

ONE HUNDRED FOURTEENTH CONGRESS  
**Congress of the United States**  
**House of Representatives**  
COMMITTEE ON ENERGY AND COMMERCE  
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**MEMORANDUM**

**May 15, 2015**

**To: Subcommittee on Environment and the Economy Democratic Members and Staff**

**Fr: Committee on Energy and Commerce Democratic Staff**

**Re: Hearing titled “Update on the Current Status of Nuclear Waste Management Policy**

On Friday, May 15, 2015, at 9:00 a.m. in room 2123 of the Rayburn House Office Building, the Subcommittee on Environment and the Economy will hold a hearing titled “Update on the Current Status of Nuclear Waste Management Policy.”

**I. BACKGROUND: NUCLEAR WASTE POLICY 1982-2010**

In 1982, Congress passed the Nuclear Waste Policy Act (NWPA) directing the Department of Energy (DOE) to remove spent nuclear fuel (SNF) from commercial nuclear power plants, in exchange for certain fees, and to transport it to a permanent geologic repository beginning no later than January 31, 1998.<sup>1</sup> Additionally, the law provided for the disposal of high-level radioactive waste (HLW) resulting from defense-related activities.

As originally enacted, the law established an objective, scientifically-based process for selecting two repository sites. In the years that followed passage of the NWPA, however, DOE’s efforts to identify potential sites were met with strong local opposition.

Congress went on to amend the NWPA through enactment of the Nuclear Waste Policy Act of 1987. Among the actions Congress took was to designate Yucca Mountain, Nevada as the sole site to be considered for a permanent geologic repository.<sup>2</sup> The amended law also allowed for the possible construction of a consolidated interim nuclear waste storage facility, the construction of which was tied to action on construction of a permanent repository.

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<sup>1</sup> Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425.

<sup>2</sup> 42 U.S.C. § 10172.

Pursuant to section 302 of the NWPA, the Secretary of Energy entered into contracts with generators of SNF and HLW for the purpose of taking title to, transporting, and disposing of that waste.<sup>3</sup> In return, electric utilities began to pay an ongoing fee of 1.0 mil per kilowatt-hour of nuclear-generated electricity, as well as a one-time fee intended to account for waste generated prior to the law’s enactment. These fees are deposited in the Nuclear Waste Fund (NWF or the Fund), the purpose of which is to cover the cost of DOE’s acceptance, transport and disposal of civilian nuclear waste. According to the most recent audit report available from DOE, deposits to the Fund – together with the Defense Nuclear Waste Disposal Appropriation (DNWDA) established to cover the costs of HLW disposal – total approximately \$25.4 billion at the end of FY 2014.<sup>4</sup>

The lack of appropriations to the program contributed in large part to DOE’s failure to fulfill its contractual obligations with utilities by the statute’s 1998 deadline. These failures led to commencement and litigation of successful lawsuits against DOE by utilities, and as of 2012, “damages and judgments in the amount of \$2 billion have been paid out from the taxpayer-funded Judgment Fund...”<sup>5</sup>

Throughout the 1990s and early 2000s, both Democratic and Republican administrations continued Yucca Mountain siting related activities and, ultimately, preparatory steps toward licensing and constructing a permanent geological repository at the Nevada site. In June 2008, DOE submitted an application for authorization to construct the Yucca Mountain nuclear waste repository to the Nuclear Regulatory Commission (NRC or the Commission).

## **II. 2010-2014: THE BLUE RIBBON COMMISSION AND WITHDRAWAL OF THE LICENSE APPLICATION**

### **A. Blue Ribbon Commission**

On January 29, 2010, President Obama directed the Secretary of Energy to establish a Blue Ribbon Commission (BRC) to “conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle, including all alternatives for the... disposal of...used nuclear fuel and nuclear waste.”<sup>6</sup> The BRC met between 2010 and 2012. In its final report on January 26, 2012, the BRC declared that:

The approach laid out under the 1987 Amendments to the Nuclear Waste Policy Act (NWPA)—which tied the entire U.S. high-level waste management program

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<sup>3</sup> Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425 § 302.

