OFFICE OF
NONPROLIFERATION AND
ARMS CONTROL (NPAC)

FY 2016–FY 2020

# Strategic Implementation Plan

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**CHALLENGES:**

- Detect and deter undeclared nuclear materials and activities
- Detect and deter illicit transfers of nuclear and dual-use materials, technology, and commodities
- Reduce nuclear weapons while maintaining strategic stability
- Address evolving threats and challenges to nonproliferation and arms control regimes

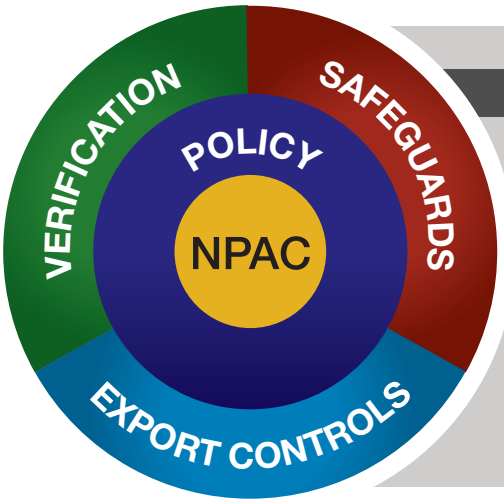
# Message from the Assistant Deputy Administrator

The dual threats of nuclear proliferation and nuclear terrorism continue to present complex challenges to the international community and nonproliferation regime. The Office of Nonproliferation and Arms Control (NPAC), as part of the Office of Defense Nuclear Nonproliferation (DNN) team, is an essential component of the U.S. Government and international effort to strengthen the nonproliferation and arms control regimes. NPAC's core competencies in international nuclear safeguards, nuclear export controls, nuclear verification and monitoring, and nonproliferation policy provide DNN the expertise necessary to build and implement programs, strategies, and initiatives to prevent the proliferation of nuclear and dual-use materials, equipment, and technology; ensure peaceful nuclear uses; and enable verifiable nuclear weapons reductions.

With the DNN realignment implemented in January 2015, NPAC now is looking forward and planning the next five years. To that end, this strategic implementation plan covers the planning period of FY 2016 to 2020 and has two purposes. First, the plan will clearly communicate to our stakeholders and partners inside and outside the National Nuclear Security Administration (NNSA) our strategic goals, objectives, and some of our most important initiatives. Second, the plan will provide high-level guidance to NPAC programs as they plan and execute their activities for the next five years.

What we do is important. With a talented and dedicated team of federal employees and our strategic partners within the U.S. Department of Energy (DOE) and the NNSA, in the U.S. Interagency community, at the National Laboratories, and with our foreign partners, NPAC is poised to continue making essential contributions to U.S. national security and global nuclear security.

*Kasia R. Mendelsohn, Assistant Deputy Administrator*
*Nonproliferation and Arms Control*




SOLUTIONS/COMPETENCIES:

- Build capacity of the IAEA and Member States to implement and meet international safeguards obligations
- Build domestic and international capacity to implement export control obligations
- Support negotiation of and implement agreements and associated monitoring regimes to verifiably reduce nuclear weapons and dismantle undeclared nuclear programs
- Develop programs and strategies to address emerging nonproliferation and arms control challenges and opportunities

***NPAC provides a comprehensive approach to strengthening the nonproliferation and arms control regimes.***

# Addressing Proliferation Threats

**"No threat poses as grave a danger** to our security and well-being as the potential use of nuclear weapons and materials by irresponsible states or terrorists. . . . Vigilance is required to stop countries and non-state actors from developing or acquiring nuclear, chemical, or biological weapons, or the materials to build them."

**National Security Strategy**
**February 2015**

"I will say that in my almost 50 years in intelligence, I do not recall a period in which we confront a more diverse array of threats, crises and challenges around the world."

**James Clapper,**
**Director of National Intelligence**

For decades, the United States has faced the threat of nuclear weapons, materials, technology, and expertise proliferating to hostile states or falling into the hands of terrorists. To successfully confront this global threat of nuclear proliferation and terrorism, we must recognize and address two realities. First, nuclear proliferation and terrorism are persistent national security challenges confronting the United States. Second, these enduring threats and risks are dynamic, complex, and constantly evolving.

