Diversity, Equity, and Inclusion in Nuclear Security Culture: Insider Threat Assessments at Nuclear Facilities

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ABSTRACT

In the face of evolving threats, nuclear security frameworks must adapt to new risk factors and challenges, both internal and external. In examining what factors are the most likely to indicate an insider threat from nuclear facility personnel, the systems and methods to identify indicators – both for new hires and existing personnel are based off of problematic and antiquated conceptualizations of who or what constitutes a threat. For nuclear facilities to more effectively screen their personnel for insider threats, a more diverse, equitable, and inclusive (DE&I) security culture must be the norm. By creating a DE&I security culture, nuclear facilities can more effectively incorporate these elements into their broader nuclear security architecture from the ground up. This paper will examine cases studies of insider threat incidents through a DE&I lens to highlight where gaps in nuclear security insider threat assessments exist. It will then go on to argue that by implementing DE&I into personnel reliability programs and nuclear security culture, nuclear facilities can improve insider threat assessments to screen for domestic violent extremists, protect against foreign threats, and more effectively identify risks to nuclear facilities.

INTRODUCTION

In an ever-changing environment, risk takes on a more fluid form. Pinning down who or what is a threat in the U.S. nuclear space becomes more and more challenging in a world filled with disinformation and evolving circumstances. What exacerbates these efforts to identify individuals who pose a risk to nuclear security is the flaw in the underlying framework for how we assess for insider threats.

For decades, the U.S. has constructed the image of a ‘threat’ to fit a very particular image – specifically an image of someone who doesn’t present as an ‘American’\(^1\). This default American image is almost always presented as a white individual, with people who fail to

present in this this way being subject to additional scrutiny. This ‘othering’ of non-white and otherwise ‘non-American’ presenting individuals reinforces problematic biases in national and nuclear security frameworks.

While insider threat assessments focus on personnel reliability programs and effective training, and existing literature is quick to acknowledge that there are flaws in frameworks designed to identify red flags, what isn’t discussed is the underlying bias in determining not only what constitutes a red flag at the organizational level, but also the individual biases that come into play when determining who or what is reported under these schemes.

By examining case studies and the implications of bias within the insider threat personnel reliability programs, this paper will highlight how diversity, equity, and inclusivity (DE&I) shortcomings within a facility’s nuclear security culture can exacerbate or create vulnerabilities related to insider threats. It will also examine how more inclusive policies that mitigate biases can strengthen personnel reliability programs to flag indicators of insider threat behavior to strengthen nuclear security against a wider variety of risks.

NUCLEAR SECURITY CULTURE AND INSIDER THREATS
To understand the impact of biases and DE&I on nuclear security, it is important to define some of the key components of nuclear security.

Nuclear security culture, as defined by the International Atomic Energy Agency (IAEA), is “[t]he assembly of characteristics, attitudes and behaviors of individuals, organizations, and institutions which serves as a means to support and enhance nuclear security.” It entails the combination of factors and systems that have to work together in order to secure nuclear materials, weapons, technology and knowledge. This culture of security aims not only to prevent theft of malicious acts relating to nuclear materials and facilities, but also to identify threats early and respond to them efficiently.

Insider threats are categorized as “[i]ndividuals with malicious intent (‘insiders’) working within nuclear facilities pose arguably the greatest threat to nuclear materials, systems and information. Insiders can exploit their authorised access to bypass multiple layers of security that external adversaries would have to defeat in order to get close to their target. They can also utilise their authority over people and systems, and knowledge of the facility

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and security systems to both facilitate and mask their actions.”

This definition from the Centre for Science and Security Studies provides a comprehensive overview of insider threats that also highlights the importance of security culture in catching them. The potential of insiders to access sensitive material, technology, and information is much higher given their status, and is only through a combination of organizational and personnel-based security initiatives that strong insider threat protection programs can be built.