<sup>4</sup> U.S. Department of Energy, Office of Inspector General, *Department of Energy’s Nuclear Waste Fund’s Fiscal Year 2014 Financial Statement Audit* (Nov., 2014) (online at [www.energy.gov/sites/prod/files/2014/12/f19/OAS-FS-15-03.pdf](http://www.energy.gov/sites/prod/files/2014/12/f19/OAS-FS-15-03.pdf)).

<sup>5</sup> Blue Ribbon Commission on America’s Nuclear Future, *Report to the Secretary of Energy*, at 79 (Jan. 26, 2012).

<sup>6</sup> President Barack Obama, *Memorandum For The Secretary Of Energy* (Jan. 29, 2010).

to the fate of the Yucca Mountain site—has not worked to produce a timely solution for dealing with the nation’s most hazardous radioactive materials.<sup>7</sup>

The BRC did not comment on the suitability of the Yucca Mountain repository site or on how the government should act upon the Yucca Mountain license application. Rather, the BRC “focused on developing a sound strategy for future storage and disposal facilities and operations that...[c]an and should be implemented regardless of what happens with Yucca Mountain.”<sup>8</sup>

A more detailed summary of the BRC Report is included as an addendum to this memo.

## **B. License Withdrawal**

On March 3, 2010, DOE filed a motion asking the Atomic Safety and Licensing Board (Licensing Board) of the NRC to dismiss its license application for construction of the Yucca Mountain depository. In the motion, DOE stated that “a geologic repository at Yucca Mountain is not a workable option for long-term disposition” of spent nuclear fuel and high-level nuclear waste.<sup>9</sup>

In June 2010, the Licensing Board ruled that DOE did not have the authority to withdraw the Yucca Mountain license application.<sup>10</sup> On September 9, 2011, the NRC announced it was evenly divided (2-2) on whether to take the affirmative action of overturning or upholding the Licensing Board’s decision. As a result, the Licensing Board’s decision continued to remain in effect.<sup>11</sup>

On August 13, 2013, the U.S. Court of Appeals for the District of Columbia Circuit issued a 2-1 decision ordering NRC to continue its suspended review of DOE’s Yucca Mountain license application. In his majority opinion, Judge Kavanaugh wrote that “unless and until Congress authoritatively says otherwise or there are no appropriated funds remaining, the Nuclear Regulatory Commission must promptly continue with the legally mandated licensing process.”<sup>12</sup>

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<sup>7</sup> Blue Ribbon Commission on America’s Nuclear Future, *Report to the Secretary of Energy* (Jan. 26, 2012).

<sup>8</sup> *Id.* at vii-viii.

<sup>9</sup> U.S. Department of Energy’s Motion to Withdraw, *In the Matter of U.S. Department of Energy*, ASLBP No. 09-892-HLW-CAB04 (Mar. 3, 2010).

<sup>10</sup> Memorandum and Order, *In the Matter of U.S. Department of Energy*, ASLBP No. 09-892-HLW-CAB04 (Jun. 29, 2010).

<sup>11</sup> U.S. Nuclear Regulatory Commission, *Memorandum and Order In the Matter of U.S. Department of Energy (High-Level Waste Depository)*, CLI-11-07 (Sept. 9, 2011).

<sup>12</sup> *In Re: Aiken County*, Opinion 11-1271, at 22 (U.S. Court of Appeals for the D.C. Circuit, Aug. 13, 2013).