State and non-state actors continue to pursue nuclear weapons and nuclear weapons capabilities. Existing nonproliferation and arms control architectures, which have been so effective over the past decades, are being challenged by the evolving nature of nuclear security threats and trends. Several important trends have been identified through NNSA "over the horizon" strategic studies:

- Securing and managing nuclear and radiological materials will be challenged by increasing amounts of weapons-usable nuclear materials, including in regions of concern, as well as by the erosion of control within weak or failing states.
- Acquiring nuclear weapons capabilities will remain a high priority for some state and non-state actors, putting strains on monitoring, verifying, and maintaining the arms control and nonproliferation regimes.
- The global expansion of civil nuclear power and the wide use of radiological sources will accelerate the spread of dual-use technology and knowledge and increase demands on safety, security, safeguards, export controls and emergency response systems.
- Expanding global trade volumes and sophistication of illicit procurement networks will continue to provide opportunities for state and non-state actors to acquire nuclear and dual-use materials, equipment, and technology.
- Rapidly changing technologies and greater diffusion of dual-use knowledge are expected to provide more ways for terrorists to threaten nuclear security systems and find easier acquisition pathways to nuclear weapons capabilities.

NPAC, as an integral component of the DNN team, stands at the forefront of addressing many of these threats, risks, and trends. NPAC does so by implementing a comprehensive and integrated set of initiatives and activities to strengthen the nonproliferation and arms control regimes and by continuing to identify emerging and evolving threats and challenges so that it can flexibly apply its expertise to address known and emerging threats.

# Strengthening Nonproliferation and Arms Control

## Executing National Security Priorities

NPAC responds to the national security priorities articulated in the *National Security Strategy of the United States* and the *Nuclear Posture Review*, both of which are reflected in the *U.S. Department of Energy Strategic Plan, 2014–2018* and the *U.S. Department of Energy, National Nuclear Security Administration, Enterprise Strategic Vision, August 2015*. These priorities include the efforts to remove and eliminate or secure and safeguard the most vulnerable nuclear materials worldwide; limit or prevent the transfer and trafficking of weapons of mass destruction (WMD), WMD-related materials, technology, and expertise; support the development of new nonproliferation technologies; and promote secure expansion of nuclear energy.

NPAC directly contributes to meeting the DOE strategic goal for "Nuclear Security" and plays a critical role in meeting the DOE objective to reduce global nuclear security threats through programs and activities that strengthen the nonproliferation and arms control regimes to reduce proliferation and terrorism risks.

## NPAC Mission and Core Competencies

As part of the DNN team, NPAC addresses many of the threats and risks posed by nuclear proliferation and terrorism. Specifically, NPAC's mission is to: strengthen the nonproliferation and arms control regimes to prevent proliferation, ensure peaceful nuclear uses, and enable verifiable nuclear reductions. To meet its mission, NPAC applies and integrates its core competencies and expertise in:

- **INTERNATIONAL NUCLEAR SAFEGUARDS;**
- **NUCLEAR EXPORT CONTROLS;**
- **NUCLEAR VERIFICATION; AND**
- **NONPROLIFERATION POLICY.**

NPAC Mission:

Strengthen the nonproliferation and arms control regimes to prevent proliferation, ensure peaceful nuclear uses, and enable verifiable nuclear reductions.

## NPAC Relevance to the Challenges of Today and Tomorrow

**From national security policy to future treaties and agreements, NPAC's work is relevant to the challenges of today and tomorrow. Some examples include:**

**National security policy:** Support implementation of the Joint Comprehensive Plan of Action (JCPOA) to address Iran's nuclear program.

**International organizations:** Strengthen the capacity of the International Atomic Energy Agency (IAEA) to meet its evolving mission.

**International regimes:** Work with the Nuclear Suppliers Group (NSG) to anticipate the spread and rapid evolution of technology (such as additive manufacturing), the dynamic nature of the global supply chain, evasive techniques used by illicit networks, and the risk of unauthorized retransfers of sensitive technology.

**Nuclear newcomers:** Address proliferation risks given the global expansion of civil nuclear energy, static IAEA safeguards and security resources, decreasing U.S. commercial influence vs. non-U.S. suppliers, and the perceived need for indigenous enrichment and reprocessing capabilities.

**Transformative events:** Help a newly opened Burma improve implementation of its safeguards obligations, improve its weak export control system, and integrate into the global nonproliferation community.

**Arms control treaties and agreements:** Prepare facilities in the DOE complex for potential future monitoring and verification activities consistent with treaty and agreement obligations while protecting against the release of classified or proliferation-sensitive information during inspections and monitoring activities.

## NPAC Strategic Goals

NPAC's four key strategic goals are to:

1. Build capacity of the IAEA and Member States to implement and meet international safeguards obligations.
2. Build domestic and international capacity to implement export control obligations.
3. Support negotiation of and implement agreements and associated monitoring regimes to verifiably reduce nuclear weapons and dismantle undeclared nuclear programs.
4. Develop programs and strategies to address emerging nonproliferation and arms control challenges and opportunities.

