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NOTE: A HIDDEN THREAT TO NATIONAL SECURITY: GUN CONTROL AND ITS IMPACT ON CRITICAL IN- FRASTRUCTURE

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I. INTRODUCTION

The production of electrical power is a requirement of most societies.¹ From the discovery of fire to the splitting of an atom, societies have built grand empires, cities, and nations around the benefits of power. Today, power production continues to play an integral role in the development and security of most nations. Modern America is no exception. Both the United States military and general society rely heavily upon a stable supply of electricity to operate safely and effectively. Without the power people fundamentally rely on, modern society has the potential to slip into utter chaos. When New York, the city that never sleeps, ground to a powerless halt in 1977, the potential chaos became a temporary reality. The 1977 New York Blackout provides a stark example of America's reliance on domestic power production. During the New York power outage, it took officials twenty-five hours, a little more than one day, to

¹ For purposes of clarity, the term power and electricity will be used interchangeably to refer to electrical power.

restore power to the city.² Within that time, “arsonists had set more than 1,000 fires and looters had ransacked 1,600 stores . . .”³ Regardless of the reasons behind the 1977 New York arson and looting, one fact remains, the protection of power production capabilities is critical to prevent societal breakdown and ensure strong national security.

Imagine for a moment that instead of an accidental outage, the 1977 New York blackout was the product of an intentional act of terrorism. The control, damage, and disruption caused by such a hypothetical event, correlated with the real effects of the actual blackout, highlights why both the United States government and military are constantly concerned with the protection of domestic power production facilities. Additionally, with the United States military’s heavy dependence upon civilian power production, the issue of power stability and security is critical.⁴ Without a secure source of power, especially in times of emergency, the United States could find itself in a weak and compromised position. Because the production of electricity is crucial to American prosperity, there is an ever-present concern regarding the physical security and cybersecurity of critical power

² Jennifer Latson, *Why the 1977 Blackout Was One of New York’s Darkest Hours*, TIME (July 13, 2015), <https://time.com/3949986/1977-blackout-new-york-history/>.

³ *Id.*

⁴ Loren Thompson, *Critical U.S. Sites Can’t Cope With a Prolonged Power Outage*, FORBES (May 18, 2018), <https://www.forbes.com/sites/lorenthompson/2018/05/18/critical-u-s-military-sites-cant-cope-with-a-prolonged-power-outage/#6b328e34436e>; see also Dept. of Defense, Defense Science Board, *Resilient Military Systems and the Advance Cyber Threat*, DSB REPORTS (Nov. 1, 2019, 2:05 PM), <https://dsb.cto.mil/reports/2010s/ResilientMilitarySystemsCyberThreat.pdf>; *Installation Energy*, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE FOR SUSTAINMENT, (Nov. 1, 2019, 2:08 PM), https://www.acq.osd.mil/eie/IE/FEP_index.html; Lisa A. Jung, DEPT. OF DEFENSE, FY 2019/ FY 2020 ENERGY RESILIENCE AND CONSERVATION INVESTMENT PROGRAM GUIDANCE (Sept. 15, 2017); John Conger, DEPT. OF DEFENSE, ELECTRIC POWER RESILIENCE MEMORANDUM (DEC. 16, 2013).

production facilities.⁵ For example, the Nuclear Regulatory Commission (NRC) has specific guidelines dedicated to the protection of nuclear power and waste storage facilities.⁶ These protocols exist specifically to protect nuclear power facilities from the threat of physical terrorism, sabotage, or organized assault.⁷ However, in recent years, important non-nuclear sectors of the domestic power production industry have been all but forgotten. New threats, mostly in the realm of state gun laws, have created seemingly insurmountable hurdles for those power facilities that seek adequate levels of physical security.

Gun laws are a unique and often inflammatory political issue. From strict gun bans to open carry statutes, gun laws represent a divisive and controversial issue in American politics. Due to the political division regarding gun regulations and the fact that the United States is a conglomerate of semi-autonomous states, gun laws in one state often look very different from those in neighboring

⁵ *Supra* note 4; see also United Nations Office of Counter-Terrorism et al., *The Protection of Critical Infrastructures Against Terrorist Attacks: Compendium of Good Practices*, UN (Nov. 1, 2019 2:45 PM), https://www.un.org/sc/ctc/wp-content/uploads/2019/01/Compendium_of_Good_Practices_Compressed.pdf; *Critical Infrastructure Security*, DEPARTMENT OF HOMELAND SECURITY (last visited Nov. 1, 2019 2:49 PM), <https://www.dhs.gov/topic/critical-infrastructure-security>; Department of Homeland Security, *National Infrastructure Protection Plan (NIPP) 2013: Partnering for Critical Infrastructure Security and Resilience*, <https://www.dhs.gov/sites/default/files/publications/National-Infrastructure-Protection-Plan-2013-508.pdf> (last visited July 14, 2020); 6 U.S.C. § 652 (2019); Department of Homeland Security et al., *Energy Sector-Specific Plan*, Energy Section-Specific Plan (2015).

⁶ Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009); see also 42 U.S.C. 2201a (2019).

⁷ *Id.*; see also Revision of Guidelines on Use of Firearms by Security Personnel, 84 Fed. Reg. 8,546 (Mar. 8, 2019).

states.⁸ State-level gun laws, particularly the more restrictive ones, inadvertently pose a distinct threat to the physical security capabilities of myriad American power facilities. Some restrictions are so severe that even nuclear facilities have been unable to obtain handguns for their security forces.⁹ These state-level restrictions are one reason why federal firearms preemption was proposed and applied to the nuclear power industry.¹⁰ Regardless, privately-operated power

⁸ *Guide to the Interstate Transportation of Firearms*, NRA-ILA (Nov. 2, 2019, 2:57 PM), <https://www.nraila.org/gun-laws/>; see also Nicholas Duva, *Gun Laws Vary State by State: CNBC Explains*, CNBC (Nov 2, 2019, 2:59 PM), <https://www.cnb.com/2014/11/20/gun-laws-vary-state-by-state-cnb-explains.html>; *Traveling This Autumn? Know The Laws Before You Go*, NRA CARRY GUARD (Nov 2, 2019, 2:03 PM), <https://www.nracarryguard.com/resources/gun-laws-by-state/> (Because gun laws are so complex, as evidenced by the NRA gun law map and the CNBC report, the NRA even provides a source that gun owners can use to determine the legality of their permits and firearms when traveling across state lines.).

⁹ Issuance of Orders Designating an Interim Class of NRC Licenses Facilities that are Eligible to Apply to the Commission for Authorization to use the Authority Granted Under the Provision of Section 161a of the Atomic Energy Act of 1954, as Amended and Associated Federal Register Notice, dated June 5, 2013 (ADAMS Accession No. ML 13038A114); San Onofre Nuclear, Unit 2 and 3 and Independent Spent Fuel Storage Installation - Safety Evaluation Re: Issuance of Order and Conforming Amendments Concerning Preemption Authority, dated January 8, 2016 (ADAMS Accession No. ML 15027A239); Indian Point Nuclear Generating, Unit Nos. 1, 2 and 3 - Issuance of Order and Conforming Amendments Concerning Stand Alone Weapons Preemption Authority, dated January 7, 2016 (ADAMS Accession No. ML 14259A218); FRN, Issuance of Confirmatory Orders, Authorize Use of Preemption Authority Granted Under Provisions of Section 161A of the Atomic Energy Act of 1954, as Amended, dated Jan. 19, 2016 (ADAMS Accession No. ML 16004A118).

¹⁰ Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009); see also Revision of Guidelines on Use of Firearms by Security Personnel, 79 Fed. Reg. 36,100 (Jun. 25, 2014); Energy, 10 C.F.R. § 73 (2019); 42 U.S.C.A. § 2201a (2019); Karen D. Cyr et al., *Firearms Guidelines Implementing Section 161A. of the Atomic Energy Act of 1954 and Associated Policy Issues - Supplemental Information SECY-08-0050*, Commission papers (SECY) for 2008 (Nov 2, 2019,

facilities are still forgotten when states propose and apply sweeping gun bans and restrictions. These laws have left many facilities, even nuclear facilities, utterly defenseless against organized kinetic attacks. If America wants to ensure strong national security and resilience, the government must take action to address the security problems posed by state-level gun laws.

In consideration of the foregoing, to ensure continued success and prosperity, specifically in reference to America's reliance on domestic power production, the government must take action to ensure the adequate security of domestic production facilities. Whether the government chooses to modify existing NRC preemption guidelines or establish a critical infrastructure security force controlled by the Department of Homeland Security (DHS), one of the two solutions must be selected to ensure continued American success and security.

