



Taking the Long View in a Time of Great Uncertainty

A View from the International Community

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**"It takes a very long time
to become young."**

~ Pablo Picasso

In this issue's column I am delighted to present a perspective on the future from the international community, provided by a long-term Senior Member of the INMM, L. David Lambert. After retiring from Oak Ridge National Laboratory, David has spent the last four years "living" international service, first in Vienna at the International Atomic Energy Agency (IAEA), and more recently supporting the Defense Threat Reduction Agency in the Republic of Kazakhstan for the contractor, Gregg Protection Services/Centerra Group.

As we have reflected upon in previous columns,² we are rapidly approaching a critical moment in the evolution of "all things nuclear" with respect to the preparation of the next generation to ac-

cept the responsibilities associated with the legacy we are leaving them. David's insights below once again call for an urgent response to this global issue, one that the Institute undertook more than a decade and a half ago with the engagement of universities that has led to the formation of Student Chapters worldwide. As the Institute's new operational strategies for the coming five years are revealed at this year's Annual Meeting in Atlanta, we will all better understand the challenges that lie ahead, and the responsibilities those of us in the "older generation" have for ensuring a safe and secure future for our world.

A View from the International Community

Baby Boomers. Generation X. Millennials. These are recognizable, common terms used to describe people from certain time periods of the world's his-

tory.³ Many stories have been written about the technology changes that have occurred in just the last fifty years. We sometimes find those stories whimsical and amusing ... and perhaps a little disconcerting at the same time, depending on age group. What is a trip down memory lane for someone in their 60s is more than a bit confusing for a teenager. Something as simple as a headlight dimmer switch on the floorboard of an old Ford Fairlane is incomprehensible to someone today who has always dimmed their headlights by pulling the handle on the left side of the steering column. Figuring out the latest smartphones, tablets, and video games is just as confusing to many in their 60s or 70s, but child's play (pun intended) for that teenager today.

Even as debates continue about nuclear weapons programs, development of new nuclear power programs, handling and storage of spent nuclear fuel, and the ever-increasing application of nuclear medicine, one common thread links them — the need for competent people who accept responsibility for the security and accountability of nuclear technology and radioactive materials.

Countries with what are considered mature nuclear weapons programs prac-

This column is intended to serve as a forum to present and discuss current strategic issues impacting the Institute of Nuclear Materials Management in the furtherance of its mission. The views expressed by the author are not necessarily endorsed by the Institute, but are intended to stimulate and encourage JNMM readers to actively participate in strategic discussions. Please provide your thoughts and ideas to the Institute's leadership on these and other issues of importance. With your feedback we hope to create an environment of open dialogue, addressing the critical uncertainties that lie ahead for the world, and identify the possible paths to the future based on those uncertainties that can be influenced by the Institute. Jack Jekowski can be contacted at jjekowski@aol.com.



tice stockpile stewardship, but are often are faced with significantly less manufacturing expertise than existed in their formative years. Experienced people with institutional knowledge of the practices, processes, and strategies for protection of those dangerous materials, in all their various forms, continue to disappear with each passing year. Lessons that could be learned, practices that are still viable, ideas whose time has come — all gather dust and are either ignored or forgotten as the next generation moves on to their own set of priorities.

A good example from the International Atomic Energy Agency (IAEA) is what happened as support for new nuclear power programs began to grow. Countries with existing nuclear power plants (NPP), or those that had an NPP in the recent past, were not considered “new” programs. What became apparent over time is that some countries with existing NPPs knew how to operate them, but the experienced people with institutional knowledge about designing, constructing, setting up, and initially licensing a new NPP had disappeared. The same loss of knowledge happened in countries that shut down a previously operating NPP, in many cases over a shorter period of time as the people with such knowledge migrated to other countries, leaving a legacy of stored nuclear materials without the expertise to properly manage them for decades into the future.

In the safeguards and security areas that are important to the INMM, technology to protect and manage nuclear materials continues to increase at a furious rate, perhaps too fast for many less-developed countries. Threats applicable to the theft, diversion, or sabotage of nuclear materials or their associated facili-

ties seem to increase in complexity and motivation, with malevolent acts making headlines almost weekly. All of this is happening as a new generation of women and men are taking leadership roles as technical experts and managers in the so-called “nuclear renaissance” era. One tool the INMM has in its arsenal of global support to fill that pipeline of the new generation is the knowledge and experience of its diverse membership that can be shared with that new generation, easing the transition.

Since its inception, the INMM has been leading the charge to educate anyone who would listen about the nuclear world, provide a platform for new technologies and methodologies, and focus the capabilities of subject matter experts from all over the world on vital issues. Members of the Institute continue to speak and demonstrate the value of their expertise and experience, and the INMM has enhanced its ability to communicate by taking steps to make its voice younger.