Because nuclear security culture and personnel reliability programs are driven by individual, organizational, and institutional structures, it is critical to acknowledge that these structures can – intentionally or unintentionally – reflect the biases of the people and environment that create them. Nuclear security culture in the U.S. and around the world is intimately tied to the counterterrorism efforts that were put into place following the September 11, 2001, attacks. While the attention to nuclear security is critical to broader national security efforts, the methods for identifying threats that were put into place reflects a disproportionate focus on foreign threats. Even decades after the attacks, guidance for preventing radicalization relating to nuclear security focus largely on “Jihadist” organizations or separatist movements.

While focus on foreign threats and radicalization must be maintained, the guidance and framework for assessing threats must remain flexible enough to adapt to an evolving threat environment. In examining cases of U.S. domestic terrorism in 2021, 49% of all domestic attacks were committed by white supremacists and affiliated far-right groups – as opposed to only 4% of attacks committed by Islamic extremists. This trend has even been acknowledged by top national security players, with U.S. Attorney General Merrick B. Garland and Homeland Security Secretary Alejandro N. Mayorkas identifying the greatest domestic threat facing the United States as “racially or ethnically motivated violent

extremists,” specifically highlighting white supremacists.\textsuperscript{10} Despite this acknowledgement, not much has changed – and this is a problem.

Maintaining disproportionate focus on foreign or externally influenced threats, when domestic actors pose a much larger concern in the domestic threat environment, has institutionalized biases and exclusionary behavior that can exacerbate the risks posed by insider threats. Approaching nuclear security culture and insider threat prevention programs with a DE&I lens can help identify some of the underlying structural biases in place and create solutions to address them in a way that reduces nuclear security vulnerabilities.

CASE STUDIES – NEAR MISSES AND TROUBLING EXTREMES
Structural bias within security organizations and cultures, while prevalent everywhere, can be challenging to understand in the abstract. It can be easy to acknowledge that these biases are bad, but the question of removing them – and generating the organizational will to do so – is a different challenge altogether. It is here that case studies prove to be especially useful. Walking through the insider threats posed by these individuals illustrates the vulnerabilities in personnel reliability programs, both in nuclear and non-nuclear spaces. It is of no small concern that domestic violent extremists in the U.S. have come dangerously close to accessing nuclear materials and facilities. These gaps in the U.S. national nuclear security framework grow larger every minute, and these case studies serve as an indicator that urgent change is needed.

CASE STUDY – BRANDON RUSSELL
In examining the potential threat to nuclear facilities posed by domestic violent extremists, the case of Brandon Russell bears significant interest – and concern – for nuclear security practitioners.

Brandon Russell joined the Florida National Guard in 2016, serving his country as a private first class.\textsuperscript{11} The year prior, he founded the Atomwaffen Division (AWD), an accelerationist neo-Nazi group dedicated to tearing down contemporary society in order to rebuild in the image of a romanticized American past that valued whiteness, marriage, family values, and


The method is in the name. ‘Atomwaffen’ – meaning atomic weapon in German – indicated the group’s nuclear ambitions and desire to acquire and use nuclear weapons in order to accelerate the collapse of civilization, and subsequently, AWD’s opportunity to rebuild in their own white supremacist paradise.15, 16

Among AWD plans for hastening societal collapse were ideas to target critical infrastructure. Russell posted in the white nationalist Iron March forum about attacking Miami’s Turkey Point nuclear power plant, and was identified by a fellow member as “somebody that has the knowledge to build a nuclear bomb[].”17 Russell was taken into custody in 2017 after being found in possession of explosives, bomb-making chemicals, and thorium and americium – radioactive materials.

Russell’s arrest was a boon for national security, but raises questions as to why someone with such extreme views was able to remain in a military force. Russell was known for sharing his extremist views in the workplace.18 Yet this radicalized discourse was not flagged. Russell’s case is indicative of the underlying biases within the personnel reliability programs for individuals charged with national security. There is little to no doubt that individuals espousing Jihadist viewpoints in the workplace would have been flagged and investigated, yet an individual espousing white nationalist points of view was left unchecked.