This note will address the dangers of firearm regulations to power facility security, the history behind industry-specific solutions, the current concern over power facility physical security, and applicable resolutions to the issue at hand. Additionally, this article will not only present a comprehensive and thoughtful analysis of the issues but also provide a source by which others can easily understand and locate current NRC firearm preemption authority. The article will cover four sections specific to the current national security issues posed by state gun laws. Section one will address the national security implications of critical infrastructure security, section two will explain the ongoing impact of state gun laws on power facility security, section three will explore the history and application of NRC firearms preemption, and

8:56 PM), <https://www.nrc.gov/reading-rm/doc-collections/commission/secys/2008/secy2008-0050/2008-0050scy.pdf>; Stephen G. Burns et al., *Firearms Guidelines Implementing Section 161A. of the Atomic Energy Act of 1954 and Associated Policy Issues - Supplemental Information SECY-08-0050*, Commission papers (SECY) for 2008 (Nov 2, 2019, 8:59 PM), <https://www.nrc.gov/reading-rm/doc-collections/commission/secys/2008/secy2008-0050a/2008-0050ascy.pdf>.

lastly, section four will layout the proposed solutions and their effective implementation.

II. THE IMPORTANCE OF CRITICAL INFRASTRUCTURE SECURITY

Multiple national and international agencies have discussed the issue of national security as it relates to power production facilities, also known generally as critical infrastructure (CI).¹¹ These papers, reports, and memorandum address both the physical- and cyber-security aspects of relevant CI.¹² For the purposes of the United Nations (UN) and DHS documents mentioned in this article, the term CI encompasses “systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.”¹³ For example, the UN report discusses both the importance of physical- and cyber-security at assets crucial to societal functionality and safety like train stations, airports, and power production facilities.¹⁴ Though the focus of this article is the physical

¹¹ 42 U.S.C. § 5195c(e) (2019); *see also* United Nations Office of Counter-Terrorism et al., *The Protection of Critical Infrastructures Against Terrorist Attacks: Compendium of Good Practices*, UN (Nov. 1, 2019 2:45 PM), https://www.un.org/sc/ctc/wp-content/uploads/2019/01/Compendium_of_Good_Practices_Compressed.pdf; *Critical Infrastructure Sectors*, DEPARTMENT OF HOMELAND SECURITY, <https://www.dhs.gov/cisa/critical-infrastructure-sectors> (last visited Nov. 5, 2019, 9:24 AM); *Critical Infrastructure Security*, DEPARTMENT OF HOMELAND SECURITY, <https://www.dhs.gov/topic/critical-infrastructure-security> (last visited Nov. 1, 2019 2:49 PM).

¹² *Supra* note 4, 5.

¹³ *Supra* note 11.

¹⁴ United Nations Office of Counter-Terrorism et al., *The Protection of Critical Infrastructures Against Terrorist Attacks: Compendium of Good Practices*, UN, <https://www.un.org/sc/ctc/wp-content/>

protection of power production facilities, or critical infrastructure utilities (CIU), the UN and the DHS apply similar analyses of threat and societal disruption to all facets of CI.¹⁵ Governments from across the globe, including the United States, acknowledge and attempt to address the most pressing security concerns as they relate to the protection of CI. Though cybersecurity is currently considered the prominent threat to CI, physical security is still pertinent, especially when simple and effective measures can aid in overall CI security.¹⁶

President Policy Directive 21 (PPD-21), Critical Infrastructure Security and Resilience, provides a unique and candid look at the importance of CI to the United States, its government, military, and citizens.¹⁷ Not only does PPD-21 explain the impact of America's many interdependent societal and CI systems, but also expresses security concerns about its multiple CI assets.¹⁸ PPD-21 is one of the primary documents which guides the implementation of modern CI security analyses' and guidelines.¹⁹ Though focusing heavily on cybersecurity and its relation to physical-security, PPD-21 and the DHS PPD-21 Implementation White Paper express the general

tent/uploads/2019/01/Compendium_of_Good_Practices_Co
mpressed.pdf (last visited Nov. 1, 2019, 2:45 PM).

¹⁵ *Supra* note 4, 5.

¹⁶ *Supra* note 4, 5 (As seen in many of the new documents, especially those after the fear of 9/11 have subsided, the new concern in regards to infrastructure security is cyber terrorism. Most of the article's titles and concerns revolve not around a large scale physical attack but a large scale cyber-attack or cyber and physical attack combined.).

¹⁷ *Presidential Policy Directive – Critical Infrastructure Security and Resilience*, The White House President Barack Obama (Feb. 12, 2013), <https://obamawhitehouse.archives.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil>.

¹⁸ *Id.*

¹⁹ *Id.*

concern of CI security.²⁰ According to the DHS and former President Barack Obama, CI security is important because:

The Nation's critical infrastructure provides the essential services that underpin the American way of life. The concept of critical infrastructure as discrete, physical assets has become outdated as everything becomes linked to cyberspace. This "cyber-physical convergence" has changed the risks to critical infrastructure in sectors ranging from aspects energy and transportation to agriculture and healthcare. . . . Critical infrastructure owners and operators . . . continue to experience increasingly sophisticated cyber intrusions, which provide malicious actors the ability to disrupt the delivery of essential services, cause physical damage to critical infrastructure assets, and potentially produce severe cascading effects.²¹

As such, the continual protection of America's CI assets, both physical and cyber, remains vital due to the potential damage and cascading effects that result from CI, particularly CIU, disruption. Though the concerns expressed in PPD-21 and the DHS PPD-21 White Paper represent a single piece of the puzzle when it comes to understanding CI importance, they provide an insightful brief of the issues facing CI assets and their relation to national security. Likewise, because CIUs are part of overall CI, CIUs should receive the same security treatments as other CI systems and assets.

²⁰ *Id.*; see also Interagency Security Committee, *Presidential Policy Directive 21 Implementation: An Interagency Security Committee White Paper*, DEPARTMENT OF HOMELAND SECURITY, <https://www.cisa.gov/publication/isc-ppd-21-implementation-white-paper> (last visited Nov 27, 2019).

²¹ Interagency Security Committee, *Presidential Policy Directive 21 Implementation: An Interagency Security Committee White Paper*, DEPARTMENT OF HOMELAND SECURITY, <https://www.cisa.gov/publication/isc-ppd-21-implementation-white-paper> (last visited Nov 27, 2019).

Mirroring PPD-21 and the DHS PPD-21 White Paper is the domestic and international acknowledgment of CIUs and their importance to societal functionality.²² Generally, the concern of a CIU focused attack is not the fear of potential casualties, but the level of control and societal disruption possible through the destruction or dominance of a state's CIUs.²³ In a special hydroelectric terrorism report, the DHS specifically notes that utility disruption or utility control is often the goal of CIU terrorism.²⁴ As the DHS explains, CIU terrorism, especially in places that rely heavily on small numbers of important production facilities, benefits from the ensuing control or disruption of desperately needed power and not the damage or death caused by the initial attack.²⁵

The 1977 New York riots, government studies and memoranda, and general news discussing military power grid reliance and insecurity provide a greater understanding of the impact of hostile CIU control or disruption.²⁶ The interference of town, state, or even national power production has massive security impacts aside from simple death or CIU destruction.

²² *Supra* note 4, 5; see also Department of Homeland Security, *Worldwide Attacks Against Dams*, CoWARN (Nov 5, 2019, 10:42 AM), <http://www.cowarn.org/uploads/news/Worldwide%20Attacks%20Against%20Dams%20-%202012.pdf> (This product is available on the Homeland Security Information Network – Critical Sectors (HSIN-CS) Dams Sector Portal. The HSIN-CS Dams Sector Portal allows for secure information sharing between Federal, State, and local agencies and sector owners and operators. For additional distribution information, please contact the Dams SSA at dams@hq.dhs.gov).

²³ *Supra* note 22.

²⁴ Department of Homeland Security, *Worldwide Attacks Against Dams*, CoWARN (Nov 5, 2019, 10:42 AM), <http://www.cowarn.org/uploads/news/Worldwide%20Attacks%20Against%20Dams%20-%202012.pdf> (This product is available on the Homeland Security Information Network – Critical Sectors (HSIN-CS) Dams Sector Portal. The HSIN-CS Dams Sector Portal allows for secure information sharing between Federal, State, and local agencies and sector owners and operators. For additional distribution information, please contact the Dams SSA at dams@hq.dhs.gov).

²⁵ *Id.*

²⁶ *Supra* note 4, 5.

From societal disarray to the impinging of military operations, the crippling effect of CIU disruption reaches far beyond initial tolls. CIU disruption can send waves of destruction through any community, town, city, state, or nation. As such, the security of CIUs is of the utmost importance. Unfortunately, a hidden risk to CIU security exists within the confines of supposedly benevolent state firearm laws. Regardless of need or security, some state firearms law actively prevent CIU security forces from obtaining weapons desperately needed to ensure stable and secure energy production. Without action on the part of the federal government, these restrictions will continue to jeopardize national security due to their hindrance of adequate security at many of the country's CIUs.