On August 30, 2013, the Commission asked participants in the adjudicatory proceeding to offer recommendations by September 30, 2013, on how to restart the Yucca Mountain licensing process.<sup>13</sup> On November 18, 2013, the Commission issued an order with three primary directives. First, the Commission directed NRC staff to complete and issue the Safety Evaluation Report (SER), a multi-volume report summarizing the Yucca Mountain application, the technical staff's safety review, and the staff findings and recommendations.<sup>14</sup>

Second, the Commission also directed NRC staff to upload documents from the non-functioning Licensing Support Network into the Commission's official record-keeping system to facilitate the staff's work on the SER.<sup>15</sup> On January 24, 2014, the Commission further directed NRC staff to use \$2.2 million in recently de-obligated, unexpended Nuclear Waste Fund appropriations to make the Licensing Support Network document collection publicly available in the Agencywide Documents Access and Management System.<sup>16</sup>

And third, the Commission requested that DOE prepare the supplemental environmental impact statement (EIS) that NRC staff determined is needed for compliance with National Environmental Policy Act.<sup>17</sup>

### **C. DOE Nuclear Waste Management and Disposal Strategy**

In January 2013, DOE released a document titled *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste*, which included a response to the Blue Ribbon Commission's recommendations and outlined a framework for meeting the government's obligation to dispose of nuclear waste.<sup>18</sup> DOE's strategy serves as a statement of administration policy and consists of three key elements:

#### **1. Interim Storage and Permanent Repository Schedule**

DOE agreed with the Commission that interim storage of spent nuclear fuel and high-level radioactive waste will be a critical element in any waste management system. To that end, DOE proposed developing a pilot interim storage facility with limited capacity with an initial focus on serving shut-down reactor sites. DOE set a goal of commencing operations of the pilot

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<sup>13</sup> U.S. Nuclear Regulatory Commission, *Nuclear Regulatory Commission Seeks Input on Resumption of Yucca Licensing Review* (Aug. 30, 2013).

<sup>14</sup> U.S. Nuclear Regulatory Commission, *Memorandum and Order In the Matter of U.S. Department of Energy (High-Level Waste Depository)*, CLI-13-08 (Nov. 18, 2013).

<sup>15</sup> *Id.*

<sup>16</sup> U.S. Nuclear Regulatory Commission, *Memorandum and Order In the Matter of U.S. Department of Energy (High-Level Waste Depository)*, CLI-14-01 (Jan. 24, 2014).

<sup>17</sup> U.S. Nuclear Regulatory Commission, *Memorandum and Order In the Matter of U.S. Department of Energy (High-Level Waste Depository)*, CLI-13-08 (Nov. 18, 2013).

<sup>18</sup> U.S. Department of Energy, *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste* (Jan. 2013).

project by 2021. DOE also expressed support for developing a larger, consolidated interim storage facility and set a goal of siting, designing, licensing, constructing, and operating the facility by 2025. Finally, DOE set a goal of siting a permanent geologic repository for the disposal of used nuclear fuel and high-level radioactive waste by 2026; designing and licensing the site by 2042; and commencing operations by 2048.

As part of the agency's effort to develop these storage facilities, DOE has begun the process of planning for the eventual transportation of the nuclear waste on the nation's roads and railways.

## 2. Consent-Based Siting

DOE agreed with the Commission that a consent-based siting process would be critical to the successful implementation of the agency's waste management strategy. DOE's strategy "endorses the proposition that prospective host jurisdictions must be recognized as partners. Public trust and confidence is a prerequisite to the success of the overall effort."<sup>19</sup>

## 3. Governance and Funding

DOE also agreed with the Commission's recommendation for a new organization to execute the waste management implementation process. DOE noted that this organization is needed to "provide the stability, focus, and credibility to build public trust and confidence."<sup>20</sup> DOE commissioned a RAND Corporation study of potential organizational alternatives.<sup>21</sup> The study concluded that a federal government corporation or an independent government agency are promising models. DOE has committed to work with Congress to enact the necessary legislation to create a new management and disposal organization and establish a stable funding structure for the organization.

### **III. 2015 DEVELOPMENTS**

#### **A. NRC Safety Evaluation Report Completion**

On January 29, 2015, NRC issued the final volumes of the SER. The report noted that DOE's license application met regulatory requirements, except for certain requirements related to ownership of land and water rights. The report recommended that "the Commission should not authorize construction of the repository because DOE has not met certain land and water rights requirements...and a supplement to DOE's environmental impact statement has not yet

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<sup>19</sup> *Id.* at 9.