## Implementation Approach

To achieve its mission, NPAC employs the following fundamental implementation approaches:

- Mobilize the highly specialized expertise resident in the NPAC team, supplemented by the extensive policy and technical expertise of our National Laboratory partners and by collaborating with other strategic partners within NNSA, the U.S. Interagency, and globally.
- Apply risk prioritization methodologies, requirements gap analyses, and policy overlay to determine specific programmatic priorities and resource allocations.
- Implement targeted, performance-driven, and professionally managed programs; apply metrics designed to gauge progress toward self-sustaining and measurable outcomes; and use program reviews for continuous learning and improvement.

## NPAC's Programmatic and Policy Prioritization Approach

**NPAC programs apply a structured approach to determine priorities and allocate resources.**

- ✓ **Statutory Mandates/Authorities** Activities that the DOE/NNSA is legally or statutorily required or authorized to implement, e.g., 1954 Atomic Energy Act, 1978 Nuclear Nonproliferation Act, 1979 Export Administration Act, 10 CFR Part 810, and Iran, North Korea, and Syria Nonproliferation Act.
- ✓ **Treaties and Other International Agreements** Activities that implement legally-binding treaty and agreement obligations, e.g., Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the New Strategic Arms Reduction Treaty (New START), Intermediate-Range Nuclear Forces Treaty, and U.S. Russia Plutonium Production Reactor Agreement (PPRA).
- ✓ **Presidential Priorities** Activities to accomplish Administration priorities/objectives, e.g., Nuclear Posture Review, Nuclear Security Summits, National Security Strategy, and Prague Speech.
- ✓ **Non-binding Commitments with International Partners** Activities that implement international commitments in the form of memoranda of understanding and cooperation/statements of intent, e.g., Track 1.5 engagements to open nonproliferation dialogues with strategic partners.

## About This Plan

- The *NPAC FY 2016–FY 2020 Strategic Implementation Plan* describes the functional elements of the NPAC mission rather than providing an organizational description of each NPAC program. This approach highlights the integration of NPAC's core competencies and resources across program elements to accomplish NPAC's nonproliferation and arms control mission.
- This plan is synchronized with the following DOE and NNSA Strategic Plans:
  - » *U.S. Department of Energy Strategic Plan, 2014–2018*
  - » *U.S. Department of Energy, National Nuclear Security Administration, Enterprise Strategic Vision, August 2015*
  - » *Prevent, Counter, and Respond—A Strategic Plan for Reducing Global Nuclear Threats (FY 2016–FY 2020)*
- This plan will be supplemented by multi-year program plans prepared by the NPAC programs for guiding specific implementation of the strategic goals and objectives.
- Each NPAC strategic goal is reinforced with specific objectives. Each objective is further supported by select initiatives to be accomplished within the five-year planning period covered by this plan.

# STRATEGIC GOAL 1:

## Build capacity of the IAEA and Member States to implement and meet international safeguards obligations.

NPAC strengthens the international safeguards regime and the IAEA's ability to detect non-compliance through the implementation of the Next Generation Safeguards Initiative (NGSI). NGSI develops the policies, concepts and approaches, human capital, technology, and infrastructure necessary to strengthen the international safeguards system and provide the IAEA with all necessary resources to meet its evolving mission.

In addition, NPAC leads DOE implementation of IAEA safeguards within the DOE Complex under the U.S. Voluntary Offer Agreement (U.S. VOA), and executes the Department's statutory mandate under the Atomic Energy Act of 1954 and Nuclear Regulatory Commission Regulations (10 CFR §110.44) to ensure the security of U.S. nuclear material exported to foreign countries for peaceful purposes.

The following specific objectives will support achieving Strategic Goal 1 and are further defined by the Select Initiatives to be accomplished within the five-year planning period articulated by this strategic implementation plan.

**IAEA safeguards are technical and legal measures applied by the Agency to:**

1. Provide credible assurances to the international community that states' civil nuclear activities are exclusively peaceful
2. Detect and deter illicit nuclear and nuclear-related activities
3. Provide a basis for verifying that states are complying with their nuclear safeguards obligations under the NPT

## OBJECTIVES

### 1.1 Promote safeguards policy, concepts and approaches, and human capital development.

- Work with other U.S. agencies and the IAEA to conduct activities designed to:
  - » Strengthen and encourage the full use of existing IAEA authorities and consider possible new authorities.
  - » Develop policies and strategies that will help the IAEA plan, evaluate, and report on the implementation of safeguards agreements in a manner that is effective, efficient, objective, transparent, and nondiscriminatory.
  - » Increase public awareness and understanding of the role of international safeguards in international efforts to prevent the spread of nuclear weapons.
- Develop advanced safeguards concepts and approaches to enhance the effectiveness, efficiency, and credibility of international safeguards focusing on:
  - » Identifying and analyzing best practices, gaps in current capabilities, and new requirements
  - » Demonstrating and evaluating advanced methods to safeguard nuclear material and facilities.
- Develop sustainable academic and technical programs that support the recruitment, education, training, and retention of the next generation of young and mid-career international safeguards professionals.

