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and the Way Forward**

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**2021 IAEA REGIONAL INTERCOMPARISON  
EXERCISE ON INDIVIDUAL MONITORING FOR  
EXTERNAL EXPOSURE IN AFRICA**

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MONITORING FOR EXTERNAL EXPOSURE IN AFRICA

**ABSTRACT**

The organization of this regional intercomparison exercise on individual monitoring in Africa region was implemented under the framework of IAEA Technical Cooperation Project RAF9068.

The SSDL of CNRP of Morocco hosted this intercomparison exercise (irradiation of dosimeters sent by participating dosimetry service and evaluation of final results).

Results of this intercomparison exercise were discussed during the virtual meeting held on 13-15 December 2021, Vienne –Austria. In this meeting Intercomparison results for each country checked and validated with special interest on consistency, accuracy (trumpet curve criteria compliance); influence of background radiation; unexceptionally too high or too low values; & typographic errors.

Results were analysed country by country to identify specific issues or otherwise in each case.

**INTRODUCTION**

When the exercise was announced, twenty-three (23) countries sent their application form to participate to the intercomparison exercise. Participants were asked to send 36 dosimeters used routinely and to give details on the dosimeter reference point.

The final number of participants who sent their dosimeters for irradiation was eighteen (18) and dosimetry systems were twenty (20).

Participants who sent their results were seventeen (17). One country used two readers: Automatic and manual OSL systems. The dosimetry systems to be evaluated are twenty (20). (11 TLD and 09 OSL).

The participants were instructed to follow normal routine procedures during the assessment of the dosimeters and to send the results of the dosimeter readings to the hosting SSDL for evaluation.

In this exercise, two quantities Hp (10) and Hp (0.07) have been evaluated and this intercomparison was designed to be a blind test for all participants who reported their results without knowing the reference dose values.

The SSDL established the irradiation plan and announced the intercomparison in February 2021. After completing the application procedures, the participants sent their dosimeters, in accordance with the instructions, to the SSDL. The laboratory irradiated the dosimeters according to the irradiation plan. The dosimeters were sent back to the participants. Each participant was instructed to follow normal routine procedures as far as possible.

The participants sent the results of dosimeters readings to the organizer (SSDL CNRP) for evaluation during the period August –20 November 2021.

The performance limits (i.e. trumpet curves) were calculated and represented in the participant's graphs using  $H_0 = 0.1$  mSv for Hp (10) and Hp (0.07), as stated in ISO 14146 [4].

Results of this intercomparison exercise were discussed during the virtual meeting held on 13-15 December 2021, Vienne –Austria.

The final individual results were sent to each participant in December 2021.

**CONCLUSION**

The results show that some participants have a very satisfactory performance and that a number of services could improve the quality of their systems by improving the calibration of their systems.

With the aid of the intercomparison results the participants can show compliance within their quality management system, compare their results with those from other participants and develop action plans for improvement of their system.

**Name of Member State/Organization**

Ministry of Health

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