



Trinity Section  
American Nuclear Society



# ***Weathering the Perfect Storm: Implications of 2012 events on the Nuclear Security Enterprise (NSE)***

ANS Trinity Section and INMM SW Chapter  
Joint Dinner Meeting  
November 2, 2012  
Santa Fe, New Mexico

Jack Jekowski  
Innovative Technology Partnerships, LLC



Innovative Technology Partnerships, LLC  
<http://www.itpnm.com>



# Departing from the Traditional Perspective

**2006**  
**The Nuclear Weapons Complex Infrastructure Task Force Report (NWCITF)**  
Historical Perspectives and Future Implications  
INMM SW Chapter Annual Technical Meeting  
May 18, 2006  
Taos, New Mexico  
Jack Jekowski  
Innovative Technology Partnerships, LLC

**2007**  
**The Road to Complex 2030**  
A look back, one year later, on the proposed restructuring of the Nation's Nuclear Weapons Complex  
Annual Technical Meeting  
2007  
Mexico  
Jack Jekowski  
Innovative Technology Partnerships, LLC

**2008**  
**Complex Transformation**  
Creating the National Security Enterprise  
The Proposed Restructuring of the Nation's Nuclear Weapons Complex...past, present and future?  
Annual Technical Meeting  
2008  
Mexico  
Jack Jekowski  
Innovative Technology Partnerships, LLC

**2009**  
**Complex Transformation**  
and the Future of the U.S. Nuclear Security Enterprise  
The Proposed Restructuring of the Nation's Nuclear Weapons Complex...past, present and future?  
Annual Technical Meeting  
May 21, 2009  
Taos, New Mexico  
Jack Jekowski  
Innovative Technology Partnerships, LLC

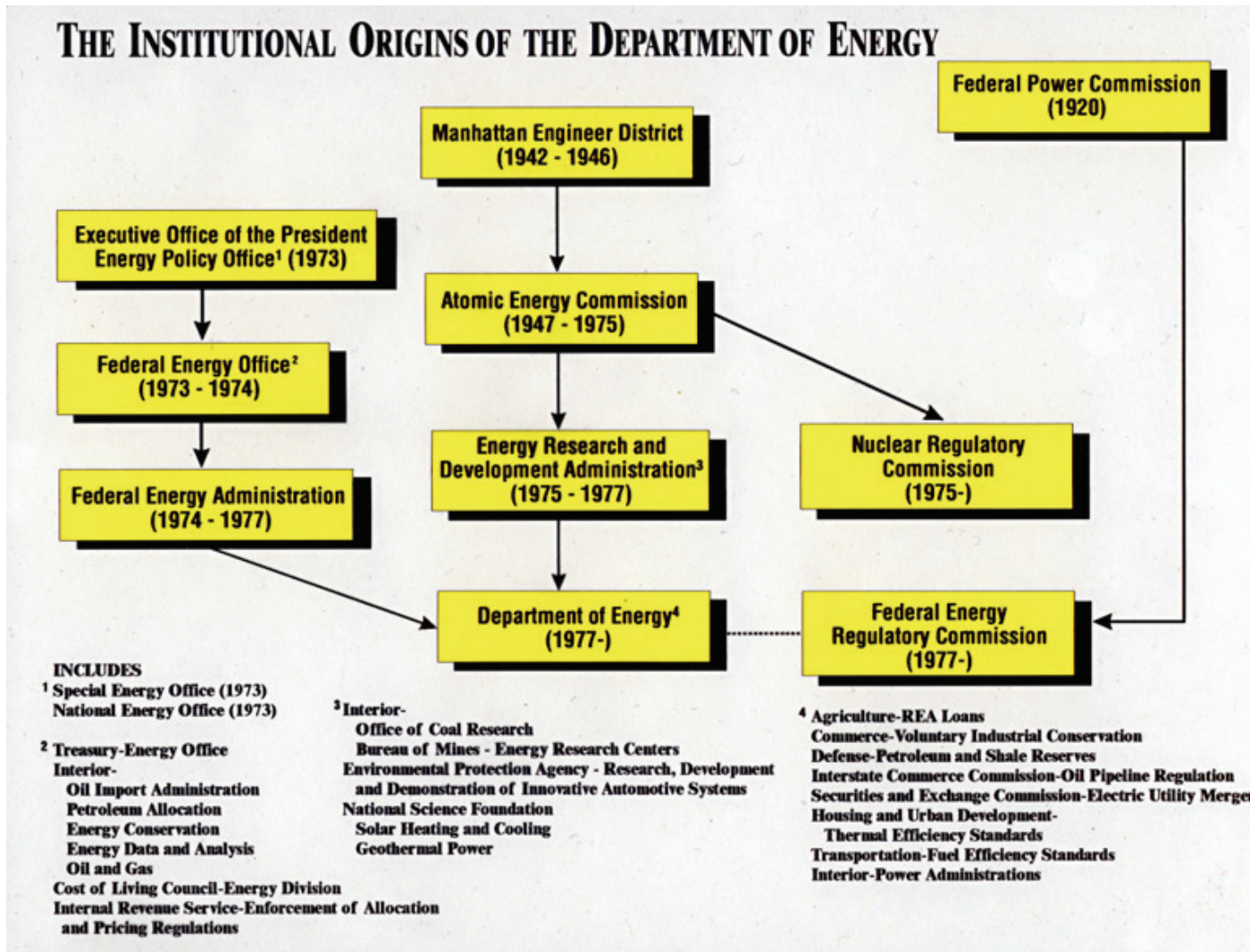
**2010**  
**Complex Transformation**  
The "Nuclear Spring"  
Strategic Implications of Current Events and U.S. Nuclear Policy on the Future of the U.S. Nuclear Security Enterprise, the Stockpile and Deterrence  
INMM SW Chapter Annual Technical Meeting  
May 20, 2010  
Taos, New Mexico  
Jack Jekowski  
Innovative Technology Partnerships, LLC