*NPAC's International Nuclear Safeguards Engagement Program works with international partners to help them meet IAEA safeguards obligations.*

### 1.2 Direct the development and testing of tools, technologies, and methods to optimize the effectiveness and efficiency of safeguards implementation and enhance the IAEA's ability to detect non-compliance.

- Transition advanced and maturing technologies with near-term safeguards applications from the laboratory.
- Focus on activities that will:
  - » Advance nuclear measurement technologies;
  - » Facilitate field-portable, near-real-time analysis tools;
  - » Improve detector materials; and
  - » Strengthen technology development infrastructure at the National Laboratories.

### 1.3 Strengthen Member States' capabilities to meet IAEA safeguards obligations.

- Support Member State development of nuclear safeguards infrastructure necessary to support the safe, secure, and peaceful uses of nuclear energy.
- In collaboration with the IAEA, help Member States implement an Additional Protocol (AP) under the NPT in order to improve the correctness and completeness of Member States' declarations of nuclear material and facilities, reduce the likelihood of theft or diversion of nuclear material for non-peaceful purposes, and achieve the U.S. objective of universalizing the Comprehensive Safeguards Agreements and APs as the standard for nuclear safeguards.
- Work jointly with Member States to test and implement new safeguards technologies to meet identified future and current safeguards challenges.

### 1.4 Execute U.S. and international agreements to safeguard and secure U.S.-owned nuclear material.

- Implement safeguards under the U.S.-IAEA Safeguards Agreement U.S. VOA at all DOE sites/facilities.
- Implement the provisions of the AP to the U.S. VOA at all DOE sites and facilities.
- Evaluate the physical security of U.S.-obligated nuclear material located at foreign facilities by conducting bilateral physical security assessment reviews and provide recommendations for enhancing security if necessary.

## SELECT INITIATIVES

1. Provide safeguards expert support to the U.S. Government and the IAEA for the implementation of the IAEA's State Level approach, with a focus on developing acquisition pathway analyses for proliferation and evaluation performance metrics for effective safeguards implementation. (Ongoing) [Objective 1.1]
2. Provide customized training to more than 25 countries to develop effective State Systems of Accounting and Control and strengthen implementation of Comprehensive Safeguards Agreements and APs, thereby enhancing the IAEA's means to detect non-compliance. (Annually) [Objective 1.3]
3. Demonstrate, field test, and finalize advanced safeguards technologies and methods and transfer field-ready tools to foreign partners (Five tools/year – Ongoing) [Objectives 1.2 and 1.3].
4. Work with the IAEA, industry partners, and like-minded countries to promote Safeguards by Design as a standard industry practice. (Ongoing) [Objective 1.1]
5. Maintain qualified and knowledgeable safeguards staff at the National Laboratories and IAEA in support of the international safeguards regime, through sustainable academic and technical programs; internships, post-graduate, and graduate fellowships; and short courses on safeguards. (Ongoing) [Objective 1.1]
6. Implement U.S.-IAEA safeguards obligations at DOE facilities (including reporting requirements). (Annually) [Objective 1.4]
7. Conduct bilateral physical security visits to foreign facilities holding U.S.-obligated nuclear material. (Six visits/year) [Objective 1.4]

# STRATEGIC GOAL 2:

## Build domestic and international capacity to implement export control obligations.

NPAC facilitates legitimate civil nuclear cooperation by strengthening domestic and global efforts to detect and prevent the illicit transfer of nuclear and dual-use materials, equipment, and technology. Using its ability to comprehensively analyze, integrate, and apply expert knowledge of nuclear and dual-use technology to export control activities, NPAC builds U.S. and global export control capacity to prevent the spread of WMD-related materials, equipment, and technology.

The following specific objectives will support achieving Strategic Goal 2 and are further defined by the Select Initiatives to be accomplished within the five-year planning period articulated by this strategic implementation plan.

**Threat:** Nuclear and dual-use materials, equipment, technologies, or information can be diverted to non-peaceful purposes that advance WMD programs.

## OBJECTIVES

### 2.1 Bolster the U.S. Government's ability to prevent and interdict U.S.-origin transfers that would contribute to foreign WMD programs of concern.