III. GUN LAWS AND THEIR IMPACT ON CIU PHYSICAL SECURITY

Before the government can draft a comprehensive solution to firearm-related CIU security concerns, an understanding of current federal and state firearm laws is required. In general, firearm possession is considered a right under the United States Constitution.²⁷ Regardless of application, I am unaware of any state which has banned gun ownership outright. However, simple ownership is not the issue. Due to the ambiguity prevalent within legal circles regarding the scope of the Second Amendment, especially those in historically liberal courts and districts, many restrictions on ownership have been proposed and applied. These restrictions, particularly those relating to the possession of common sporting rifles and handguns, present a unique challenge for the security of privately owned and operated power facilities. Some of these regulations, regardless of benevolent motives, have actively prevented CIUs from obtaining weapons required for basic security.²⁸ The stark differences between federal and state firearm laws highlights the security issues posed by restrictive gun laws.

²⁷ U.S. CONST. AMEND. II; *see also* Dist. of Columbia v. Heller, 554 U.S. 570, 635-36 (2008); McDonald v. Chicago, 561 U.S. 742, 791 (2010).

²⁸ *Supra* note 9.

Currently, the federal government employs a basic set of gun regulations that apply to all states and gun owners. These regulations were established in 1934, 1968, and 1993 and are enforced by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF).²⁹ The ATF enforces and monitors compliance with basic federal firearm laws.³⁰ These laws govern a multitude of firearm regulations, but generally, they address the ownership and possession of standard firearms as well as machine guns, short-barreled rifles, and short-barreled shotguns.³¹ However, regardless of current political rhetoric, federal gun laws allow any citizen, without a felony conviction, to own and possess most firearms and magazines.³² So long as both the weapon and the magazine follow specific import and export regulations, size regulations, and do not qualify as a fully automatic firearm, they will often be considered legal.³³ Under federal law, a law-abiding citizen is allowed to possess any small arms so long as it is imported correctly, complies with weight and size requirements, and is not capable of fully automatic fire.³⁴

In addition to the laws regulating standard firearms, it is also important to note that under current federal law, the ATF can also grant permission for law-abiding citizens or corporations to own, transfer, and employ machine guns or other prohibited weapons.³⁵ The application for a machine gun or what is commonly known as a class three weapon or

²⁹ Gun Control Act of 1968, Pub. L. No. 90-618, 82 Stat. 1213 (1968) (codified as amended at 18 U.S.C. §§ 921-931) (A revision and expansion of the National Firearms Act of 1934); *see also* National Firearms Act, Pub. L. No. 73-474, 48 Stat 1236 (1934) (codified as amended at 26 U.S.C. §§ 5801-5872); Brady Handgun Violence Prevention Act Pub. L. No. 103-159, 107 Stat. 1536 (1993) (codified as amended at 18 U.S.C. §§ 922, 925A).

³⁰ 28 U.S.C. § 599A (2019).

³¹ *Supra* note 29.

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

firearm is long, arduous, and comprehensive.³⁶ However, so long as a person, or in this specific instance a CIU, follows applicable federal law, they can possess and employ whatever small arms, even machine guns, they desire.

As evidenced by multiple preemption requests filed by nuclear facilities in New York and California and both state's restrictive gun laws, CIU's are more concerned about obtaining common arms than obtaining complex and expensive prohibited weapons.³⁷ Even in relation to security at nuclear facilities, some of the most restrictive parts of state-level gun laws are those which impede nuclear facilities, or any CIUs, purchase and possession of handguns.³⁸ Because the ATF minimally regulates the possession of said armament, private corporations should have the ability, at a minimum, to obtain common small arms. The only time a private CIU should face significant hurdles is when they attempt to obtain machine guns; specifically, post 1986 production models.³⁹ However, for power facilities in California, New York, or politically similar states, this is not the reality. Instead, state-

³⁶ *Supra* note 29; see also Buds Gun Shop, *How to Purchase NFA Title II ("Class 3")*, BUDSGUNSHOP.COM (Nov 2, 2019, 11:39 PM), <https://www.budsgunshop.com/NFAGuidelines.pdf>; Gun Trust Depot, *What are NFA Firearms?*, GUNTRUSTDEPOT.COM (Nov 2, 2019, 11:41 PM).

³⁷ *Supra* note 9; see also N.Y. Penal Law § 265.20 (McKinney 2019); N.Y. Penal Law § 265.10 (McKinney 2019); N.Y. Penal Law § 265.00 (McKinney 2019); Cal. Penal Code § 31000 (2019); Cal. Penal § 30515 (2019) (These statutes place heavy restrictions on many common firearms. From a simple handgun to a modern sporting rifle, each statute strictly restricts a person or corporation's right to purchase and employ a multitude of weapons.).

³⁸ San Onofre Nuclear, Unit 2 and 3 and Independent Spent Fuel Storage Installation – Safety Evaluation Re: Issuance of Order and Conforming Amendments Concerning Preemption Authority, dated January 8, 2016 (ADAMS Accession No. ML 15027A239).

³⁹ *Supra* note 29; see also Philip Wegmann, *It's Still Legal to Own a Machine Gun (It's Also Extremely Difficult and Especially Expensive)*, WASHINGTON EXAMINER (Oct. 2, 2017 3:53 PM), <https://www.washingtonexaminer.com/its-still-legal-to-own-a-machine-gun-its-also-extremely-difficult-and-especially-expensive>.

level gun laws significantly interfere with the procurement of even simple handguns or common sporting rifles.⁴⁰

In recent years New York and California have established themselves as politically liberal states. One consequence of said liberalism is the substantial restriction and regulation of gun ownership. From limiting the type of firearms one can legally possess to requiring waiting periods or premises licenses, both California and New York place significant restrictions upon their citizens.⁴¹ Said restrictions may seem initially *de minimus*. However, when considering the restrictions within the context of laws found in states like Tennessee and Alabama, or even the federal firearm laws, the issues of restriction and security become painfully evident.

Tennessee and Alabama, typically conservative states, have historically employed minimal restrictions when crafting state gun laws. Aside from a few special instances, both Tennessee and Alabama defer to federal regulations when structuring their gun laws. Therefore, both Tennessee and Alabama have laws which allow civilians to possess and carry

⁴⁰ N.Y. Penal Law § 265.20 (McKinney 2019); N.Y. Penal Law § 265.10 (McKinney 2019); N.Y. Penal Law § 265.00 (McKinney 2019); Cal. Penal Code § 31000 (2019); Cal. Penal § 30515 (2019); *see also* Issuance of Orders Designating an Interim Class of NRC Licenses Facilities that are Eligible to Apply to the Commission for Authorization to use the Authority Granted under the Provision of Section 161a of the Atomic Energy Act of 1954, as Amended and Associated Federal Register Notice, dated June 5, 2013 (ADAMS Accession No. ML 13038A114); San Onofre Nuclear, Unit 2 and 3 and Independent Spent Fuel Storage Installation – Safety Evaluation Re: Issuance of Order and Conforming Amendments Concerning Preemption Authority, dated January 8, 2016 (ADAMS Accession No. ML 15027A239); Indian Point Nuclear Generating, Unit Nos. 1, 2 and 3 – Issuance of Order and Conforming Amendments Concerning Stand Alone Weapons Preemption Authority, dated January 7, 2016 (ADAMS Accession No. ML 14259A218); FRN, Issuance of Confirmatory Orders, Authorize Use of Preemption Authority Granted Under Provisions of Section 161A of the Atomic Energy Act of 1954, as Amended, dated Jan. 19, 2016 (ADAMS Accession No. ML 16004A118).

⁴¹ N.Y. Penal Law § 265.20 (McKinney 2019); N.Y. Penal Law § 265.10 (McKinney 2019); N.Y. Penal Law § 265.00 (McKinney 2019); Cal. Penal Code § 31000 (2019); Cal. Penal § 30515 (2019).

loaded handguns as well as possess common sporting rifles like the AR-15 and AK-47; weapons typically restricted in states like New York and California.⁴² Additionally, under applicable ATF restrictions, both Tennessee and Alabama permit the possession of machine guns, short-barreled rifles, and short-barreled shotguns; weapons mentioned by regulations such as the NRC's 2009 firearm guidelines.⁴³ As such, both Tennessee and Alabama allow possession of most weapons, including machine guns, by those who follow applicable federal and state laws.⁴⁴

Because both Tennessee and Alabama allow the possession of commonly owned handguns, sporting rifles, and standard capacity magazines, as well as defer to federal law in the regulation of machine guns, short-barreled rifles, and short-barreled shotguns, average civilians and state-based private power companies have the freedom to possess any small arms they desire and qualify for.⁴⁵ Tennessee and Alabama, though not alone in the realm of permissive gun rights, are examples of states in which CIUs can easily and effectively address their physical security needs. CIUs based in Tennessee, Alabama, or similarly regulated states, are merely required to follow applicable nonrestrictive gun laws and or ATF licensing obligations when seeking possession of legal small arms - both semi- or fully-automatic. As a result, facilities located in these permissive states can easily address their physical security needs and mitigate the risk of potential terrorism, sabotage, or organized kinetic attack.