**2011**  
**The Nuclear Future?**  
Strategic Implications of Current Events and U.S. Nuclear Policy  
INMM SW Chapter Annual Technical Meeting  
May 19, 2011  
Taos, New Mexico  
Jack Jekowski  
Innovative Technology Partnerships, LLC

**2012**  
**The Perfect Storm?**  
The 2nd Decade  
GLOBAL ZERO  
A WORLD WITHOUT NUCLEAR WEAPONS  
Savannah Fuel Fabrication Plant, South Korea



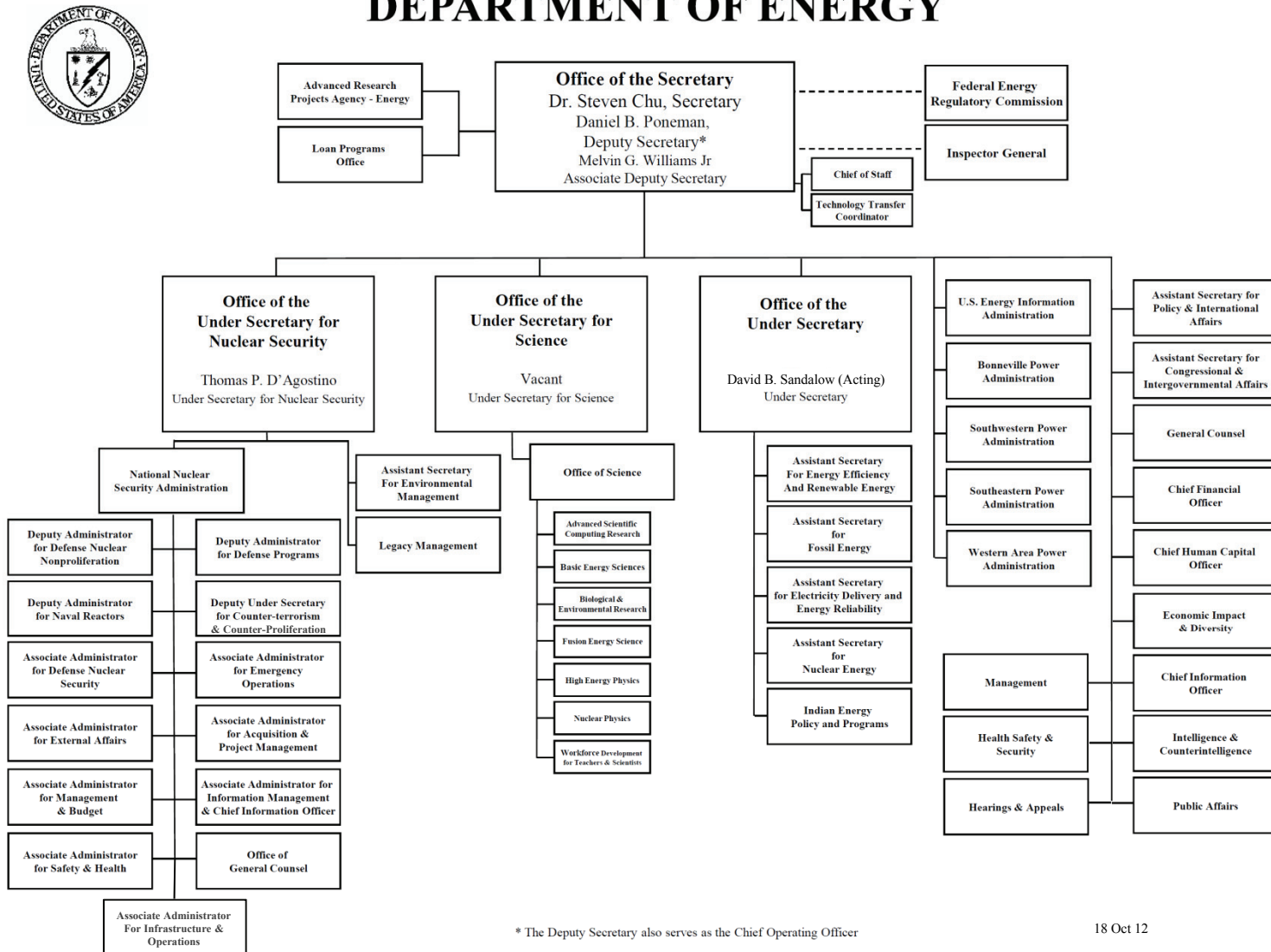
# Evolution of the DOE





# DOE Today (with NNSA)

## DEPARTMENT OF ENERGY



\* The Deputy Secretary also serves as the Chief Operating Officer



# Current NNSA Organizational Structure

Doug Fremont was reassigned in early September as a result of the Y-12 Security Incident - Jeff Harrell, NA-15 ADA, took over as acting NA-70, and recently returned to NA-15 as BG Sandra Finan, Principal ADA for Defense Programs, has been assigned to that acting position.

