

## **Advancing Networking and Mentoring Opportunities for Women in Nuclear Security**

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### ***Abstract***

The proposed paper will provide a summary of current activities and planned next steps under DOE NNSA Office of International Nuclear Security/Nuclear Security Women initiative, led by the James Martin Center for Nonproliferation Studies (CNS) and Los Alamos National Laboratory (LANL). Specifically, we will discuss the joint CNS-LANL project on capacity building and promoting women experts in the nuclear sector in the Black Sea region. Given the challenges of underrepresentation and lack of women leadership in nuclear security, nuclear energy, and other related fields in this region, the project will support development of a professional network of women – nuclear security experts from the Black Sea countries. Located at the crossroads of Europe, Asia, and the Middle East, the Black Sea region has a unique strategic importance, including an international shipping route with heavy maritime traffic carrying potentially hazardous materials, such as chemicals, contaminated scrap metal, and dual-use items. The Black Sea region also has its share of incidents of trafficking in nuclear and radiological material, including in view of “frozen” and active conflicts and contested territories in the region.

The specific activities under this project include development and delivery of technical workshops on current nonproliferation and nuclear security issues, as well as hands-on exercises on grant proposals writing, publishing in professional journals, and strategic thinking. The project goal is to establish a professional network for women experts working in nuclear and other security sectors in the Black Sea region. The follow up activities will focus on promoting the network and developing a strategy for its sustainability. The proposed network will provide a platform for women in this region to connect and seek professional development and advancement opportunities, engage in joint projects, and be mentored and serve as mentors to early career women in nuclear security and related fields. The project is based on successful CNS capacity-building activities aimed at bridging the gender divide and engaging more women in nuclear security and related fields, as well as on LANL’s current and past diversity and inclusion initiatives for women in STEM.

### ***Introduction***

The mission of the Nuclear Security Women Initiative (NSW) under DOE NNSA Office of International Nuclear Security is to promote the role and visibility of women across all aspects of nuclear security. This includes providing education, training, and other professional

development opportunities to increase the relevant nuclear security technical competencies, as well as increasing women's representation in the field of nuclear security writ large. To achieve this, NSW supports networks of nuclear security professionals, provides professional development opportunities in nuclear security, and encourages female representation in all aspects of nuclear security.

### ***NSW Activities: CNS-LANL Cooperative Efforts in the Black Sea Region***

The cooperative project under the above mentioned Nuclear Security Women Initiative on capacity building and promoting women experts in the nuclear sector in the Black Sea region is a joint effort led by the James Martin Center for Nonproliferation Studies (CNS) and Los Alamos National Laboratory (LANL).

Given the challenges of underrepresentation and lack of women leadership in nuclear security, nuclear energy, and other related fields in this region, this project aims to mitigate some of these challenges through the development of a professional network of women – nuclear security experts – from the Black Sea countries. The specific activities under this project include development and delivery of technical workshops on current nonproliferation and nuclear security issues, as well as hands-on exercises on publishing, grant writing, budgeting, strategic thinking, mentoring, and networking.

Located at the crossroads of Europe, Asia, and the Middle East, the Black Sea region has a unique strategic importance, including international shipping routes with heavy maritime traffic carrying potentially hazardous materials, such as chemicals, contaminated scrap metal, and dual-use items. The Black Sea region also has its share of incidents of trafficking in nuclear and radiological material, as well as concerns over security of these materials in “frozen” and active conflicts and contested territories in the region.

The project is based on successful CNS capacity-building and [outreach activities and initiatives](#) aimed at bridging the gender gap [1]. They are designed to advance the role of women of all ages and backgrounds in nuclear security and WMD nonproliferation globally. CNS initiatives empower young women to become the next generation of nuclear security and nonproliferation experts through access to training and education, professional networks, and by providing them with the tools to amplify their voices. CNS project team has been actively engaged with the nuclear regulatory authorities of the Republics of Moldova and Georgia, as well as with the Ukrainian government and universities in a number of research and capacity-building projects in non-proliferation and nuclear security. The project implementation, therefore, will be carried out utilizing existing regional partnerships and building new ones.

The project will also make use of LANL's current and past diversity and inclusion initiatives for women in Science, Technology, Engineering, and Mathematics (STEM). As an example of these LANL initiatives that support the development and execution of the current joint project with CNS, we note successful activities of the Los Alamos women's employee resource groups (ERGs), such as LANL Atomic Women. Through the ERGs, LANL cultivates a supportive work environment, addresses issues of concern from the diversity, equity and inclusion perspective, and encourages and supports employees' careers. In addition

to a wide range of efforts for the Los Alamos women's ERGs members (such as hosting panel discussions on career development, technical talks, speed networking events, stress management and resiliency classes, unconscious bias in STEM training, workplace communication and leadership skills classes, etc.), the ERGs also recommend, develop and provide assistance with initiatives that help the Laboratory attract and recruit the next generation of women in STEM, support LANL in retaining and promoting representative group members, and increase awareness of work environment issues [II].