With twenty student chapters around the globe (and more on the way), the INMM has made great strides in the last several years to provide those student chapters with opportunities to learn and grow by encouraging their participation in Executive Committee meetings and Institute activities. Members can volunteer to become mentors to less experienced individuals through the website and technical divisions. The INMM’s professional chapters also provide a mechanism for those students who are seeking to learn more about their specific areas of interest through the Institute’s Annual Meeting, technical workshops, and other venues. Enhancing the knowledge of students helps each of them individually, but also their sponsoring faculty and universities collectively. These efforts have been

significantly enhanced in recent years by the engagement of the U.S. Department of State’s Partnership for Nuclear Security (PNS) initiative,⁴ which has sponsored several new international student and professional chapters, facilitating their engagement with the INMM.

But just being exposed to knowledge and experience is not enough for our students. Stronger identification with the INMM is needed by all members, manifested by more active involvement in Technical Division events. Visible, tangible support of the Technical Divisions for student activities and events raises the interest level of those who want to be involved in something that is dynamic, fresh, and thought-provoking. Increased involvement in the Technical Divisions means a greater population of potential mentors that can impart that knowledge and experience. Highly experienced mentors have to be willing, and supported, to advise entire student chapters, and *their sponsoring faculty*.

The International Nuclear Security Education Network (INSEN),⁵ supported in part by the IAEA, is another avenue that the INMM and its student chapters should be exploring. An entire nuclear security curriculum, with teaching materials and some textbooks, has been created by INSEN to teach faculty members of interested universities about all aspects of nuclear security through professional development courses (PDC) funded primarily by the United Kingdom (U.K.). Because the INMM provides online tutorials and conducts training/workshops on the entire spectrum of nuclear security subjects through its Technical Divisions, partnering with INSEN would be mutually beneficial. Universities with INMM student chapters could be encouraged to engage with INSEN, and the INMM



might, in turn, be able to inspire more INSEN members to develop INMM student chapters.

INMM's role in the creation of the World Institute of Nuclear Security (WINS)⁶ with its important workshops, publications, and the WINS Academy is yet another example of how we can ensure the future safety and security of the nuclear world, as are opportunities with numerous other organizations, such as the ASIS Certified Protection Professional (CPP) and Physical Security Professional (PSP) programs;⁷ the National Skill Academy,⁸ Nuclear; and, the U.S. Department of Energy's National Training Center.⁹

The future is upon us. The INMM has incredible resources to involve, encourage, and empower current and future professionals who protect and safeguard assets in the nuclear industries. The Institute has a global membership to lead, direct, and mentor others to continually learn and improve through meetings; workshops; professional and student chapters; and Technical Divisions that continually plant the seeds of knowledge and responsibility that will germinate and spread to ensure a brighter future world.

The INMM owns an important realization, "If not us, who; and if not now, when?"

"A sword, a spade, and a thought should never be allowed to rust."

~James Stephen

Endnotes

1. David Lambert is on assignment in the Republic of Kazakhstan with Gregg Protection Services/Centerra Group, managing training activities for URS Federal Services International and the Defense Threat Reduction Agency (DTRA) in support of nonproliferation, nuclear security and human resource development projects for the Global Nuclear Security (GNS) Program. David previously served for two years as the Senior Nuclear Security Training Officer with the International Atomic Energy Agency in Vienna, having retired from a thirty year career at Oak Ridge National Laboratory where he was Deputy Director for Program Development in the Global Security and Nonproliferation Program Office. David is a Senior Member of the INMM and was Chair of the Nuclear Security and Physical Protection Technical Division for several years. He authored the *Best Practice Guide on Human Reliability as a Factor in Nuclear Security* for WINS. The perspectives he provides in this article are his personal observations of the international nuclear sector based on more than four years of experience.
2. See past columns in the *Journal of Nuclear Materials Management (JNMM)* that speak directly to this "next generation" issue, including: *JNMM*, Summer 2014, Vol. XLII, No. 4, "Taking the Long View: Throwing Down the Gauntlet to the Next Generation of Nuclear Stewards – the Enduring Nuclear Legacy," pp. 86-89; *ibid*, Fall, 2011, Vol. XL, No. 1, "Taking the Long View in a Time of Great Uncertainty: The Changing Face of INMM at the 52nd Annual Meeting," pp. 56-57; and *ibid*. Fall, 2014, Vol. XLIII, No. 1, "Taking the Long Veiv in a Time of Great Uncertainty: Turning the Corner," pp. 65-67.
3. It should be noted that these terms are generally considered to be U.S.-centric, however, they are also used in other countries, although the timeframe for distinguishing them, and their relative demographic impacts may be different. See, for example, "Generations and Geography: Understanding the Diversity of Generations around the Globe," http://www.tammyerickson.com/images/uploads/TEA_Generations-and-Geography.pdf; and data such as http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_structure_and_ageing. Also see <http://www.tomorrowtodayglobal.com/2010/12/07/uk-and-us-baby-boomers-are-not-the-same-so-please-stop-generalising-generations/> for a discussion of how the Post-WWII world of the United Kingdom, and Europe, in general, postponed the "Baby Boomer" shaping of society for several years.
4. See <https://www.pns-state.net/en-us/>
5. See <http://www-ns.iaea.org/security/workshops/insen-wshop.asp>
6. See <https://www.wins.org/>
7. See <https://www.asisonline.org/Certification/Pages/default.aspx>
8. See <https://www.nsan.co.uk/>
9. See <https://ntc.doe.gov/>