⁴² Tenn. Code Ann. § 39-17-1351 (2019); Ala. Code § 13a-11-75 (2019); Tenn. Code Ann. § 39-17-1302 (2019); Ala. Code § 13a-11-63 (2019); Ala. Code § 13a-11-62 (2019); *see also* N.Y. Penal Law § 265.20 (McKinney 2019); N.Y. Penal Law § 265.10 (McKinney 2019); N.Y. Penal Law § 265.00 (McKinney 2019); Cal. Penal Code § 31000 (2019); Cal. Penal § 30515 (2019).

⁴³ Tenn. Code Ann. § 39-17-1302; Ala. Code § 13a-11-63; Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009).

⁴⁴ Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009).

⁴⁵ *Id.*

Many state firearm laws, like those found in New York, California, and similar states, differ significantly from those found in states like Tennessee and Alabama. As such, though CIUs located in states like Tennessee and Alabama face few hurdles in arming their security forces, CIUs in states like New York or California may find it nearly impossible or downright illegal to do the same. The primary difference between CIUs located in Tennessee and Alabama versus CIUs situated in places like New York and California are the restrictions placed on the private ownership of firearms. Whereas states like Tennessee and Alabama provide legal avenues for even a private citizen to purchase and possess a machine gun, places like California and New York place a blanket prohibition on not only machine guns but also specific handguns and common semiautomatic sporting rifles.⁴⁶ Additionally, only a few exceptions exist which would allow entities, typically state and federal law enforcement, to easily and quickly, possess, purchase, transfer, and carry weapons as simple as a handgun.⁴⁷ As such, CIUs located in New York, California, and similar states, face significant hurdles in seeking adequate armaments to meet physical security needs.

Restrictive gun laws, like those found in New York and California, would not be an issue if not for the fact that said gun laws also include corporations and other business entities in their prohibitive language.⁴⁸ However, keeping to the namesake of so-called assault weapon bans, the goal of New York and California gun laws is to prohibit possession of firearms in all but the most limited of circumstances.⁴⁹ Because anyone, with a little knowledge, can incorporate or form a

⁴⁶ Tenn. Code Ann. § 39-17-1351 (2019); Ala. Code § 13a-11-75 (2019); Tenn. Code Ann. § 39-17-1302 (2019); Ala. Code § 13a-11-63 (2019); Ala. Code § 13a-11-62 (2019); N.Y. Penal Law § 265.20 (McKinney 2019); N.Y. Penal Law § 265.10 (McKinney 2019); N.Y. Penal Law § 265.00 (McKinney 2019); Cal. Penal Code § 31000 (2019); Cal. Penal § 30515 (2019).

⁴⁷ Cal. Penal Code § 30625 (2019); N.Y. Penal Law § 265.20 (McKinney 2019).

⁴⁸ *Id.*

⁴⁹ *Supra* note 41; *see also* Cal. Penal Code § 30625 (2019).

business entity, the laws of New York, California, and similar states, to achieve their restrictive goals, must include corporations and other business entities in their list of restricted owners. Additionally, the laws of many restrictive states provide exceptions exclusively for law enforcement and no one else.⁵⁰ As such, private CIUs, even nuclear facilities, are left out to dry when seeking to employ armed physical security measures. Instead of leaving the details of security to the corporations who operate and manage these CIU facilities, state gun laws force CIUs to rely upon the help of local law enforcement; the only persons capable of possessing prohibited weapons.⁵¹ The issue of gun law impediment is so severe that the NRC established firearm preemption guidelines to exempt nuclear power and waste storage facilities from potential state gun law conflicts.⁵²

Not only do restrictive gun laws create headaches and extra cost for privately owned CIUs, but they also promote a lack of physical security. It is plausible that many for-profit private facilities, instead of investing in effective armed security, opt to employ cheaper and less restricted means of on-site security. From unarmed guards to an over-reliance on surveillance and local law enforcement, restrictive gun laws possibly incentivize the inadequate protection of CIUs due to cost, time, and potential legal hurdles. In light of the national security implications of CIUs, and the fact the nuclear sector already employs methods to legally sidestep state gun laws, preemption authority or some other means of physical security is greatly needed to ensure the security and stability of domestic power production.

IV. NRC FIREARMS PREEMPTION GUIDELINES

In response to state firearm restrictions, the NRC employs what is known as preemption authorization when addressing physical security needs in locations like New York and California. Specifically, the NRC provides a method by which

⁵⁰ Cal. Penal Code § 30625 (2019); N.Y. Penal Law § 265.20 (McKinney 2019).

⁵¹ *Supra* note 40.

⁵² *Supra* note 9, 10.

private and public nuclear power plants and waste storage facilities can obtain an exemption from state firearm laws.⁵³ What makes NRC preemption authority special is the fact it specifically addresses security concerns in relation to state-level gun laws.⁵⁴ As such, the history and application of the NRC preemption guidelines are essential to understand the seriousness of the issues at hand.

In 2005 and later in 2009, the federal government and the NRC implemented guidelines and laws which authorized NRC-licensed facilities to possess and employ standard and “enhanced weapons” in their security plans.⁵⁵ The Energy Policy Act of 2005 and the NRC’s firearms guidelines of 2009, which have been updated since March 2019, allow NRC-licensed facilities to apply for authorization to use “enhanced weapons” regardless of state law.⁵⁶ These guidelines, proposed under the post 9/11 Bush administration, were established explicitly in consideration of nuclear facility security needs, potential terrorist threats, and the difficulty of

⁵³ *Supra* note 10.

⁵⁴ Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009); *see also* Revision of Guidelines on Use of Firearms by Security Personnel, 79 Fed. Reg. 36,100 (Jun. 25, 2014); Energy, 10 C.F.R. § 73 (2019); 42 U.S.C.A. § 2201a (2019); Karen D. Cyr et al., *Firearms Guidelines Implementing Section 161A. of the Atomic Energy Act of 1954 and Associated Policy Issues - Supplemental Information SECY-08-0050*, Commission papers (SECY) for 2008 (Nov 2, 2019, 8:56 PM), <https://www.nrc.gov/reading-rm/doc-collections/commission/secys/2008/secy2008-0050/2008-0050scy.pdf>; Stephen G. Burns et al., *Firearms Guidelines Implementing Section 161A. of the Atomic Energy Act of 1954 and Associated Policy Issues - Supplemental Information SECY-08-0050*, Commission papers (SECY) for 2008 (Nov 2, 2019, 8:59 PM), <https://www.nrc.gov/reading-rm/doc-collections/commission/secys/2008/secy2008-0050a/2008-0050ascy.pdf>; Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005) (Codified as amended at 42 U.S.C. §§ 15801-16524).

⁵⁵ Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009); *see also* 42 U.S.C.A. 2201a (2019).

⁵⁶ *Id.*

arming security personnel due to restrictive state-level gun laws.⁵⁷ 42 U.S.C §2201a, the law which authorizes NRC preemption authority, acknowledges the security implications of restrictive state-level firearm laws.⁵⁸ As mentioned in the foregoing:

any law (including regulations) of a State or a political subdivision of a State that prohibits the transfer, receipt, possession, transportation, importation, or use of a handgun, a rifle, a shotgun, a short-barreled shotgun, a short-barreled rifle, a machinegun, a semiautomatic assault weapon, ammunition for any such gun or weapon, or a large capacity ammunition feeding device, in carrying out the duties of the Commission, the Commission may authorize the security personnel of any licensee or certificate holder of the Commission (including an employee of a contractor of such a licensee or certificate holder) to transfer, receive, possess, transport, import, and use 1 or more such guns, weapons, ammunition, or devices . . .⁵⁹

Furthermore, in support of the contention that state-level gun laws pose a risk to the protection of CIUs and national security, 84 Fed. Reg. 8,547 highlights that the addition of:

42 U.S.C. 2201a. Section 161A ... provide[d] new authority to the U.S. Nuclear Regulatory Commission ... to enhance security at designated facilities of NRC licensees and certificate holders and to enhance security with respect to certain radioactive material or other property owned or possessed by a NRC

⁵⁷ *Supra* note 54.

⁵⁸ 42 U.S.C. § 2201a (2019) (Though the whole law discusses preemption and its importance, 42 U.S.C. § 2201a(b)(2) specifically discusses the public health and safety concern surrounding the security of nuclear power and waste facilities.).

⁵⁹ *Id.*

licensee or certificate holder, or the transportation of such material or other property.⁶⁰

Additionally, since the establishment of firearms preemption, nuclear facilities in New York and California, states with some of the most restrictive gun laws in the United States, have proactively sought preemption from state firearm laws.⁶¹ In an alarming instance from California, security forces couldn't obtain the handguns they desperately needed to meet basic security goals.⁶² The facility initially sought state-level exemption from the California attorney general before turning to the NRC.⁶³ Despite the magnitude and importance of securing a nuclear power facility and waste storage site, political forces came into play and the California attorney general denied their request; a request that had been granted by other California attorneys general in prior years.⁶⁴

The federal government, specifically concerning the security of radioactive material, already recognizes the risk of some state-level gun laws. This acknowledgment, combined with the myriad preemption applications from states like New York and California, further solidifies that state-level gun laws pose a significant risk to national security and CIU facilities.