This case is a snapshot of broader issues with extremism in the military. Until December 2021, the Department of Defense (DOD) did not have “Advocating widespread unlawful discrimination based on race, color, national origin, religion, sex (including pregnancy), gender identity, or sexual orientation.” as part of its definition of “extremist groups,” nor did “active participation” entail social media and internet activities relating to extremist

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15 Southern Poverty Law Center, Atomwaffen Division, (2017)
In 2022 the Department of Homeland Security (DHS) released an internal investigation on domestic violent extremism (DVE) within the organization, flagging that there is no DHS-wide definition of DVE, no guidance on what constitutes “violent extremist activity,” nor is there a list of indicators or behaviors to reference.20 Similarly, the Department of Energy’s Human Reliability Program does not define “extremism” in its guidance.21 The broader national and nuclear security frameworks are intertwined, and subsequently incomplete when it comes to far-right domestic terrorism. This shortcoming could be easily exploited by an insider, because the system that should be flagging these far-right threats doesn’t know what it should be looking for.

It bears repeating that an individual who founded a Neo-Nazi group planned an attack on a nuclear power plant, sought to acquire nuclear weapons to hasten the collapse of society – and was allowed join the Florida National Guard and remain in service for a year. Brandon Russell proved that there is a gaping hole in the national security framework, and it has serious implications for nuclear security efforts.

CASE STUDY – ASHLI BABBIT

Ashli Babbit is also a highly relevant case study. An Air Force veteran who spent more than a decade in service, what she was perhaps better known for was her high-profile death during the January 6, 2021 insurrection at the Capitol Building in Washington, D.C.22 Once an avid supporter of Barack Obama, Babbit was radicalized on social media, subscribing to far-right mass delusions like QAnon and conspiracy theories including #SaveTheChildren, COVID-19, and the results of the 2020 U.S. Presidential election – which ultimately led to her violent death.23

While in the Air Force Babbit had a history of exhibiting insubordinate behavior – a trend that was chalked up to stubbornness and clashing with military hierarchy and her superiors – and kept her from rising through the ranks.24 Babbit also had two protective

19 Department of Defense, Instruction 1325.06, (December 20, 2021)
https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/132506p.PDF?ver=cktT436s6Q40EvTgLн-Fе7g%3d%3d
24 Jamison, P. et. al. “‘The storm is here’: Ashli Babbitt’s journey from capital ‘guardian’ to invader,” (2021)
orders filed against her in 2016 and 2017. The first after allegedly ramming into her husband’s ex-wife with her car and the second after allegedly harassing the same woman by following her home and verbally assailing her with calls and messages. What is troubling, is that despite all of these signs, and her avid social media support for debunked conspiracy theories as early as 2016, Babbit stayed on as an employee at the Calvert Cliffs Nuclear Power Plant from 2015 to 2017.

The Babbit case provides an interesting framework with which to highlight vulnerabilities in nuclear security personnel reliability programs and its ability to identify insider threats. Each piece of the Babbit case seems somewhat unassuming until they are pieced together to form a disturbing picture of an individual who should not have been anywhere near a nuclear facility.

A history of violence and insubordination is clear red flag. While details on Babbit’s time at the Calvert Cliffs nuclear power plant have been limited, there is no evidence that she was placed on leave or had her clearance suspended or revoked after being accused of committing vehicular assault while being an employee at the facility. Violent behaviors can be indicative of other problems that could ultimately affect the security of a nuclear facility – either through the threat posed by the individual, or their inability to do their job as a result of these problems.

