

Remote Monitoring, Data Sharing, and Information Security

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ABSTRACT

Remote Monitoring (RM) is being used with increased frequency by the IAEA for safeguards in many parts of the world. This is especially true in Japan where there are also agreements for data sharing. The automated nature of RM lends itself to assist in modernizing old cumbersome data sharing techniques. For example, electronic declarations can be received, parsed and checked; then data for that time period and facility can be automatically released. This could save considerable time and effort now spent processing paper declarations and hand copying data. But care must be taken to ensure the parsing, transfers, and connections for these systems are secure. Advanced authentication and encryption techniques are still vital in this process. This paper will describe how to improve security with vulnerability assessments, the use of certificates, avoiding compromising dial-up connections and other methods. A detailed network layout will be presented that will resemble a future RM collaboration with the IAEA and the Japanese. From this network design, key strategic security points will be identified and suggestions will be made to help secure them.