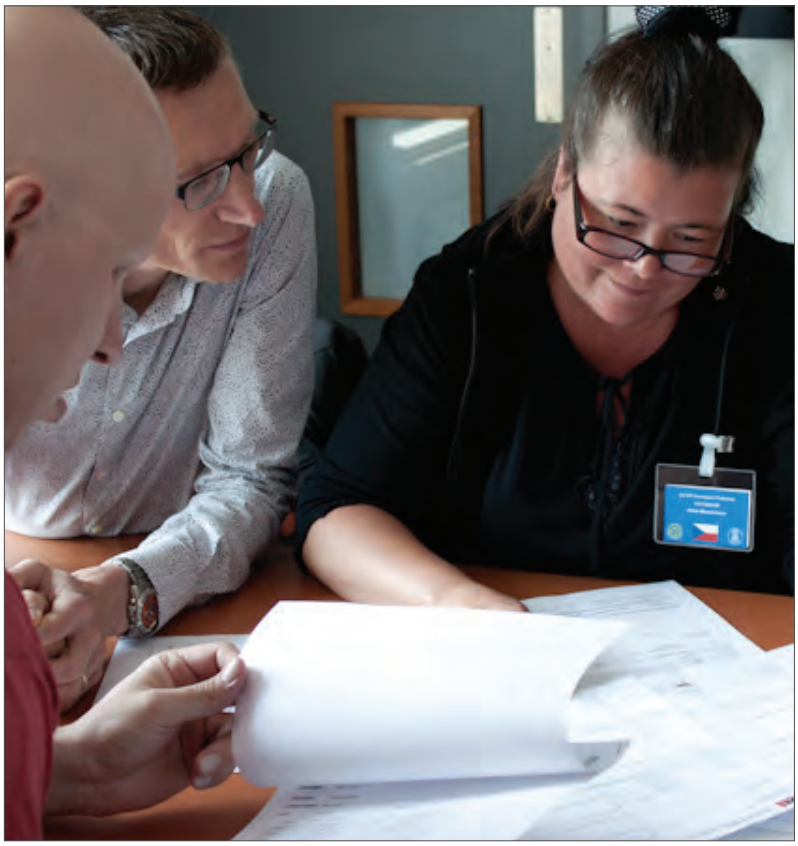
- Perform approximately 6,000 technical reviews of U.S. dual-use export license applications per year for proliferation concerns.
- Provide guidance to the DOE National Laboratory complex and other contractors to promote compliance with export control requirements and proactively address proliferation risks posed by emerging technologies.
- Provide customized WMD Commodity Identification Training to U.S. targeting and inspections specialists and investigative agencies coordinated through the Export Control Enforcement Coordination Center and support U.S. export enforcement with technical analyses.
- Provide approximately 3,000 comprehensive technical analyses per year in support of U.S. agencies overseeing WMD interdiction efforts.

### 2.2 Facilitate legitimate nuclear cooperation.

- Provide reviews and recommendations to the Secretary of Energy for all requested authorizations for transfers of nuclear technology or assistance. This NPAC responsibility is in accordance with the Department of Energy's regulation at 10 CFR Part 810 that implements section 57 b.(2) of the Atomic Energy Act of 1954, as amended by section 302 of the Nuclear Nonproliferation Act of 1978, which controls the export of unclassified nuclear technology and assistance.

### 2.3 Strengthen the ability of bilateral partners to prevent transfers that would contribute to foreign WMD programs of concern.

- Engage foreign partners to strengthen national export control systems and prevent illicit trafficking in nuclear and dual-use commodities through customized export licensing, enterprise outreach, and enforcement training programs with the goal



*NPAC's International Nonproliferation Export Control Program helps bilateral partners strengthen their ability to prevent illicit trafficking of materials and commodities that could be used in the development of WMD.*

*NPAC trains U.S. government officials how to recognize dual-use commodities sought by proliferators so they can prevent their export.*

of developing a global cadre of experts able to provide this training through bilateral and international partnerships.

### 2.4 Strengthen multilateral export control regimes and other arrangements.

- Provide technical and policy support to the NSG, Australia Group, Zangger Committee, Wassenaar Arrangement, and Missile Technology Control Regime, including:
  - » Technical analyses to strengthen/update regime guidelines and control lists.
  - » Operation and maintenance (e.g., updates) of information-sharing networks, such as the Nuclear Suppliers Group Information Sharing System, and the Australia Group Information System.
- Provide technical support to international organizations (e.g., the World Customs Organization [WCO]) in the development of capacity-building resources needed by national customs administrations to detect illicit transfers of nuclear-related regime-listed items.