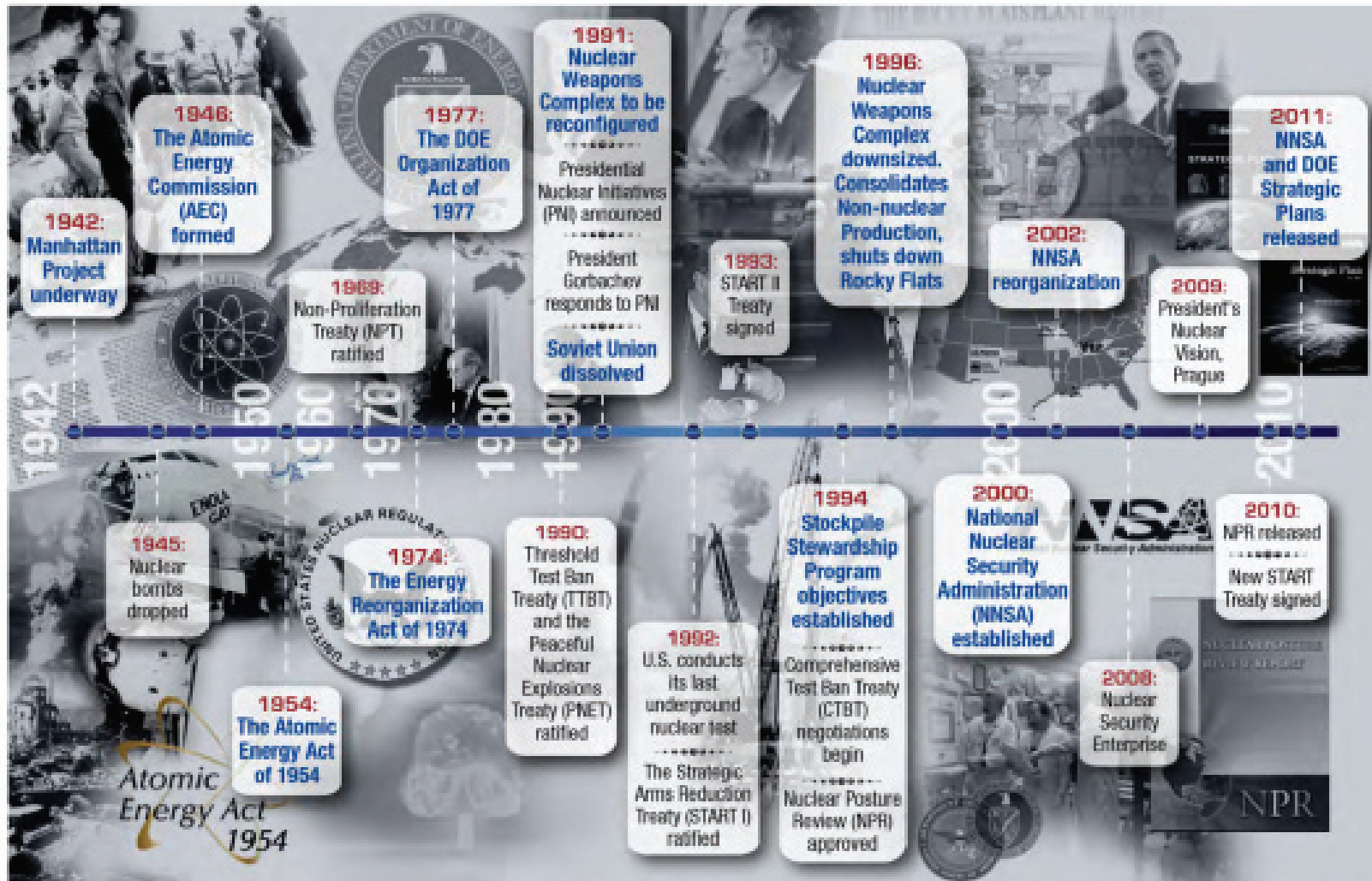


Oversight of Site Offices moved out of NA-10 in March, 2012.

NNSA Production Office (NPO) set up in June 2012 to oversee combined Y-12/Pantex (and SR Tritium) M&O contract.