As stated above, the overall goal of this NSW project is to establish a professional network for women experts working in nuclear and other security sectors in the Black Sea region. CNS and LANL have recently started Phase 1 of this effort, and as part of this first phase we plan to develop and deliver a workshop and establish the network. This phase is being implemented in cooperation with Ukrainian partners, including the Odessa Center for Nonproliferation and Women in Nuclear Ukraine. Workshop participants will include mostly female professionals working in nuclear related fields from five Black Sea countries – Bulgaria, Georgia, Romania, Turkey, and Ukraine, as well as Moldova<sup>1</sup>. The project workshop will combine training and knowledge-sharing on general and region-specific proliferation and nuclear, radiological and other security challenges, as well as discussions of gender issues, as they relate to the countries of the Black Sea region. The workshop will include a series of briefings by CNS and LANL experts, as well as invited international and regional speakers who will address nonproliferation and nuclear security challenges and tools and mechanisms to mitigate these challenges. One workshop session will also be devoted to emerging technologies and their impact on security.

The second part of the workshop will focus on diversity issues and will feature presentations about challenges and successes in creating gender parity in the workplace and achieving higher female representation in leadership positions, as well as supporting and mentoring early career staff. CNS and LANL will also offer optional professional development sessions on how to get published in digital and print media and in scholarly journals, emphasizing the importance of getting published to strengthen and advance one's career, and how to prepare competitive grant proposals and seek funding. The workshop will be followed by a roundtable discussion with all participants about challenges and opportunities in promoting women, including through professional and other networks. The week-long event will conclude with the establishment of a professional network supporting women in the Black Sea region and introduction of a pilot survey to assess perceptions of women's roles in nuclear and radiological security.

While the professional network that we will establish as part of this project will be informal in nature, the network will serve as a platform for regional expertise on nuclear-related issues and professional opportunities, mentorship for young women starting their careers in nuclear and radiation-related fields, and an information exchange. The purpose of this network is to serve as a communication hub and a "go-to" resource for individuals who are interested in learning more about professional opportunities for women and receiving career advancement

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<sup>1</sup> Although not bordering the Black Sea, Moldova is included in our project as it is affected by similar security concerns as Georgia and Ukraine, and it also shares a border with Romania and Ukraine.

recommendations, information about professional development, conferences, and other professional events in the region and beyond.

The Project's Phase 1 will conclude with the pilot survey that CNS will introduce at the end of the workshop, with the expectation that it will be conducted by each participant in her respective organization within a month after the network's kick-off meeting (October 2021).

While the primary focus of this paper is on the first phase of the project, LANL and CNS are also planning to develop the second phase, which will be comprised of several key activities, including:

- Conducting a survey on perceptions of roles of women in the nuclear sector in participating countries and disseminating survey results. CNS will collect and distribute initial survey results and feedback which will be shared among project participants. The same survey will be distributed by project participants to other organizations in the region to solicit responses from a wider range of stakeholders and to measure changes in the relevant perceptions since the network's inception. CNS will facilitate the survey process and publicize its results. These results will also help identify areas which will require additional effort and attention during the second year of project activities.
- CNS will assist with promoting the network in social media and initiating communication between its members with the expectation that another regional stakeholder might take over that function over time.

During the second phase of this project, CNS and LANL experts also plan to continue to provide ongoing mentoring (e.g., one-on-one video calls) and outreach, and work with regional partners to strengthen the network and make it sustainable after the end of the grant period. This effort will culminate in a working meeting of the network's most active affiliates to assess current progress and develop a roadmap for sustaining the network. The meeting will include briefings by the network's members about the network activities and their roles and commitments in promoting and making this network stronger and sustainable. It will also include hands-on training by a wide range of SMEs on proposal writing, and how to promote their work through social media and various professional outlets. Other international stakeholders, as well as leading experts from NGOs and IOs, will be invited to participate in this meeting to share their knowledge and experience.

One of the products of these activities will be a report about the network, its lessons learned, and best practices in establishing and promoting women professional networks using the Black Sea regional project as a case study. The intent is for the report findings to be shared at international meetings and other forums, to hopefully grow this activity in other regions as well, and to ensure sustainability. It is important to emphasize that while this project is reaching out mostly to women, it welcomes engagement by all experts who are interested in advancing women in the nuclear field and addressing gender-related issues in the workplace, as these efforts require active participation and building advocacy and alliances among all genders and stakeholders who are supportive of this cause.

The follow on activities under this project will focus on promoting the network and developing a strategy for its sustainability. The goal of the proposed network is to serve as a platform for women in the Black Sea region to connect and seek professional development and advancement opportunities, engage in joint projects, be mentored and serve as mentors to early career women in nuclear security and related fields. By the end of 2022, project organizers expect to have an established and visible network in place and at least one regional entity committed to its ongoing support. CNS and LANL hope to continue engaging with the networks' affiliates beyond the project end date.

### ***Conclusion***

The DOE NNSA Office of International Nuclear Security, CNS, and LANL experts engaged in the Nuclear Security Women initiative activities stand ready to continue to provide innovative and focused support to the international community, in order to address the evolving needs and challenges of underrepresentation of women in nuclear security, nuclear energy, and other related fields.

The close engagement of regional partners including organizations established and run by women nuclear security experts in all stages of this project's implementation will likely enhance success of this activity. Applying "bottom-up" approach and seeking regional partners' input and decisions will help characterize the network establishment process as nurtured within and not imposed from outside. Such collaboration promises to further advance these important diversity, equity, and inclusion goals for women in nuclear security.

## **ACKNOWLEDGEMENTS**

The authors would like to express appreciation to the U.S. DOE NNSA Office of International Nuclear Security for their support of the Nuclear Security Women Initiative and its activities.

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