The Babbit case is furthermore an indication of the need for thorough social media analysis by personnel reliability programs. As an employee she was espousing conspiracy theories and mass delusions that undermined the foundation of American democracy and shared problematic falsehoods about individuals with different viewpoints than her own. These behaviors should have been cause for concern during routine screening, and yet, she stayed on at the facility for another year before leaving.

Babbit’s violent tendencies and social media use were clear red flags that should have precluded her from access to a nuclear facility– and yet, the personnel screening failed to identify her as a potential threat. Her knowledge of facility protocols, experience from her time in the military, and radicalization by the far right were a perfect storm in which an insider threat could be born. The Ashli Babbit case illustrates that the screening process

26 Jamison, P. et al. “The storm is here’: Ashli Babbitt’s journey from capital ‘guardian’ to invader,”(2021)
for new and existing employees has failed to capture behaviors and tendencies of individuals who pose significant threats to nuclear security.

THE CASE STUDIES AND BROADER ISSUES
What Babbit and Russell had in common was an affiliation for far-right views, active social media use to espouse their beliefs, and time in the military. This is likely not a coincidence. Studies have found that far-right extremist groups intentionally target recruitment towards veterans and active military personnel in an effort to gain military training and insider knowledge of how institutions of power operate.32 Furthermore, online radicalization is the most common form of being indoctrinated into an extremist belief system. White-nationalist groups now outperform ISIS in nearly every social metric and notably, there was 600% increase in followers of American white-nationalist movements on Twitter between 2012 and 2016.33

An additional point of concern emerges when this trend of online radicalization of military personnel is placed in the context of hiring practices for nuclear power plants. All holding companies that own five or more nuclear power plants in the U.S. have veteran-specific hiring initiatives.34 Veterans are attractive hires given their military experience, security expertise, and the fact that they are ‘pre-vetted’ by the nature of their previous employment.35 However, as noted earlier, there are flaws in the personnel screening systems that may be allowing extremists to slip through the cracks, thus creating the potential for extremists to becomes insider threats at nuclear facilities.

These elements of internet extremism, trends of violence, and sharing of extremist ideologies in the workplace are all flags that personnel reliability programs and insider threat mitigation measures should be able to catch. Russell and Babbit were not hiding their views – which begs the question why they were able to proceed unchecked for so long? The security programs in place are far too dependent on a definition of threat as an ‘other’ that they are failing to acknowledge or identify the threats that look more like ‘us’ – threats that fit a more traditional, ‘American’ image. Security culture at nuclear facilities needs to examine risk in a manner that is much more inclusive than past precedent, in order to accurately assess current, evolving, and future threats.

DE&I
Having outlined the nuclear security threat of far-right extremists, the next problem is determining how to fix the threat assessments. This is where the DE&I lens comes in. The

33 Reitman, J. “All-American Nazis” (2018)
35 Sagan, S. Protecting Against Insider Threats (2021)
most critical element of nuclear security that DE&I can address is in identifying threats. By using this approach, elements like race or ethnicity can no longer be used as sole disqualifiers when it comes to personnel risk assessment – thus creating space for domestic threats to be considered more thoroughly. This can refocus threat assessments on behaviors rather than falling back on the assumptions that come with racial and other types of biases.\(^{36}\)

Part of the problem facing nuclear security practitioners when it comes to developing nuclear security culture and insider threat identification programs is the homogeneity of the decision makers. The nuclear field has historically lacked diversity, whether it comes to racial representation, gender, sexual preference, or any other marginalization marker.\(^{37}\) Creating pipelines to include marginalized perspectives in the decision-making process and considering equity opportunities for individuals currently in the field are important steps for diversifying the field. The broader the perspectives included, the more expansive the definition of ‘threat’ for nuclear security. Different individuals with different lived experiences move through the world differently, and subsequently view risk and threat in a different light. Because the goal of nuclear security is to protect nuclear materials, weapons, facilities, technology, and knowledge from unauthorized use, the field benefits from a more expansive view and assessment of who or what could pose as an insider threat.