It is important to note, however, that the NRC is not advocating for what some would call the wild west of gun deregulation. If a nuclear facility in a state like New York or California desires to apply for preemption authority, the facility must follow the application process laid out in the NRC's firearms guidelines.⁶⁵ Additionally, the nuclear facility,

⁶⁰ Revision of Guidelines on Use of Firearms by Security Personnel, 84 Fed. Reg. 8,546 (Mar. 8, 2019).

⁶¹ *Supra* note 9.

⁶² *Supra* note 38.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009); *see also* Revision of Guidelines on Use of Firearms by Security Personnel, 79 Fed. Reg. 36,100 (Jun. 25, 2014); 42 U.S.C.A. §

in applying for preemption and weapons authorization, must also comply with applicable ATF regulations relating to standard and “enhanced weapons.”⁶⁶ The nuclear facility applying for preemption and weapons authorization must certify to the NRC that the use of weapons, enhanced or not, is necessary to secure and protect:

[A] facility owned or operated by an NRC licensee or certificate holder and designated by the Commission, or (2) radioactive material or other property that is owned or possessed by an NRC licensee or certificate holder, or that is being transported to or from a facility owned or operated by such a licensee or certificate holder, and which has been determined by the commission to be of significance to the common defense and security or public health and safety.⁶⁷

Additionally, to obtain such authorization, the NRC-licensed facility must develop a new security plan, including a contingency plan, to secure the facility and train the security personnel on the proper use, storage, and maintenance of the new weapons.⁶⁸ The NRC will only grant preemption and weapons authorization after all relevant plans, state law analysis, and background checks are complete, and the NRC deems preemption and weapons authorization necessary for the security of the facility.

Again, the NRC application requirements only apply in those states which severely restrict the possession of firearms to all entities, civilian and corporate. So long as state

2201a. (2019); Energy, 10 C.F.R. § 73 (2019); N.Y. Penal Law § 265.20 (McKinney 2019); N.Y. Penal Law § 265.10 (McKinney 2019); N.Y. Penal Law § 265.00 (McKinney 2019); Cal. Penal Code § 31000 (2019); Cal. Penal § 30515 (2019).

⁶⁶ *Id.*

⁶⁷ Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009); *see also* 42 U.S.C.A. § 2201a.

⁶⁸ *Id.*

law does not significantly limit an NRC-licensed facility's ability to possess adequate firearms, and the facility, either under state or federal law, has the authorization to possess and employ standard or enhanced weapons, preemption applications and modification of preexisting security plans are not necessary.

Though restrictive firearm laws may have benevolent intentions, the acknowledgment of state law preemption by the federal government, combined with preemption requests from states like New York and California, further solidifies the national security risk gun laws pose to CIU facilities. Simply securing nuclear facilities, facilities which only account for 10% of domestic power production, is not enough.⁶⁹ Regardless of the concern over radiation exposure and death, concerns that are unfounded considering statistical analyses of nuclear power incidents, national security implications of stable power production mandate additional and comprehensive measures to expand preemption and or security of CIU facilities.

Despite the foregoing, it is arguable that the reason NRC preemption exists is due to the radiological material used in the production of nuclear energy. Such an assertion is not incorrect. Our government must take an interest in securing

⁶⁹ What is U.S. electricity generation by energy source?, EIA, <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3> (last visited Nov. 5, 2019); *see also* Electricity Data Browser, EIA, <https://www.eia.gov/electricity/data/browser/#/topic/0?agg=2,0,1&fuel=vtvv&geo=g&sec=g&linechart=ELEC.GEN.ALL-US-99.A~ELEC.GEN.COW-US-99.A~ELEC.GEN.NG-US-99.A~ELEC.GEN.NUC-US-99.A~ELEC.GEN.HYC-US-99.A~ELEC.GEN.WND-US-99.A~ELEC.GEN.TSN-US-99.A&columnchart=ELEC.GEN.ALL-US-99.A~ELEC.GEN.COW-US-99.A~ELEC.GEN.NG-US-99.A~ELEC.GEN.NUC-US-99.A~ELEC.GEN.HYC-US-99.A~ELEC.GEN.WND-US-99.A&map=ELEC.GEN.ALL-US-99.A&freq=A&start=2017&end=2018&ctype=linechart<ype=pin&rse=0&maptype=0> (last visited Nov. 5, 2019) (When researching domestic energy production, the U.S. Energy Information Administration (EIA) provides useful tools and information on their website to learn about current and past production. For more detailed information regarding power production per energy sector, refer to the EIA Electricity Data Browser.).

nuclear material. From the creation of a dirty bomb to the sabotage and subsequent meltdown of a nuclear facility, the government and society as a whole, have an interest in keeping nuclear facilities adequately armed and secured. However, statistically speaking, nuclear facilities are far safer than the media and the public gives them credit for. Based upon studies of power plant meltdowns, including the Chernobyl incident, the risk of public casualties, though concerning, is not significant.⁷⁰ Even during the recent Fukushima incident, according to the Japanese government, only one casualty occurred as a direct result of radiation exposure.⁷¹

Likewise, public concern regarding dirty bombs, though understandable, is not well-founded. The NRC indicates that a dirty bomb, specifically in terms of radiological exposure, is not as alarming as the public might believe.⁷² Steven Brill, an author from *The Atlantic*, indicated that an incident involving a dirty bomb in the heart of Washington D.C., aside from the casualties associated with the

⁷⁰ Michael Shellenberger, *It Sounds Crazy, But Fukushima, Chernobyl, And Three Mile Island Show Why Nuclear Is Inherently Safe*, FORBES (Nov. 4, 2019 8:35 PM), <https://www.forbes.com/sites/michaelshellenberger/2019/03/11/it-sounds-crazy-but-fukushima-chernobyl-and-three-mile-island-show-why-nuclear-is-inherently-safe/#45f654121688>; see also *Safety of Nuclear Power Reactors*, WORLD NUCLEAR ASSOCIATION (Nov. 4, 2019, 8:47 PM), <https://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/safety-of-nuclear-power-reactors.aspx>; *Radiation Exposure and Cancer*, NUCLEAR REGULATORY COMMISSION (Nov. 4, 2019, 9:03 PM), <https://www.nrc.gov/about-nrc/radiation/health-effects/rad-exposure-cancer.html>; *Backgrounder on Chernobyl Nuclear Power Plant Accident*, NUCLEAR REGULATORY COMMISSION (Nov. 4, 2019, 9:13 PM), <https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/chernobyl-bg.html>;

⁷¹ *Id.*; see also Eli Meixler, *Japan Acknowledges the First Radiation Linked Death from the Fukushima Nuclear Disaster*, TIME (Nov. 4, 2019, 9:19 PM), <https://time.com/5388178/japan-first-fukushima-radiation-death/>.

⁷² *Backgrounder on Dirty Bombs*, NUCLEAR REGULATORY COMMISSION (Nov. 4, 2019, 9:31 PM), <https://www.nrc.gov/docs/ML1814/ML18143B254.pdf>.

actual explosion, would result in only one radiation-related death out of every 10,000 people exposed.⁷³ To put that into perspective, that would result in only 70.2 deaths out of the estimated 702,455 people living and working within Washington D.C.⁷⁴ The NRC acknowledges this fact, claiming that one is not likely to die from the radiological exposure of a dirty bomb and that the purpose of a dirty bomb is to disturb instead of destroy.⁷⁵ The NRC further classifies dirty bombs as weapons of mass disturbance instead of a weapons of mass destruction.⁷⁶

In light of the information related to nuclear facilities and nuclear waste, issues of power stability, societal disruption, and military power reliance become far more concerning. Though nuclear security, especially in relation to nuclear fuel, is important, the broader impact of power production and potential CIU disruption merits more concern than securing only nuclear facilities.

The federal government already understands and takes steps to mitigate the risk of CIU disruption. Both NRC preemption and the establishment of the Hoover Dam Police, as well as the multiple government documents discussing CIU security, evidence the government's concern regarding the physical security of CIUs.⁷⁷ Unfortunately, the concentration

⁷³ Steven Brill, *Is America Any Safer?*, THE ATLANTIC (Nov. 4, 2019, 9:51 PM), <https://www.theatlantic.com/magazine/archive/2016/09/are-we-any-safer/492761/>.

⁷⁴ *Id.*; see also *QuickFacts District of Columbia*, UNITED STATES CENSUS BUREAU, <https://www.census.gov/quickfacts/DC?> (last visited Nov 4, 2019) (The numbers indicated above are from a 2018 population estimate of Washington, DC).

⁷⁵ *Supra* note 72.

⁷⁶ *Supra* note 72.

