

Report from the Czech Republic authorities on the implementation of the recommendations and suggestions contained in the Main Conclusions document (Reference CZ 17-03) following the verifications performed under Article 35 of the Euratom Treaty from 2 to 5 October 2017

Following the verifications performed under Article 35 of the Euratom Treaty by the European Commission from 2 to 5 October 2017 at the Dukovany, Moravský Krumlov, Brno and České Budějovice locations the Czech Republic authorities received two documents from the European Commission - the Technical Report (*Art. 35 Technical Report – CZ 17-03*) and the Main Conclusions (*Art. 35 Main Conclusions - CZ 17-03*). In compliance with the reporting requirement included in the Main Conclusions document please find hereunder the response from the Czech Republic authorities on the implementation of the specified technical recommendations and suggestions.

Recommendation indicated in letter a., point 3, part “MAIN CONCLUSIONS” of the Main Conclusions document:

a. Concerning the SÚJB regional centre in Brno (Section 8.3.1 of the TR), the verification team recommends that SÚJB considers improving the Brno laboratory capabilities in an emergency situation where the number of incoming samples significantly increases, both in terms of sample management and LSC counting capacity.

In addition, the verification team suggests more frequent participation in inter-laboratory comparison exercises.

Response from the Czech Republic authorities:

The recommendation concerning the improvement of laboratory capabilities has been solved both in terms of sample management and in terms of LSC counting capacity. The LSC counting capacity was increased up to twofold by buying a new spectrometer Tri-Carb 4910 TR that was installed in the SÚJB regional centre in České Budějovice at the end of 2017. Simultaneously, the older spectrometer Tri-Carb 2910 TR was moved from Brno to České Budějovice, where a new LSC laboratory was created. As of 1 June 2018, a new SÚRO branch was created in České Budějovice and all SÚJB laboratories located therein were gradually transferred to the SÚRO. The number of SÚRO staff members was increased. By this way, also the sample management capability has been significantly improved. In emergency situations, the sample management capability would be solved by ad-hoc increases of laboratory staff.

The inter-laboratory comparison exercises frequency (3 years) is specified in the decree No. 360/2016 Coll. on radiation situation monitoring. Naturally, the SÚRO laboratories take part in international comparison exercises.

Recommendation indicated in letter b., point 3, part “MAIN CONCLUSIONS” of the Main Conclusions document:

b. Concerning the ČEZ laboratory at the Dukovany NPP (Section 8.3.2 of the TR) the verification team recommends that the plant laboratory investigates the possibility of having additional intercomparison exercises with other nuclear power plant laboratories.

As a matter of good laboratory practise, the verification team suggests long-term trend analysis of HPGe-detector calibration parameters, in particular resolution (FWHM of the ^{60}Co peak at 1332 keV).

Response from the Czech Republic authorities:

Since 2019 the ČEZ has introduced inter-laboratory comparison exercises of all their laboratories of the Dukovany NPP and the Temelín NPP: both the chemistry section laboratories, both the dosimetry control laboratories and the LRKO in Moravský Krumlov and the LRKO in České Budějovice. The first exercise took place in June 2019. The requirement of the inter-laboratory comparison exercises was integrated into an internal procedure. Then the ČEZ laboratories took place in the comparison exercise organized by the SÚJB.

Since the end of May 2019 the ČEZ has introduced a long-term trend analysis of HPGe-detector calibration parameters (FWHM of the ^{60}Co peak at 1332.5 keV). The requirement of the long-term trend analysis was integrated into an internal laboratory procedure.

Recommendation indicated in letter c., point 3, part "MAIN CONCLUSIONS" of the Main Conclusions document and in section 8.3.4 of the Technical Report document:

c. Concerning the SÚJB regional centre in České Budějovice (section 8.3.4 of the TR), the verification team recommends introducing control charts for all detectors in order to follow up the analytical equipment performance (stability of energy calibration, efficiency calibration and resolution (FWHM)).

In addition, the verification team recommends increasing participation in interlaboratory comparison exercises (possibly at international level) to benchmark the laboratory's analytical performance.

The verification team suggests automating the transfer of analytical data to the MonRaS system. Digital media could be used to store the analytical reports.

As a matter of good laboratory practise, the verification team suggests introducing control charts to monitor the balances' performances.

Response from the Czech Republic authorities:

As of 1 June 2018, a new SÚRO branch was created in České Budějovice and all SÚJB laboratories located therein were gradually transferred to the SÚRO. SÚRO is gradually introducing all procedures used in its laboratories. Therefore, important HPGe detector parameters are controlled (energy calibration stability, efficiency calibration and resolution – FWHM) by the Standard Testing Procedure SZP 11.

The inter-laboratory comparison exercises frequency (rapid gamma determination – 1 year, laboratory capability – 3 years) is specified in the decree No. 360/2016 Coll. on radiation situation monitoring. Naturally, the SÚRO laboratories take part in international comparison exercises.

In the branch in České Budějovice, the SÚRO has introduced a standard Laboratory Information and Management System. After data verification by a system administrator, the system transfers the data (nuclide activities) into the MonRaS system.

In the branch in České Budějovice, the SÚRO has introduced a standard control chart of the balances.