## SELECT INITIATIVES

1. Support the legitimate transfer of U.S. civil nuclear technology by implementing updated 10 CFR Part 810 regulations governing the export of U.S. nuclear technology, and through NPAC's technical support to U.S. representation in the NSG. (Ongoing) [Objective 2.2 and 2.4]
2. Implement a web-based e-licensing system and other process efficiencies designed to improve the Part 810 licensing system. (System Implementation 1st Quarter FY 2016 – Ongoing) [Objective 2.2]
3. Implement the Nonproliferation Policy Analysis and Interdiction Resource (NPAIR) system to enhance licensing and interdiction pathway analysis and facilitate the identification and prioritization of transactions requiring further investigation. (Ongoing) [Objective 2.1]
4. Work with foreign partners to develop a standard nonproliferation-based export control training for the WCO and promote the incorporation of the training as a regular element of Customs operations in WCO member countries. (FY 2016–2017) [Objective 2.3]
5. Work with the NSG participating governments to strengthen controls on nuclear technology transfers including amending NSG Guidelines and control lists, e.g., Trigger List and Dual Use Annex Handbooks. (Ongoing) [Objective 2.4]
6. Collaborate with the Republic of Korea's Center of Excellence (COE) on developing export control curriculum and preparing COE experts through a train-the-trainer series to support workshops for domestic and international officials hosted at the COE. (Ongoing) [Objective 2.3]

# STRATEGIC GOAL 3:

## Support negotiation of and implement agreements and associated monitoring regimes to verifiably reduce nuclear weapons and dismantle undeclared nuclear programs.

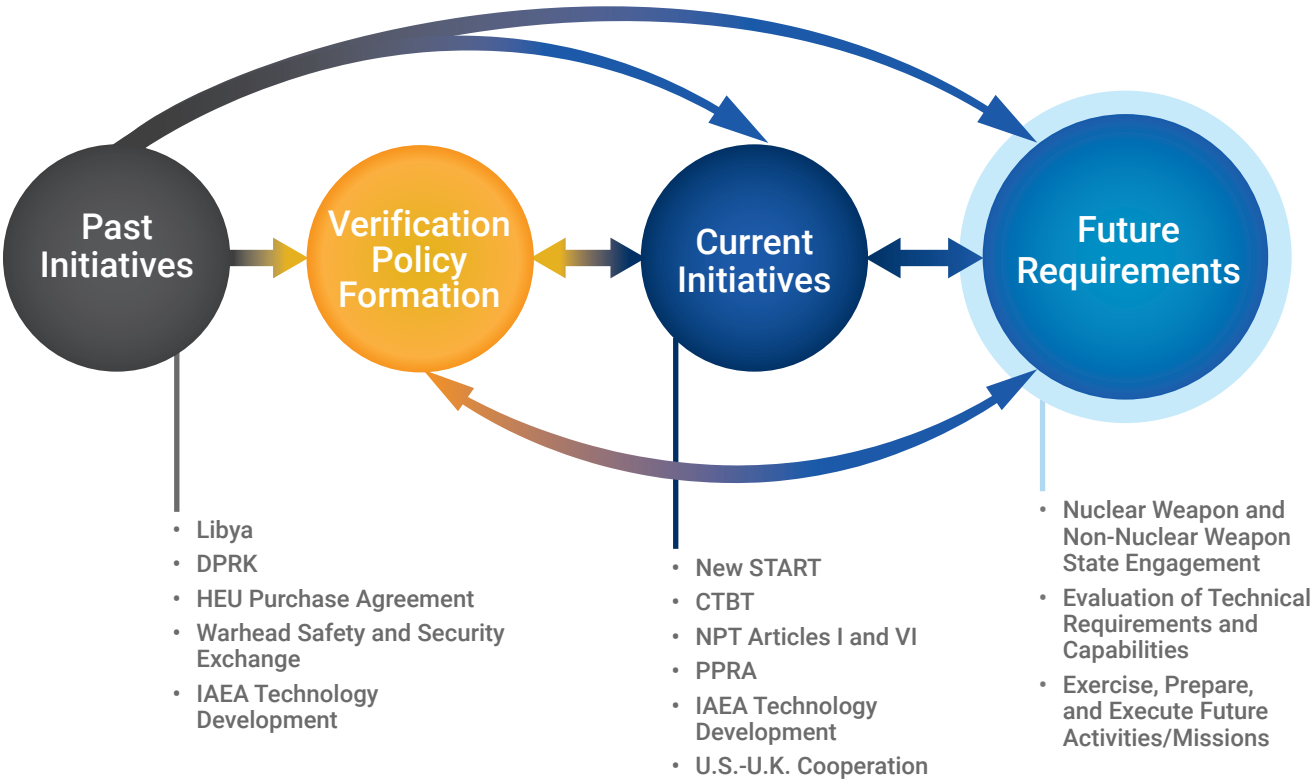
NPAC monitors compliance with treaties and other international agreements, implements nuclear weapon reduction initiatives, and develops the U.S. capability to verifiably dismantle clandestine nuclear programs. NPAC applies an extensive experience base to inform and shape current initiatives and meet future requirements. This includes a multi-year history of implementing and ensuring compliance with treaties and agreements with the Russian Federation, and unique knowledge and expertise gained through on-the-ground monitoring and verification during missions in Libya and North Korea (DPRK). Applying practical experience from past and ongoing programs informs policy initiatives and research and development requirements, and provides the foundation for successful, verifiable nuclear reductions in the future.