⁷⁷ 43 U.S.C. § 373b (2019); Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009); Revision of Guidelines on Use of Firearms by Security Personnel, 79 Fed. Reg. 36,100 (Jun. 25, 2014); Revision of Guidelines on Use of Firearms by Security Personnel, 84 Fed. Reg. 8,546 (Mar. 8, 2019); see also *Hoover Dam Police Department - Safeguarding a National Icon History and Background*, BUREAU OF REC-

of government efforts is misplaced. Ignoring for a second regional differences and the general importance of securing nuclear material, both hydroelectric and nuclear power production only accounted for a measly 26.4% of national production in 2018.⁷⁸ Whereas, in the same year, fossil fuels, such as coal, natural gas, and petroleum accounted for a whopping 63.6% of national production.⁷⁹

With power grid security and stability being a significant concern in relation to national security, taking steps to mitigate state gun laws within the nuclear sector is not enough. Though NRC preemption addresses concerns over nuclear fuel security, it does nothing to address the broader issues of CIU stability. If the government wants to be effective in securing its national power grid, it needs to take proactive steps, as it did concern the NRC weapons guidelines, to mitigate the risks of restrictive state gun laws. Without additional security, especially for those facilities which make up the majority of national power production, the national power grid and its CIU producers may never meet basic levels of physical security.

V. THE SOLUTIONS AND THEIR IMPLEMENTATION

A serious gap exists between state laws and the physical security needs of CIUs. As seen in the gun laws of traditionally liberal states as well as the preemption requests by nuclear facilities in New York and California, state gun laws are actively preventing private CIUs from achieving high levels of physical security. Though government-owned and operated CIUs may not face similar hurdles, the fact remains, restrictive state gun laws pose a serious threat to the security of privately controlled CIUs. Because the American economy is capitalistic by nature, privately owned and operated CIUs will continue to exist for the foreseeable future. Likewise, because power production is a lucrative business, privately-

LAMATION,

<https://www.usbr.gov/lc/hooverdam/police/history.html> (last visited Nov. 5, 2019).

⁷⁸ *Supra* note 69.

⁷⁹ *Supra* note 69.

owned CIUs might resist excessive government encroachment or ownership of their facilities. As such, the issue of restrictive gun laws and CIU security is unlikely to resolve itself under current state or federal legislation. To remedy the problem, the federal government must take additional steps to provide CIUs with dedicated security or exemption from state firearm laws.

Without diving too deeply into political territory, gun laws are a heated and controversial issue in today's politics. Both sides of the aisle believe they have the answers and appropriate regulations to address concerns over current firearm issues. From sweeping controls to broad deregulation, both parties are in a constant tug of war over the appropriate level of gun control. However, regardless of political affiliation or belief, something must be done to address the national security issues related to CIUs and state-level gun laws. As such, effective proposals must satisfy basic security standards as well as appeal to the political leanings of the nation and its legislators. In effect, an adoptable policy is one which solves the issues of security, while also appealing to both conservative and liberal notions of freedom and control. Therefore, only two approaches avail themselves of broad and effective adoption.

The federal government is faced with two viable options when it comes to securing privately owned and operated CIUs. Avoiding complex individual exemptions and sweeping deregulation, both of which would likely fail to garner wide support, options of preemption or dedicated law enforcement provide the best method for resolving current security issues. To achieve the goal of sound national security, the government can either adopt and reform current NRC preemption guidelines to meet CIU needs or establish a new arm of the DHS to provide security for essential CIU facilities. It is important to note, however, regardless of application, both proposals must rely on metrics of importance, use, and megawatt production to avoid unintended circumstances such as private citizens' sidestepping state gun laws or waste associated with excessive or unnecessary security.

A. IMPLEMENTATION

Importance, use, and megawatt production are critical measurements necessary for the creation of an effective response to the issue of CIU security. Because some state-level gun laws, like those found in New York and California, are designed to prevent law-abiding citizens from obtaining particular firearms, issues relating to gun laws and proposed solutions to CIU security risks, involve distinctly political issues.⁸⁰ Given the often juxtaposed beliefs of America's predominant political parties, proposed solutions to CIU security must satisfy both sides of the aisle. Metrics of importance, use, and megawatt production are key to ensure that both parties approve and adopt one of the proposed solutions.

Metrics of importance, use, and megawatt production provide a benchmark by which the government can determine either preemption or security authorization. The ultimate goal is to avoid creating a system in which John Doe can use personal residential solar panels to qualify as a CIU and claim firearms preemption or government security. Though regional difference will undoubtedly complicate the issue, an analysis of megawatt production combined with metrics of importance and use provides the most effective means for authorizing security resources or firearms preemption.

The United States generally measures CIU output in terms of megawatts or gigawatts.⁸¹ To avoid confusion, in terms of power production, one megawatt is equivalent to one thousand kilowatts; kilowatt being the base metric for power output measurement.⁸² Likewise, one gigawatt is equivalent to one thousand megawatts.⁸³ To put this in perspective, seeing as one thousand kilowatts is the equivalent of one million watts, a standard forty watt light bulb is equivalent to 0.04 kilowatts.⁸⁴ If a power facility produced one megawatt of

⁸⁰ *Supra* note 41.

⁸¹ *Electricity Explained Measuring Electricity*, EIA, <https://www.eia.gov/energyexplained/electricity/measuring-electricity.php> (last visited Nov. 5, 2019).

⁸² *Id.*

⁸³ *Id.*

⁸⁴ *Id.*

power, that facility would generate enough energy to power a total of twenty-five thousand forty watt light bulbs. This distinction is important because, depending on the capabilities if a private citizen versus the standard capabilities of an operational CIU, it provides a generally clear delineation between personal and public power production. The goal of new preemption laws or security authorization is to protect CIUs while also preventing government waste or subversion of state law.

In 2018, the United States produced a total of 4,273.96 gigawatts of energy.⁸⁵ This measurement of power is a combination of measurable personal, on-site, and public power production.⁸⁶ To avoid issues of inappropriate access to firearms preemption or government security, an assessment of the data and the creation of megawatt cutoff limits must occur. Though the statistics are available, an accurate analysis of the data, with considerations for regional needs, is outside the scope of this paper. However, agencies like the Department of Energy (DOE), the Federal Energy Regulatory Commission (FERC), or the NRC have the abilities and knowledge to determine correct megawatt cutoff metrics. As such, the government should employ the agencies and knowledge available to it to establish accurate and practical cutoff limits. Because cutoff limits are an effective and necessary tool to ensure program efficiency and success, the government should also place control of the implementation and modification of said limits with the most capable and knowledgeable agency available.

In addition to the implementation of megawatt cutoff limits, the government must employ additional metrics of use and importance to determine which facilities should receive preemption or security authorization. Though megawatt

⁸⁵ *Supra* note 69; see also *In 2018, the United States consumed more energy than ever before*, EIA, <https://www.eia.gov/todayinenergy/detail.php?id=39092> (last visited Nov. 6, 2019).

⁸⁶ *Form EIA-860 detailed data with previous form data (EIA-860A/860B)*, EIA (Sep. 3, 2019), <https://www.eia.gov/electricity/data/eia860/> (For information relating to 2018 statistics, open the 2018 ZIP file available on the linked page.).

production is generally an important metric, some facilities, especially those closer to the megawatt cutoff limit, should be analyzed to determine the importance of their security. These analyses of cost-saving and safety are to ensure statutory or program success.

In general, most utilities operate through the use of multiple power production facilities.⁸⁷ Additionally, those facilities, when combined, often can produce more power than is typically used.⁸⁸ Due to the multitude of facilities available to most utility corporations, an inherent amount of backup is built into the system.⁸⁹ In Tennessee, for example, the Tennessee Valley Authority (TVA) is in the process of decommissioning some of its old coal plants.⁹⁰ TVA can

⁸⁷ *Id.*; see also *Potential Paradise Fossil Plant Retirement Final Environmental Assessment*, TENNESSEE VALLEY AUTHORITY (Feb. 2019), https://www.tva.gov/file_source/TVA/Site%20Content/Environment/Environmental%20Stewardship/Environmental%20Reviews/Poten-tial%20Retirement%20of%20Paradise%20Fossil%20Plant/TVA%20Paradise%20Final%20EA_Web.pdf; *Approaches to Resiliency at TVA*, TENNESSEE VALLEY AUTHORITY (last visited Nov. 27, 2019, 3:41 PM), https://www.tva.gov/file_source/TVA/Site%20Content/Energy/Transmission/TVA%20Grid%20Resiliency.pdf; *How the Electricity Grid Works*, UNION OF CONCERNED SCIENTISTS (Feb. 17, 2015), <https://www.ucsusa.org/resources/how-electricity-grid-works>; James Bruggers, *TVA Votes to Close 2 Coal Plants, Despite Political Pressure from Trump and Kentucky GOP*, INSIDE CLIMATE NEWS (Feb. 14, 2019), <https://insideclimatenews.org/news/14022019/tva-coal-power-plants-shut-down-vote-trump-mcconnell-pressure-paradise-kentucky-bull-run-tennessee>.

