

Abstract

Remote Monitoring and Secure Communications for Transparency Applications

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Peaceful nuclear activities have several dimensions of concern. Transparency is just one such dimension, which must coexist with facility operations, physical protection, safety, environmental oversight, domestic regulations, and international nuclear safeguards. One convenient technical approach for accomplishing transparency objectives with various likely audiences involves remote monitoring and secure communications. Many issues are involved and problems must be answered if one is to develop a viable solution. The technical solution itself involves sensors, sensor platforms and/or tamper-indicating enclosures, data authentication and encryption, communications, storage, and analysis and review tools. Implementation of the solution can be even more daunting, including technical design, installation, configuration, operation, maintenance, troubleshooting, assessment and evaluation. The essential challenge for transparency is to be able to provide trusted information securely to an intended audience, with procedures established for dealing with anomalies.