Optimizing and Joining Future Safeguards Efforts by "Remote Inspections"

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ABSTRACT

Remote inspections have a large potential to save inspection effort in future routine safeguards implementation. Such inspections involve remote activities based on the analysis of data acquired in the field without the physical presence of an inspector, shifting the inspectors' priorities further toward unannounced inspections, complementary access activities and data evaluation.

Large, automated and complex facilities require facility resident and specific safeguards equipment systems with features for unattended and remotely controlled operation as well as being integrated in the nuclear process. In many instances the use of such equipment jointly with the SSAC/RSAC and the operator is foreseen to achieve affordable effectiveness with a minimum level of intrusiveness to the facility operation. Where it becomes possible to achieve independent conclusions by this approach, the IAEA would make full use of the SSAC/RSAC, involving State inspectors and/or facility operators to operate inspection systems under remotely controlled IAEA mechanisms. These mechanisms would include documented procedures for routine joint-use, defining arrangements for data sharing, physical security and authentication mechanisms, recalibration and use of standards and software, maintenance, repair, storage and transportation. The level of cooperation and willingness of a State to implement such measures requested and properly justified by the IAEA will demonstrate its commitment to full transparency in its nuclear activities.

Examples of existing remote inspection activities, including joint-use activities will be discussed. The future potential of remote inspections will be assessed considering technical developments and increased needs for process monitoring. Enhanced cooperation with SSAC/RSAC within the framework of remote inspections could further optimize the IAEA's inspection efforts while at the same time maintaining effective safeguards implementation.