

Abstract Submitted  
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**Measurement Challenges in International Agreements** JOHN LUKE, NNSA/LLNL — Making measurements in support of international agreements can pose many challenges both from a policy and science point of view. Policy issues may arise because physics measurements made in the area of arms control or disarmament may be deemed too intrusive since they could possibly reveal sensitive information about the material that is being interrogated. Therefore, agreements must include a framework for safeguarding against the potential release of this information. Most of the scientific issues center around the fact that it is desirable to make high quality measurements without any operator interaction. This leads to the development of instrumentation and software that are very stable and robust. Due to different concerns, policy and science priorities may be at odds with one another. Therefore, it is the scientists challenge - in this field - to keep policy makers informed by conveying what is technically possible and what is not in a manner that is easily understood and also negotiable. In this paper we will discuss some of the technology that has been developed to address some of these challenges in various international and model agreements. We will discuss the principle of informational barrier used in these measurement technologies to safeguard the release of sensitive information. We will also discuss some of the pitfalls that may arise when policy is ill informed about the physical constraints in the making of measurements of nuclear materials.

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