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Potential Paradise Fossil Plant Retirement Final Environmental Assessment*, TENNESSEE VALLEY AUTHORITY (Feb. 2019), https://www.tva.gov/file_source/TVA/Site%20Content/Environment/Environmental%20Stewardship/Environmental%20Reviews/Poten-tial%20Retirement%20of%20Paradise%20Fossil%20Plant/TVA%20Paradise%20Final%20EA_Web.pdf; see also James Bruggers, *TVA Votes to Close 2 Coal Plants, Despite Political Pressure from Trump and Kentucky GOP*, INSIDE CLIMATE NEWS (Feb. 14, 2019), <https://insideclimatenews.org/news/14022019/tva-coal-power->

achieve said decommissioning due to the fact they have additional facilities capable of meeting and exceeding the power needs of their service area.⁹¹ In a worst-case scenario, at least in TVA's instance, they have facilities that can backup or fill a gap caused by the disabling of one or two of their CIUs.⁹²

For a proposed solution to work, in addition to implementing a megawatt cut off limit, the government needs to determine the use of power produced and the importance of the facilities requesting preemption or security. The goal of proposed solutions is to retain state gun laws while also providing an exemption or security process for facilities critical to national security. A simple way to achieve solution success is to mandate that only those CIUs which provide power to the public or government, not those which are dedicated to personal use or sight-based power production, qualify for preemption or security authorization.

Additionally, once determining that each facility satisfies the megawatt and use requirements, the government must analyze the importance of said facility in relation to the overall needs of the local power grid or service area. The goal, specifically when employing government-provided security, is to minimize the overall expense and force required to maintain a basic level of security. It is not worth the government's time to provide preemption or security personnel to a production facility whose sole purpose is to power a job site, create personal residential power, or provide backup in the event of a noncritical facility failure. Though the government should take steps to ensure adequate security of grid-wide power production, including backup capacity, the government should be mindful to avoid overextension of preemption, funds, and security forces.

Concerning determinations of importance and use, the government should employ the knowledge and expertise of

plants-shut-down-vote-trump-mcconnell-pressure-paradise-kentucky-bull-run-tennessee.

⁹¹ *Id.*; see also *Approaches to Resiliency at TVA*, TENNESSEE VALLEY AUTHORITY (last visited Nov. 27, 2019, 3:41 PM), https://www.tva.gov/file_source/TVA/Site%20Content/Energy/T%20transmission/TVA%20Grid%20Resiliency.pdf.

⁹² *Id.*

the DHS, the DOE, the FERC, and the NRC. Each agency, especially the NRC, has experience in all or part of the fields of energy production, CIU operation, power grid stability, CI security, and to some extent, firearms preemption. By involving the appropriate agencies in the determination of preemption or security authorization, the government can more effectively allocate resources and apply the law.

In addition to experience and knowledge, agency involvement also removes some of the complications associated with drafting a law to meet the needs of nationwide CIUs. Instead of focusing on an elaborate list of specifics, the government can propose general guidelines that its agencies can follow and implement in the most effective and efficient manner possible.

Regardless of the solution, the proposed applications of megawatt cut off limits, importance, and use are necessary for the implementation of either firearm preemption or government-provided security. Without the analysis of production, use, and importance, the guarantee of fiscal and operational success is uncertain. However, once those policies and guidelines are adopted, the implementation of a successful solution, either preemption or government security, is rather straight forward.

B. FIREARMS PREEMPTION

Preemption, as applied by the NRC, is the first and most obvious solution to the issue of CIU physical security. Like it is applied to nuclear facilities, preemption for qualifying CIUs would allow said facilities to ignore state law and begin arming their security forces with previously prohibited firearms.⁹³ The major benefits associated with adopting a preemption approach are ease of implementation, the efficiency of achievable security, and the lack of overall cost associated with the administration of a preemption program.

⁹³ 43 U.S.C. § 373b (2019); Notice of Issuance of Guidelines on Use of Firearms by Security Personnel; Notice of Effective Date of Statute, 74 Fed. Reg. 46,800 (Sep. 11, 2009); Revision of Guidelines on Use of Firearms by Security Personnel, 79 Fed. Reg. 36,100 (Jun. 25, 2014); Revision of Guidelines on Use of Firearms by Security Personnel, 84 Fed. Reg. 8,546 (Mar. 8, 2019).

First, because the NRC is already engaged in granting firearms preemption in states with restrictive gun laws, the framework and application of a general CIU preemption law is already established. The NRC, since 2009, has been amending and shaping its preemption policies to meet the requirements of modern-day America.⁹⁴ The NRC has created an effective and functional preemption program for nuclear power and waste storage facilities. Aside from the addition of the megawatt, use, and importance guidelines, and the addition of other agencies, the basic and effective framework for a new preemption law already exists. Congress would simply have to copy the NRC preemption guidelines and lightly modify them to include the new agencies and additional requirements. Once modifications have taken place, the entire bill can go before its respective bodies, be amended, and voted on as necessary. In short, the solution of preemption is initially beneficial because it requires minimal drafting or debate to modify and broaden an already effective program.

Second, efficiency, which also relates to cost, is an undeniable benefit of a federal CIU preemption law. Because the NRC preemption guidelines, which the government should broaden to apply to all CIUs, rely on the owner of the nuclear facility to apply for and employ small arms, both semi- and fully-automatic, the application of said law is inherently efficient. Instead of micromanaging the security of nuclear facilities across the nation, the federal government is merely acting as an oversight board. The purpose of the government in this instance is not to provide security, but to provide guidelines by which each nuclear facility can develop and obtain the means for their own security.⁹⁵ Under current NRC guidelines the government will only grant preemption when nuclear facilities have met certain government-defined security and operational goals.⁹⁶ Once those goals have been achieved, depending on the state in which the nuclear facility operates, the facility owners can quickly seek possession of small arms for their security forces. Aside from oversight and

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

management of the application process, a preemption approach similar to current NRC guidelines would cost the government very little.

Preemption would also be more efficient and cost-effective due to the complexities surrounding the employment of government forces at private facilities. Firearms preemption, which leaves security in the hands of the facility itself, avoids many of the headaches associated with the use of government forces on private land. Instead of dealing with applicable regulations, budgeting concerns, access, and company security, as well as conflicts regarding the control of security forces, preemption provides almost complete control to the private corporation. Rather than creating a complex, healthy, and viable private-public relationship for security forces, preemption leaves everything, but regulatory aspects, in the hands of the private corporation. Further, the application of preemption is also cost-effective. Instead of burdening taxpayers with the cost of creating a new security force, the government leaves the development and implementation costs to the corporation.

In addition to cost and efficiency, a preemption plan is also more secure. Unlike efficiency and cost, security relates less to government options and more to the benefits of any solution other than the current status quo. One of the main points elaborated upon in DHS and UN reports is one of intelligence sharing and cross-communication.⁹⁷ Elaborated in those reports is the importance of intelligence communication protocols.⁹⁸ One of the best deterrents to attack is intelligence. Intelligence allows anyone to prevent an attack or, when prevention is not possible, mount an adequate defense. Unfortunately, as with all things government-related, some of the available intelligence may be classified or restricted.⁹⁹ Intelligence restrictions are why both the DHS and UN recommend the implementation of systems that allow for the

⁹⁷ *Supra* note 4, 5.

⁹⁸ *Id.*

⁹⁹ *Id.*

transmission of intelligence to CIU operators and security personnel.¹⁰⁰

On its face, intelligence sharing seems simple in implementation. However, when a company, due to state law, must involve outside security forces, intelligence sharing becomes significantly more complex. Instead of dealing strictly with the corporations and their authorized personnel, an additional step of 3rd party authorization comes into play. 3rd party authorizations add time and complexity to a process that, arguably, should be as simple and secure as possible. By allowing firearms preemption in restrictive states, the government eliminates an unnecessary level of complexity. In allowing the power companies to maintain private security forces, the streamlining of authorization and information security can occur. Instead of creating long chains of authorized personal and secret intelligence communications, which could increase the risk of a security breach, the government can deal with the corporations themselves. In the end, the implementation of firearms preemption provides an opportunity for intelligence sharing protocols to be established, streamlined, and combined with preemption security plan requirements.

Despite the benefits, preemption does have one significant drawback; it lacks organization and uniformity. Organization and uniformity are keys to the success of any operation. For example, in a game of chess, if one fails to use their pieces to their full potential and does not maintain organization, the enemy has a greater chance of exploiting their adversary's weaknesses. The same sentiment applies to the United States military. From the largest of fleet movements to basic logistics, uniformity and organization are crucial to the understanding of the battlefield and our military's operational success. The same notion applies to the protection of CIUs.