<sup>20</sup> *Id.*

<sup>21</sup> RAND Corporation, *Choosing a New Organization for Management and Disposition of Commercial and Defense High-Level Radioactive Materials* (2012).

been completed.”<sup>22</sup> In March 2015, NRC announced that its staff would prepare a supplement to DOE’s EIS to address “the impacts of the proposed repository at Yucca Mountain on groundwater as well as the impacts from groundwater discharges to the surface.”<sup>23</sup> NRC cited DOE’s failure to complete the supplemental EIS requested in the Commission’s November 18, 2013 order.<sup>24</sup>

NRC Chairman Stephen Burns also recently noted another significant hurdle to a final decision on Yucca Mountain authorization. In a recent speech, the Chairman pointed out that:

...an adjudicatory hearing would have to be held which presumes that the applicant will take an active role, and the Commission would have to complete its review of contested and uncontested issues. It is uncertain how long it would take to resolve the existing 288 issues that were admitted in the hearing (called “contentions”), not considering possible new or amended challenges.<sup>25</sup>

## **B. Defense Waste Only Repository**

On March 24, 2015, President Obama issued a finding under the NWPA that the development of a separate repository for the disposal of HLW resulting from atomic energy defense activities (defense waste) is required.<sup>26</sup> The determination is based on an analysis of six factors identified in the NWPA: cost efficiency, health and safety, regulation, transportation, public acceptability, and national security.<sup>27</sup> This finding represents a significant change in U.S. policy that had stood since 1985 when President Reagan concluded that a separate repository for such HLW was unnecessary.<sup>28</sup> DOE’s report assessing whether a separate repository is necessary, notes:

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<sup>22</sup> U.S. Nuclear Regulatory Commission, *NRC Publishes Final Two Volumes of Yucca Mountain Safety Evaluation* (Jan. 29, 2015) (online at [www.nrc.gov/reading-rm/doc-collections/news/2015/15-005.pdf](http://www.nrc.gov/reading-rm/doc-collections/news/2015/15-005.pdf)).

<sup>23</sup> U.S. Nuclear Regulatory Commission Chairman Stephen G. Burns, *Prepared Remarks Before United States Energy Association Meeting, National Press Club* (Apr. 30, 2015) (online at <http://pbadupws.nrc.gov/docs/ML1512/ML15121A048.pdf>).

<sup>24</sup> U.S. Nuclear Regulatory Commission, *NRC Staff to Prepare Supplement to Yucca Mountain Environmental Impact Statement* (Mar. 12, 2015) (online at <http://pbadupws.nrc.gov/docs/ML1507/ML15071A143.pdf>).

<sup>25</sup> U.S. Nuclear Regulatory Commission Chairman Stephen G. Burns, *Prepared Remarks Before United States Energy Association Meeting, National Press Club* (Apr. 30, 2015) (online at <http://pbadupws.nrc.gov/docs/ML1512/ML15121A048.pdf>).

<sup>26</sup> President Barack Obama, Presidential Memorandum, *Disposal of Defense High-Level Radioactive Waste in a Separate Repository* (Mar. 24, 2015).

<sup>27</sup> Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425 § 8(b).

<sup>28</sup> U.S. Department of Energy, *Report on Separate Disposal of Defense High-Level Radioactive Waste* (Mar., 2015).

A geologic repository for permanent disposal of Defense HLW could be sited, licensed, constructed, and operated more quickly than a Common NWPA Repository and would provide valuable experience to reduce the cost of a future repository and the time needed to develop it. In consideration of the six statutory factors cumulatively, this report concludes that a strong basis exists to find that a Defense HLW Repository is required.<sup>29</sup>

In an effort to better understand the administration's decision to revisit and depart from the previous thirty years of policy in this matter, Chairman Upton and Ranking Member Pallone sent a letter to Secretary Moniz raising a number of questions surrounding the decision.<sup>30</sup> To date, there has been no response to the letter, although discussions with DOE staff indicate that a written response is imminent.