DE&I also strengthens nuclear security culture in facilities. Diversity tends to bring an openness to new ideas and places an emphasis on listening, which is central to creating an organizational culture in which personnel feel empowered to share instances of experiencing extremist behavior from peers.\(^{38}\) If nuclear security facilities allow workers to be marginalized on the basis of race, sex, sexual orientation, disability, or any other factor, they create an workplace in which personnel are less likely to share concerns, or potentially even create an environment in which an employee could be blackmailed for insider information because of how they identify, the religion they practice, or any range of ‘othering’ factors. This is especially relevant in the context of far-right extremism, which often intentionally targets marginalized groups in their rhetoric and violent activities.\(^{39}\)

A work environment in which personnel feel included is also likely to breed higher employee satisfaction, which in turn, improves performance and reduces the likelihood of insider threats going unnoticed.\(^{40}\) Equitable workplaces are also less likely to produce


\(^{39}\) Doxsee, C., et. al., *Pushed to Extremes: Domestic Terrorism amid Polarization and Protest*, (2022)

disgruntled employees who may be taken advantage of for insider access, due to external motivations like money or revenge.

There has been considerable work done by individuals in the nuclear field to take into consideration the historic exclusion of certain groups. Gender Champions in Nuclear Policy in particular has highlighted the impacts of gender diversity on the field.\footnote{Gender Champions in Nuclear Policy, (2018), \url{https://www.gcnuclearpolicy.org/}} The U.S. DOE Office of Science a Diversity & Inclusion Working Group and their Office of Scientific Workforce Diversity, Equity, and Inclusion are other initiatives to critically examine award management and research initiatives funded by the DOE, in addition to many other initiatives based out of the National Laboratories.\footnote{DOE, \textit{Advancing DEI in SC Business Practices}, (2020) \url{https://science.osti.gov/SW-DEI/Advancing-DEI-for-the-SC-Mission/Advancing-DEI-in-SC-Business-Practices}} Critically, there is very little research on the experiences of the LGBT+ community in the nuclear field, though initiatives exist more broadly at the military level, with the repeal of “Don’t Ask, Don’t Tell,” examination of Title VII of the Civil Rights Act of 1964 as extending to claims of discrimination based on an individual’s gender identity, including transgender status, and a DOD review on its transgender services policies relating to administrative discharges.\footnote{DOE, \textit{Office of Science Workforce Diversity, Equity, and Inclusion}, (2022) \url{https://science.osti.gov/SW-DEI}} \footnote{Kamarck, K. N., “Diversity, Inclusion, and Equal Opportunity in the Armed Services: Background and Issues for Congress” in \textit{Congressional Research Service}, (June 5, 2019), \url{https://crsreports.congress.gov/product/pdf/R/R44321}} \footnote{Department of Justice, \textit{Attorney General Holder Directs Department to Include Gender Identity Under Sex Discrimination Employment Claims}, (December 18, 2014), \url{https://www.justice.gov/opa/pr/attorney-general-holder-d rects-department-include-gender-identity-under-sex-discrimination}} More research on marginalized groups outside of race and gender needs to be conducted in order to better assess the experiences of these groups in the nuclear field.

CONCLUSION

Just as threats persistently change and evolve, so too must nuclear security. The threats facing present-day practitioners can no longer be so easily classified as ‘us’ against ‘them.’ Decision-makers in the field will have to critically reflect on the underlying biases and assumptions that constitute their understanding of threats in order to identify the gaps in their systems and implement solutions. These new threats can be found at home, and personnel reliability and screening programs must adapt to account for these kinds of threats. Nuclear facilities must use the tools available to them to ensure that individuals who may pose a threat, whether foreign or domestic, never get the chance to become insiders. A DE&I approach to nuclear security culture and insider threats can help strengthen the protection of nuclear facilities by identifying a broader range of threats and providing a more comprehensive and inclusive approach to nuclear security.

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