The following specific objectives will support achieving Strategic Goal 3 and are further defined by the Select Initiatives to be accomplished within the five-year planning period articulated by this strategic implementation plan.

## OBJECTIVES

### 3.1 Inform and coordinate policy for nuclear arms control and other strategic arms control initiatives.

- Provide leadership in policy development, technical implementation, and negotiations related to the New START, Intermediate-Range Nuclear Forces Treaty, Comprehensive Nuclear-Test-Ban Treaty (CTBT), Open Skies Treaty, and NPT, specifically Article I (non-transfer of nuclear weapons) and Article VI (disarmament).
- Apply policy development, negotiation, and implementation expertise to support future U.S. Government nuclear weapons transparency and arms control initiatives.




*NPAC applies current and past experience to inform the direction of future nuclear reduction initiatives.*

### 3.2 Develop and strengthen monitoring and verification capabilities for warhead storage, transportation, and dismantlement.

- Develop a monitoring and verification needs roadmap that communicates to the research and development community the technology capability gaps that need to be addressed for meeting current and future monitoring and verification requirements.
- Create documented, tested, and validated approaches for warhead monitoring and verification.
- Engage with other P5 countries (Russia, China, United Kingdom, and France) and with non-nuclear weapons states on warhead monitoring and verification technical issues to gain additional perspective and expand international consideration of future verification initiatives.

### 3.3 Plan and conduct comprehensive U.S.-led nuclear dismantlement and verification activities in countries of concern with clandestine programs.

- Conduct research and analysis of nuclear programs in specified countries of concern.
- Develop, produce, and refine methods, plans, and validate technologies for use by U.S. Government teams to verify clandestine nuclear weapons programs.
- Develop and maintain verification tools and expertise for use by U.S. Government teams to verifiably disable and dismantle nuclear weapons programs.
- Train and exercise U.S. Government verification teams in preparation for short-notice deployment(s).

### 3.4 Prepare U.S. facilities for future verification and monitoring missions.

- Educate DOE/NNSA nuclear weapons facilities regarding potential future transparency and verification initiatives.
- Analyze impacts of potential arms control measures and develop solutions to best accomplish U.S. objectives while balancing safety, security, financial, and operational considerations.
- Inform the U.S. Interagency on DOE/NNSA nuclear weapons facility considerations regarding monitoring and verification activities.

*An exercise inspector checks the integrity of an enclosure.*

*The Integrated Field Exercise 2014 tested operations and techniques for a simulated CTBT on-site inspection for evidence of a nuclear explosion.*

*U.K. and U.S. specialists during a Joint Diagnostics Exercise.*

### 3.5 Lead select fissile material monitoring and verification initiatives undertaken in the United States and in foreign countries.

- Implement the monitoring provisions of the PPRA.
- Exploit the use of existing U.S. facilities that replicate potential challenges in clandestine facilities.
- Coordinate and collaborate within NNSA and with the Department of Defense on U.S.-led efforts to verify nuclear programs during conflict scenarios.

## SELECT INITIATIVES

1. Support U.S. Government CTBT monitoring and verification development, reflecting the lessons learned from the 2014 Integrated Field Exercise. (Ongoing) [Objective 3.1]
2. Lead consultations within the New START Treaty's Bilateral Consultative Commission to ensure effective procedures for the utilization of radiation detection measurements for warhead confirmation activities under the Treaty. (Ongoing) [Objective 3.1]
3. Complete monitoring and verification needs document and community roadmap for the U.S. Government's monitoring and verification development community that identifies requirements for enabling nuclear warhead verification. (FY 2017) [Objective 3.2]
4. Develop technologies for U.S.-led verification activities where such technologies do not yet exist (FY 2016–18).[Objective 3.3]
5. Develop and train U.S. Government verification teams on specific elements of the uranium and plutonium fuel cycles to address verification expertise attrition and ensure continuity of short-notice verification capabilities into the future. (FY 2016–2018) [Objective 3.3]
6. Demonstrate and field test new technologies to establish a U.S. expert technology users group. (FY 2016–2018) [Objective 3.3]
7. Conduct monitoring and verification preparedness workshops and exercise planning sessions with sites across the Nuclear Security Enterprise. (FY 2017–2018) [Objective 3.4]
8. Conduct a monitoring and verification exercise in a Nuclear Security Enterprise facility to determine effectiveness. (FY 2019–2020) [Objective 3.4]