### C. Interim Storage

As noted previously, the NWPA provided for the possibility of a consolidated interim storage facility. However, the "monitored retrievable storage" facility outlined in subtitle C of the Act never materialized and by the mid-1990s, Congress turned its attention to authorizing an interim storage facility adjacent to the proposed Yucca Mountain repository. While bipartisan legislation to accomplish this goal passed the Committee on multiple occasions and Congress as a whole in 2000, to date, no such legislation has been enacted.

Recently, the concept of consolidated interim storage has risen to the fore again as two private entities have each proposed developing such a facility. In February, a company called Waste Control Specialists notified the NRC of its intention to license an interim storage facility in Andrews County, Texas.<sup>31</sup> Not long after that, Holtec International announced an agreement with two New Mexico counties to establish an interim storage site.<sup>32</sup> Both facility proposals currently enjoy significant support within their respective states, though New Mexico's Democratic Senators have expressed concern, despite the Republican Governor's support for the

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<sup>29</sup> U.S. Department of Energy, *Report on Separate Disposal of Defense High-Level Radioactive Waste*, at 6 (Mar., 2015) (online at [www.energy.gov/sites/prod/files/2015/03/f20/Defense%20Repository%20Report.pdf](http://www.energy.gov/sites/prod/files/2015/03/f20/Defense%20Repository%20Report.pdf)).

<sup>30</sup> Letter from Chairman Upton and Ranking Member Pallone to Secretary Moniz (Apr. 14, 2015) (online at <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/114/Letters/20150414DOE.pdf>).

<sup>31</sup> Letter from Waste Control Specialists to U.S. Nuclear Regulatory Commission (Feb. 6, 2015); *Texas Company Rolls Out Plan for Private Spent-Fuel Storage Site*, Greenwire (Feb. 9, 2015) (online at [www.eenews.net/greenwire/stories/1060013121](http://www.eenews.net/greenwire/stories/1060013121)).

<sup>32</sup> Nuclear Energy Institute, *Holtec to Pursue Consent-Based Interim Storage in New Mexico* (Apr. 30, 2015) (online at [www.nei.org/News-Media/News/News-Archives/Holtec-to-Pursue-Consent-Based-Interim-Storage-in](http://www.nei.org/News-Media/News/News-Archives/Holtec-to-Pursue-Consent-Based-Interim-Storage-in)).

project.<sup>33</sup> Although the possibility of developing one or more consent-based interim storage facility sites has aroused interest among nuclear waste stakeholders, many hurdles remain including the need to enact legislation to address the government's role in the process.

#### **IV. WITNESSES**

The following witnesses have been invited to testify:

**Andrew Fitz**

Senior Counsel

Office of the Attorney General of the State of Washington

**Josephine Piccone**

Director, Yucca Mountain Directorate

Nuclear Regulatory Commission

**The Honorable Greg R. White**

Commissioner, Michigan Public Service Commission

*On behalf of the National Association of Regulatory Utility Commissioners*

**Stephen Kucynski**

Chairman, President and Chief Executive Officer

Southern Nuclear Operating Company

**Geoffrey H. Fettus**

Senior Attorney

Natural Resources Defense Council

**Einar Ronningen**

Manager, Rancho Seco Assets

Sacramento Municipal Utility District

*On behalf of the Decommissioning Plant Coalition*

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<sup>33</sup> *Company Answers U.S. Call for Solutions, setting off N.M. Political Spat*, E&E Daily (Apr. 30, 2015) (online at [www.eenews.net/eedaily/stories/1060017711](http://www.eenews.net/eedaily/stories/1060017711)).



## ADDENDUM

### **THE BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE**

On January 29, 2010, the President established the Blue Ribbon Commission on America's Nuclear Future to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle, including all alternatives for the storage, processing, and disposal of civilian and defense spent nuclear fuel and high-level waste.

The Commission report provides eight recommendations for managing and disposing of nuclear waste in the United States.