Preemption or government security is useless if it cannot ensure uniform application. If there are disparities in the security levels of CIUs, especially disparities within the same region, preemption will be effectively useless. Though some facilities may have and employ adequate security, those

¹⁰⁰ *Id.*

who do not could be a weak link within the CIU chain. If uniform guidelines of security are not followed or enforced by the federal government, threats may still arise and succeed in the disruption of stable power production. Though no security plan is foolproof, uniformity is key to avoid giving the enemy an objectively easy and obvious target.

Though preemption is viable in avoiding the restrictions associated with state firearm laws, it may prove difficult to ensure any level of security uniformity. Even when looking at NRC preemption authorization, the government merely employs a basic level of security requirements.¹⁰¹ Aside from the minimal security requirements needed to obtain firearms preemption, the government has little if any control over the use of said security forces and weapons. To ensure any level of uniformity under a preemption program, the government would have to engage in costly and frequent monitoring. Though said monitoring may not be unfeasible or even as costly as employing government-controlled security, it may prove difficult to ensure CIUs are maintaining security standards.

Like many people witness in their private lives, standard operations and daily inspections differ depending on what society considers best practices. Societal best practices may not always align with the instruction of governing bodies. Regardless of origin, the implementation of federal or corporate mandates can differ significantly. As such, though the government can mandate minimal security requirements and monitor them appropriately, the inherent autonomy associated with preemption allows for some level of operational deviance. Therefore, though preemption is a viable option, it lacks, to some extent, strict government uniformity.

C. GOVERNMENT SECURITY FORCES

Though preemption appears to be a strong and viable option for addressing the issues of restrictive state firearm laws, government-provided security is also another equally viable option. Like preemption, there are many benefits

¹⁰¹ *Supra* note 93.

associated with government-provided security. Additionally, preemption and government security share the overwhelming benefit of secure access to government acquired intelligence. However, aside from easy access to the intelligence community, the benefits of government security differ sharply from those associated with preemption.

Being almost the natural opposite to a preemption approach, the pros and cons of government security are closely juxtaposed to those associated with preemption. Whereas preemption faces uniformity issues, government security does not. Likewise, though preemption favors fiscal conservatism, government security favors big government and spending. Regardless, government security is still a viable approach to the issue of securing vital CIUs.

The overwhelming benefit of government security is uniformity and control. Instead of leaving the implementation of a security plan to the operators of vital CIUs, the government takes control of all authorizations and security planning. Because the government is the primary controller of all CIU security forces, uniform application of procedure, armaments, supplies, and training is possible. Instead of relying on each power producer to employ, train, and arm required security forces; the government can take direct action to ensure security across the board.

In many ways, government security is more preferable to the approach taken by preemption. Instead of relying on oversight boards, fines, and inspectors to ensure uniformity of security, the government, mainly the DHS, has complete and unilateral control over its application of force. By controlling the providers of security, the government bypasses issues associated with private security and ensures complete uniformity through security force regulation and control. As such, though preemption can achieve general uniformity, government-controlled security is perhaps the most efficient and ideal solution when uniformity is the primary goal.

In addition to uniformity, government security also offers a better application of intelligence sharing than possible under a preemption plan. Under preemption, it is likely nongovernmental or non-security personnel will require access to shared governmental intelligence. The process of setting up authorization methods, structures, and plans could prove complex, insecure, and costly. However, in terms of

government security, said problems don't exist. Because the people securing the facility will be under the strict control of the federal government, intelligence authorization and employment is significantly easier. Rather than authorize private nongovernmental persons or security forces, government security, due to DHS security clearance preauthorization, can distribute information directly to relevant security forces. As such, government security is better prepared to meet potential threats and avoid divulging sensitive information when unnecessary. Though government security increases implementation complexity, it reduces intelligence inefficiencies and risks due to the authorization of those under direct government control and maintenance; a feat that neither preemption nor the current state of affairs can achieve.

Lastly, government security also offers a political and drafting benefit in the sense that modification or preemption of state law is unnecessary. Because government security forces, unlike private security forces, are considered an arm of the federal government, state laws do not apply to them. As such, government security forces can completely avoid the restrictions and issues of state firearm laws. Not only does this require less lawmaking, in terms of crafting an effective preemption statute, but it is also more politically palatable. Because firearm laws are politically divisive issues, states like New York and California might be concerned that the federal government is trying to create a backdoor to state gun legislation through CIU preemption. The provision of government security avoids said arguments.

Most states already provide an exception to the use of firearms by federal law enforcement or the military. If anything, the introduction of government security would appear as a nonintrusive, non-modifying, answer to current issues. Instead of portraying that the federal government is trying to change state gun laws, government security provides a solution that honors the legal autonomy and law-making powers of state governments. Government security is in many ways better, because it is easier to implement in the avoidance of state gun laws as well as, in some instances, more politically palatable. However, government security does have its problems; both political and fiscal. Though government security has the potential to provide astounding uniformity and ease of state law avoidance, government security gives

rise to operational costs and its own type of political opposition.

An effective solution to the issues at hand must appease both sides of the political aisle. While preemption may appease the sensibilities of conservative lawmakers, government-provided security may not. Broadly speaking, conservatives focus on fiscal conservatism and small government. As such, though conservatives may favor a cost-effective small government preemption solution, government-provided security may not be as lucky. Conservatives may not support an agency based solution because said solution would involve significant cost to the federal government as well as government intrusion into the private power sector. Likewise, preemption, a solution likely favored by conservatives, might garner liberal opposition due to the perceived usurpation of state gun laws and a general lack of permeating government control. Regardless, however, both solutions, though acceptable in their own respects, have the potential to garner political opposition from both sides of the aisle.

In addition to political opposition, the cost of government security is another downside in terms of its implementation. Under preemption, private businesses are responsible for funding their security programs. However, under government security, the federal government will be the one responsible. The government will be responsible for not only the creation and funding of the organization but also the maintenance and training of all who are involved. Instead of funding a small oversight committee or security approval board under the DHS, the government is funding the creation of an entirely new law enforcement branch.

Not only will the creation of a new law enforcement or security branch be costly, but so will its maintenance. The FBI, a federal law enforcement agency, is an excellent example of potential security force creation and operational costs.¹⁰² Being a national law enforcement and investigation agency, the FBI has a substantial yearly budget.¹⁰³ It is possible that the

¹⁰² FBI Budget Request for Fiscal Year 2019, FBI, <https://www.fbi.gov/news/testimony/fbi-budget-request-for-fiscal-year-2019> (last visited Nov. 6, 2019).

¹⁰³ *Id.*

creation of a government CIU security force could, without getting into the actual needs of said force, be close to the equivalent of creating a new FBI. Though uniformity of security and intelligence is achievable, it will likely cost an inordinate amount to establish. With the option of preemption available, especially a preemption proposal similar to the NRC's firearm guidelines, government security may be hard for Congress, the American people, and residents of nonrestrictive states to accept.¹⁰⁴

Regardless of the aforementioned pros and cons, both preemption and government security offer a viable option when it comes to the security needs of vital CIUs. Once crucial metrics such as megawatt production, use, and importance are in place, either option will provide an effective avenue by which the government can ensure the security and stability of America's CIUs. The only step that remains is for the government to choose and act.

VI. CONCLUSION

In consideration of the foregoing, especially the importance of CIUs and the potential security risks posed by state firearm laws, preemption provides the most effective and adaptable solution available. Though government security has the benefit of unadulterated uniformity and control, it is inordinately complex and cost-prohibitive. Government security would require the creation of new laws, agency guidelines, and security protocols, as well as involve significant costs. Preemption avoids many of these hurdles. Though preemption is by no means a perfect solution, it is the easiest to adopt and implement.

The legal framework for a new preemption law already exists. The NRC firearm preemption guidelines provide compelling evidence that a similar law would mandate and provide for the uniform security of CIUs. With minor modifications to current NRC guidelines, preemption can provide an effective and rapid response to pressing security needs. Even when considering uniformity, a downfall of the preemption approach, said concerns are resolvable. Though

¹⁰⁴ *Supra* note 93.

room remains for CIU autonomy, the presence of oversight boards and the creation of minimum mandatory CIU security requirements ensures a basic level of security, oversight, and implementation. If the government does discover discrepancies, the government, like under the NRC, has the ability and power to aid in the rectification of any security issues.

Additionally, though firearms preemption may face some political opposition, when considered in comparison to available alternatives, especially those as complex and costly as government security, preemption becomes the most politically and legislatively viable option. Preemption is by far the easiest to implement and best-equipped solution to rapidly and effectively address current security discrepancies. By using current frameworks and procedures from NRC guidelines, Congress can rapidly and with minimal modification, propose a comprehensive solution to the issues at hand. The simplicity by which the government can implement preemption is bound to garner widespread support, potentially more support than a costly and complex government security proposal. As such, though political opposition is inevitable, preemption is likely the most effective and appealing option when it comes to securing CIUs. Therefore, preemption, despite its shortcomings, is the best option to protect CIU facilities from the dangers and security risks associated with restrictive state firearm laws.