Building Future Safeguards Capabilities
SYMPOSIUM
ON INTERNATIONAL SAFEGUARDS

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Integrating Visual Data into Safeguards Implementation and the State Evaluation Process

To implement state-level safeguards effectively, the IAEA Department of Safeguards seeks to obtain and make use of all safeguards-relevant information available about each state. This requires going beyond textual information to incorporate different forms of media that potentially contain safeguards-relevant content. This may include static images, such as photographs, schematics, or drawings, but also video, animation, and other related visual media. Visual information may have intrinsic safeguards value, distinct from the accompanying text, caption, or file description.

Safeguards analysts routinely engage in a number of discrete information collection and analysis activities as part of the state evaluation process and preparations for in-field verification. All of these tasks stand to benefit from incorporating visual data, which may help safeguards staff better understand locations, processes, or technologies of safeguards relevance. Commercial software tools and applications are available to facilitate collecting, processing, analyzing, presenting, and managing visual data, as well as integrating multi-modal data with all other safeguards-relevant information. For instance, analysts can use software tools to analyze the integrity of an image or a video, i.e., to determine whether it has been digitally altered, copied from elsewhere, or presented out of context. Data integrity validation helps ensure that all the information used by the Department of Safeguards, including open source multimedia data, is stringently assessed for source and content credibility, in addition to safeguards relevance.

This paper suggests specific safeguards uses for visual data, focusing in particular on data obtained in open sources. It demonstrates that integrating multimedia data strengthens the Department's ability to evaluate safeguards activities in a State and to prepare for in-field verification. The paper offers best practices to support the analyst in working with multimedia data. Finally, the paper discusses preliminary results of an evaluation of a digital forensic software for data integrity validation.

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Which "Key Question" does your Abstract address?

TEC2.7

Which alternative "Key Question" does your Abstract address? (if any)

TEC3.3

Topics

TEC2

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