**A. A new, consent-based approach to siting future nuclear waste management facilities.**

Siting any nuclear waste storage or disposal facility will be the biggest challenge for the U.S. nuclear waste management program. Based on a review of efforts in the United States and abroad to site such facilities, the Commission concluded that “any attempt to force a top-down, federally mandated solution over the objections of a state or community—far from being more efficient—will take longer, cost more, and have lower odds of ultimate success.”<sup>1</sup> The Commission recommended that the United States take a new approach that is consent-based, transparent, phased, adaptive, science-based, and governed by partnership agreements or legally-enforceable agreements between the federal authority and the host state, communities, and relevant tribes.

**B. A new organization dedicated solely to implementing the waste management program and empowered with the authority and resources to succeed.**

The Commission recommended that the government should create a new, single-purpose organization tasked with siting, licensing, building, and operating facilities for the storage and disposal of spent nuclear fuel and high-level nuclear waste. The Commission concluded that a new organization offers the best chance to establish a track record of transparency, accountability, and scientific integrity, and to re-establish trust with state and local governments, the nuclear power industry, and other stakeholders. The Commission suggested that a congressionally-chartered federal corporation, akin to the Tennessee Valley Authority, may provide the best model, as it could be less vulnerable to political considerations and have more authority to manage costs and schedules.

**C. Access to the funds nuclear utility ratepayers are providing for the purpose of nuclear waste management.**

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<sup>1</sup> Blue Ribbon Commission on America's Nuclear Future, *Report to the Secretary of Energy*, at ix (Jan. 26, 2012).

The Commission recommended, as a short-term solution, requiring utilities to only pay into the Nuclear Waste Fund the amount appropriated each year and the rest into a trust account for future use. The Commission also recommended changing the way the fee receipts are treated in the federal budget to offset appropriations for the waste program. Over the longer term, the Commission recommended transferring the Fund's unspent balance to the new nuclear waste management organization and giving that organization greater autonomy over its budget.

**D. Prompt efforts to develop one or more geologic disposal facilities.**

Concluding that deep geologic disposal is ultimately needed and is the “scientifically preferred approach,” the Commission recommended that the United States develop one or more permanent deep geologic facilities for the disposal of spent fuel and high-level nuclear waste.<sup>2</sup> The Commission did not evaluate whether Yucca Mountain (or any other specific location) would be a suitable repository but noted that the expected U.S. inventory of spent nuclear fuel will require a new repository regardless of the fate of Yucca Mountain.

**E. Prompt efforts to develop one or more consolidated storage facilities.**

The Commission concluded that the United States should develop one or more consolidated interim storage facilities for spent nuclear fuel to allow the federal government to begin transferring spent nuclear fuel from active and abandoned reactor sites. According to the Commission, this would provide cost savings at decommissioned sites where millions of dollars are spent to secure the spent fuel, provide back-up storage in the event of an emergency, and offer flexibility in managing spent nuclear fuel until a long-term repository is completed. Many stakeholders raised concerns about interim storage sites becoming *de facto* disposal sites. The Commission warned that development of consolidated storage must move on a parallel track with the development of a long-term repository to allay these concerns.

**F. Prompt efforts to prepare for the eventual large-scale transport of spent nuclear fuel and high-level waste to consolidated storage and disposal facilities when such facilities become available.**

Transferring spent nuclear fuel and other waste from nuclear reactor sites to storage and disposal will require transportation on America's roads and highways, which has raised safety concerns in the past for communities along the proposed routes. The Commission recommended that the relevant federal agencies begin early to update regulations governing the transport of nuclear waste and engage tribal, local, and state officials in the transportation planning process.

**G. Support for continued U.S. innovation in nuclear energy technology and for workforce development.**

The Commission concluded that many uncertainties remain about the merits and commercial viability of reprocessing spent nuclear fuel and therefore determined that it is premature to commit the country to reprocessing as a matter of policy. Instead, the Commission

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<sup>2</sup> *Id.* at 27.

recommended that the public and private sectors continue to support research and development of advanced reactor and fuel cycle technologies.

**H. Active U.S. leadership in international efforts to address safety, waste management, non-proliferation, and security concerns.**

The Commission concluded that many nations look to the United States to lead and provide technical assistance in the areas of safety, non-proliferation, security, and counter-terrorism.