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NUCLEAR SECURITY CULTURE

THE STATE OF PLAY

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NS 1 Introduction to Nuclear Security

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Preface

Emerged as a concept at the turn of the century, nuclear security culture has evolved into a widely recognized and multi-functional discipline in support of nuclear security. Being a subset of organizational culture and drawing on its experience, it is designed to improve the performance of the human component and makes its interface with security technologies and regulations more effective and smooth. Publications in the IAEA Nuclear Security Series (NSS) lay the ground work for practicing security culture alongside with other fundamental principles.

Security culture is applicable to the entire workforce and can be an effective tool to address both unintentional and intentional breaches. While appropriately designed training programs, improved ergonomics, and efficient personnel recruitment policies deal with the former category, the latter is associated with malicious intent to divert nuclear material or commit an act of sabotage on their own or in collusion with outsiders.

Security culture connotes not only the technical proficiency of the people but also their awareness of security risks and motivation to follow established procedures, comply with regulations, and take the initiative when unforeseen circumstances arise. A workforce made up of individuals who are vigilant, question irregularities, execute their work diligently, and exhibit high standards of personal accountability is able to contribute to effective nuclear security. Further advancement of nuclear security culture makes it necessary to orient it toward multi-disciplinary applications, closely integrate it into national culture of individual countries, and raise security culture to the level of societal values by adopting a multi-stakeholder approach.

In 2008, the IAEA published the NSS Implementing Guide on Nuclear Security Culture [1]. The guide defines the concept and characteristics of nuclear security culture while describing the roles and responsibilities of institutions and individuals entrusted with a function in the security regime. Since then, the IAEA has conducted over 25 international, regional and national workshops to promote security culture and train nuclear security personnel at all levels of relevant organizations in the application of the methodology.

The IAEA Technical Guidance Self-Assessment of Nuclear Security Culture in Facilities and Activities was finalized and released by the agency in November 2017 [2]. The self-assessment methodology was successfully put to test for assessing security culture at Indonesia's research reactors (2012-2013); at Bulgaria's nuclear power plant (2014); and at Malaysia's hospitals for radioactive sources (2014-2016). Results were submitted to IAEA technical meetings and discussed at international conferences. Another technical guidance Enhancement of Nuclear Security Culture in Organizations Associated with Nuclear and Other Radioactive Material id still under development and due for release in 2018-2019. Pending its finalization, of equal importance, was the IAEA initiative to launch a coordinated research project Development of Nuclear Security Culture Enhancement Solutions (NSCES) (IO2007) to conduct analysis and research of approaches and methods, as well as develop additional practical tools to assess and enhance nuclear security culture. The project was designed to refine assessment and enhancement methodologies and integrate security culture into well-established societal values using the IAEA model as a template. The Nuclear Security Summits in Washington (2010), Seoul (2012), The Hague (2014) and Washington (2016) significantly boosted the concept and practical application of nuclear security culture. The Hague Summit, for example, encouraged all relevant stakeholders to build and sustain a strong nuclear security culture to effectively combat nuclear terrorism and other criminal threats. The summit emphasized the need to develop a nuclear security culture, with a particular focus on the interface of safety and security. The Hague Summit communique listed nuclear security culture as one of the three pillars of nuclear security—the other two being physical protection and materials accountancy.

This book attempts to look into the genesis of security culture as a concept which emerged with the recognition of the role of the human factor in the context of security. It traces the rapid evolution of security culture into a multifunctional discipline reinforced by additional tools such as assessment and enhancement methodologies and identifies synergies with nuclear safety. In addition, this book discusses several challenges which need to be addressed to make security culture a user-friendly, universal, and sustainable instrument to turn the perception of the human factor as a liability into an asset of nuclear security. Finally, it demonstrates how to tailor the generic model of nuclear security culture to meet specific needs of diverse facilities and activities in different countries, as well as to use the methodology as a tool for addressing insider threats and mitigate their consequences.

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[2] International Atomic Energy Agency, "Self-Assessment of Nuclear Security Culture in Facilities and Activities: Technical Guidance," IAEA Nuclear Security Series No.28-T, IAEA, Vienna, 2017