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3.1-P14. Improving Reliability of Radionuclides Samplers for IMS

The International Monitoring System (IMS) consists of 80 radionuclide stations all of which can detect particulate radioactivity, and 40 of which can also detect noble gas xenon. As key equipments for radionuclide monitoring, the reliability of the samplers, have a direct impact on the minimum detectable concentration and the data availability of IMS radionuclide stations. As continuous running mass-transfer equipments, radionuclide samplers are exceptionally complicated Measures to improve reliability of samplers should be based on their characteristics. Most particulate samplers have relatively simple structure and run outdoors, so environmental conditions have much more impact on their reliability than other factors according to our experiences. Xenon samplers, however, are complicated mass- and heat-transferring equipments that usually run indoors, so attentions should be paid to both their design and maintainance. Simple and effective processes should be chosen to lower the complexity of the whole sampler. Essential state monitoring and prompt maintenance are crucial to keep the samplers in good condition. Sharing the ideas and experiences for improving reliability of samplers will be helpful to improve the data availability of IMS.

Primary author: LIU, Longbo (Northwest Institute of Nuclear Technology)

Presenter: LIU, Longbo (Northwest Institute of Nuclear Technology)

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