# STRATEGIC GOAL 4: Develop programs and strategies to address emerging nonproliferation and arms control challenges and opportunities.

NPAC integrates and applies specialized nonproliferation and arms control policy expertise to address enduring and emerging nonproliferation and arms control challenges. The policy team applies its knowledge and expertise across the NPAC core competencies to develop and execute cross-cutting programs and strategies that implement U.S. Government nonproliferation policy objectives. Specifically, our policy team's expertise supports the negotiation and implementation of bilateral and multilateral nonproliferation agreements.

Outside of NPAC, our overarching and cross-cutting policy function serves a vital role by informing DNN, NNSA, DOE, U.S. Government, and multilateral organizations with policy, strategies, and approaches to strengthen the international nonproliferation regime and mitigate proliferation risks.

***NPAC's policy function provides fully integrated, cross-cutting expertise to NPAC core programs.***

The following specific objectives will support achieving Strategic Goal 4 and are further defined by the Select Initiatives to be accomplished within the five-year planning period articulated by this strategic implementation plan.

## OBJECTIVES

### 4.1 Synthesize NPAC cross-cutting technical and policy expertise to support enduring U.S. Government nonproliferation and arms control policy objectives.

- Coordinate NNSA efforts to represent DOE/NNSA in the negotiation and implementation of U.S. Government obligations associated with the NPT, the FMCT, access to the nuclear fuel market, and the IAEA Technical Coordination Program.
- Provide statutorily required assistance to the Department of State in the negotiation of Section 123 Agreements and perform the lead role for the U.S. Interagency in the negotiation and implementation of associated Administrative Arrangements to Section 123 Agreements.

### 4.2 Anticipate and develop strategies to address emerging and evolving threats/challenges to reduce nuclear risks and strengthen the nonproliferation regime.

- Apply cross-cutting expertise to develop programs, strategies, and initiatives to address emerging nonproliferation challenges (e.g., Emerging Technologies Working Group, Comprehensive Fuel Services)
- Conduct policy studies (targeted and "over the horizon") to determine emerging challenges/opportunities/transformative events and ensure that NPAC is positioned to address evolving threats and trends.
- Conduct Track 1.5 engagements to open nonproliferation dialogues with strategic partners where traditional Track I efforts are not possible.

## SELECT INITIATIVES

1. Support ongoing NPAC over the horizon initiatives. (Ongoing) [Objective 4.1]
2. Provide statutorily-mandated technical assistance to the Department of State for all Section 123 Agreement negotiations and serve as the lead for the U.S. Interagency in developing and reviewing related documents, including subsequent associated Administrative Arrangements. (Ongoing) [Objective 4.1]
3. Implement DOE obligations under the NPT and conduct analyses of the impact of NPT-related developments on DOE/NNSA weapons and nonproliferation work. (Ongoing) [Objective 4.1]
4. Conduct analyses of the impact of a potential fissile material cut-off regime on the DOE complex. (Ongoing) [Objective 4.1]
5. Conduct technical and policy studies to support the Civil Nuclear Framework. (Ongoing) [Objective 4.2]
6. Develop innovative engagement strategies to decrease the potential for the escalatory risks of military confrontations and increasing new channels of dialogue for promoting global nonproliferation norms and discouraging the association with countries of concern. (Ongoing) [Objective 4.2]
7. Develop recommendations for policies and guidance for the DOE/NNSA complex to balance the impacts of emerging technologies, including DOE/NNSA support for multilateral technology control regimes. (Ongoing) [Objective 4.2]

*NPAC provides technical and policy support to international nonproliferation regimes, such as the Nuclear Suppliers Group.*

SONY

OFFICE OF
NONPROLIFERATION AND
ARMS CONTROL (NPAC)

United States Department of Energy
National Nuclear Security Administration
Defense Nuclear Nonproliferation
Office of Nonproliferation and International Security
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Washington, D.C. 20585

http://nnsa.energy.gov/aboutus/ourprograms/nonproliferation-0/npac