazards. A certified leak test is not required as such but would prove the effectiveness of the mechanical design.

Question 5: Chapter IV.3. Evaluation of Tender – Award Criteria.

Question 5a: In the evaluation of the Tender it is noted that a weighting of 40 is allocated to the Efficiency of the detector. Do you require calculations to be produced to demonstrate that the efficiency for the designs can be met or exceeded?

Answer 5a: It is required that the summed count rate (both channels) from a known ^{252}Cf neutrons source (placed centrally between the detector arms, in air) confirms the efficiency values in the technical specification, for each fork detector supplied.

Question 5b: In the evaluation of the Tender it is also noted that a weighting of 40 is allocated to Certification and Technical documentation. How do you require this to be demonstrated for the purpose of the bid? The type of technical documentation that would typically be delivered with the contract would demonstrate the design (drawings, parts lists etc), manufactured quality and technical performance of the system (such as test reports), and provide an example of a manual and test certificates for similar, but not necessarily identical, types of products. Please confirm the extent of information you are expecting.

Answer 5b: The Fork detectors in this contract will be custom designed and built. Therefore, for the offer, DG TREN does not require a final technical user manual and test certificates, but will accept the like of similar detectors. It should be apparent from the supplied example documentation that the tendering company has the abilities and experience in the field of spent fuel measurements, under water.

Question 6: Within the specification there is NO requirement for transit cases for the detector heads and pipes. Please confirm that there is no requirement for transit cases?

Answer 6: in order to standardise the transport cases (as already in use with other spent fuel FORK detectors owned), DG TREN will provide the tenderer with suitable transport cases before the agreed delivery date.