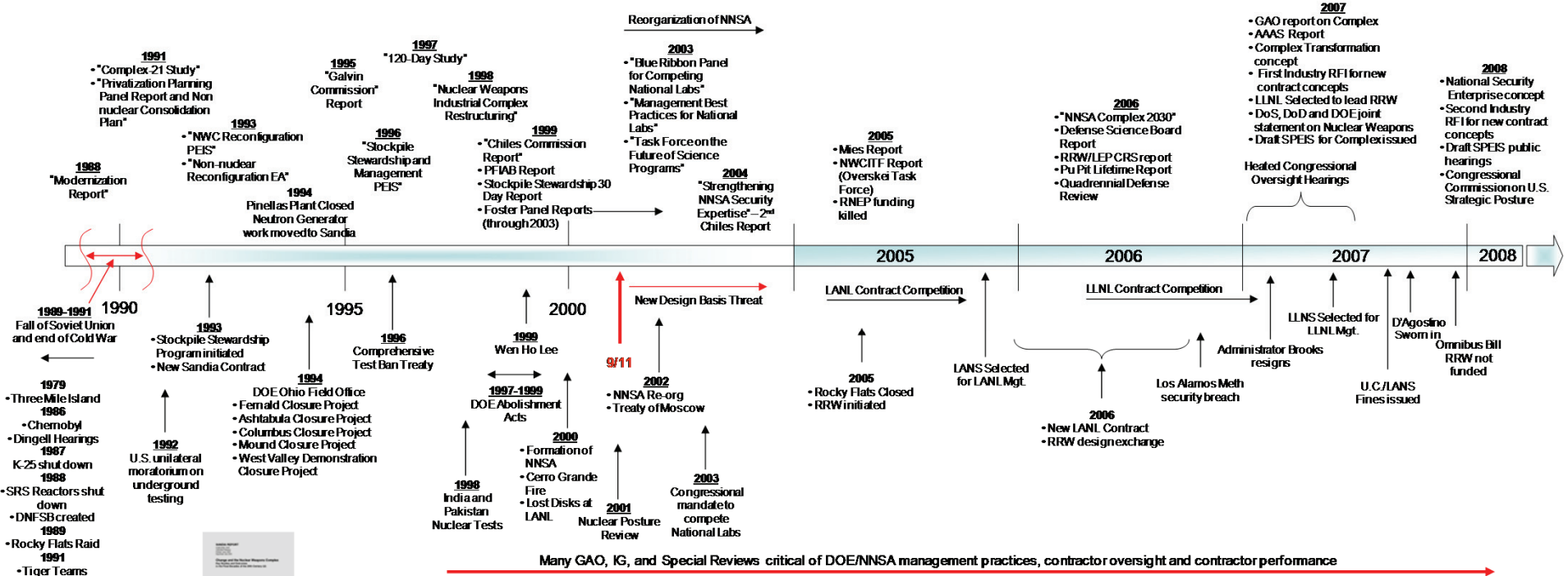


# Evolution of the NNSA





# Recent Historical Perspective on the "NWC"

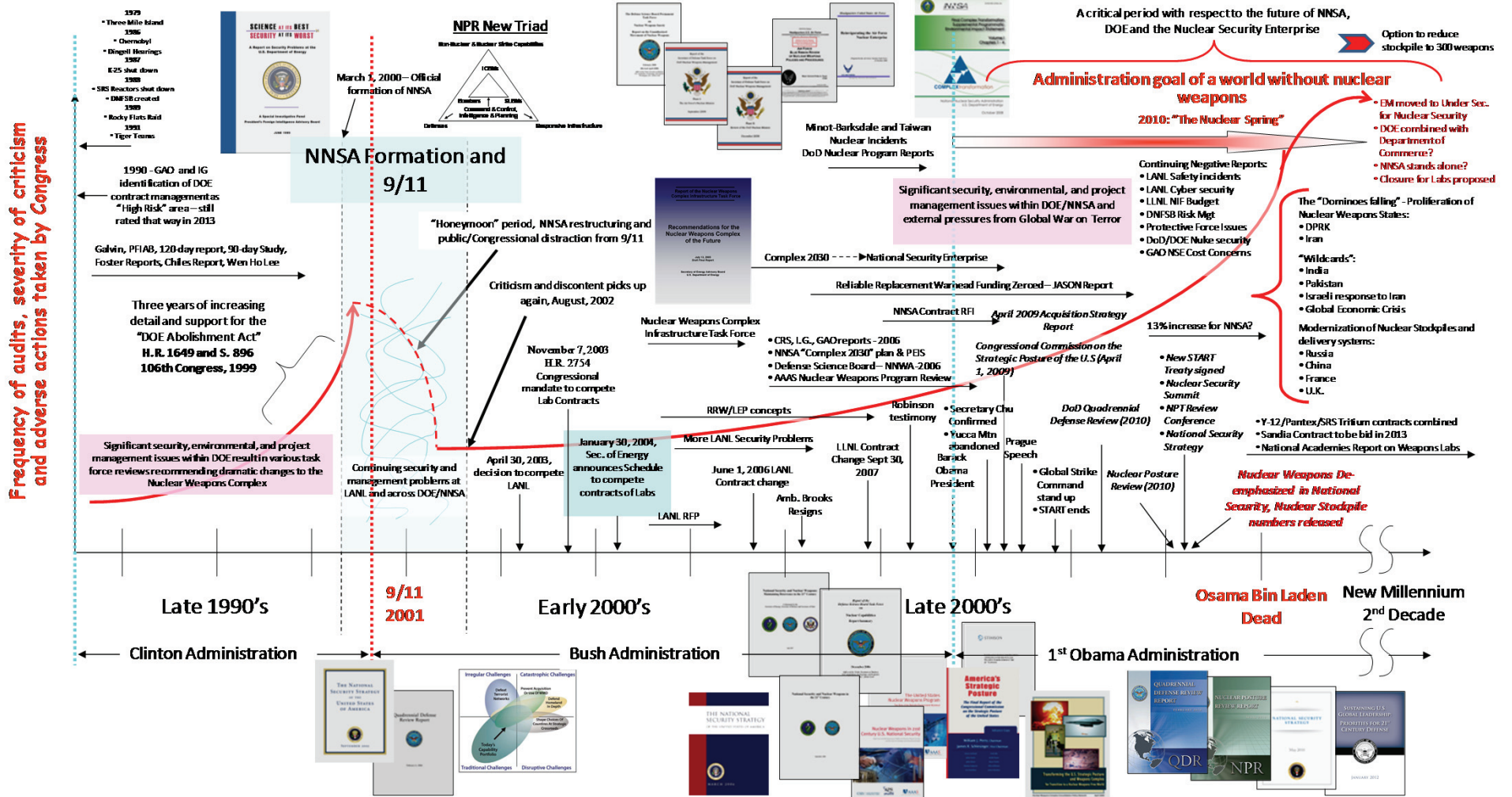


\*Derived from: "Change and the Nuclear Weapons Complex", SAND2005-3505 and other sources

"A decline in trust"  
"Capability vs. Capacity-driven Complex" (as currently configured, major stockpile reductions do not generally translate directly to commensurate cost savings - incremental gains or losses are dwarfed by fixed costs.)



# Two Decades of Whitewater for the NSE







# NWCITF Graphical Summary

<http://www.seab.energy.gov/publications/NWCITFRept-7-11-05.pdf>

(A Graphical Interpretation by J. Jekowski)



*"In summary, the Task Force found a Complex neither robust, nor agile, nor responsive, with little evidence of a master plan"*

*"The Cold War stockpile and the Complex have served the country well, but neither embodies the characteristics that are important to serve the nation in the future."*

*"...A vision for the agile and responsive nuclear weapons Complex of the future...is embodied by the...proposed Consolidated Nuclear Production Center (CNPC)."*



The Complex Today



*"From a management perspective, the Task Force determined that there is not a unified interdependent nuclear enterprise Vision or set of mission priorities. Instead the following was found:*

- DoD does not provide unified and integrated weapon requirements
- DoD does not appear to trust DOE's ability to respond with predictability
- Complex rules and regulations focus on process rather than mission safety
- No cost/benefit, or risk analysis
- Design labs are too independent - they compete and create redundant programs and facilities



**\$155B (through 2030) with new Complex/Stockpile**

**"Revolutionary Complex Transformation"**

- RRW
- CNPC
- Consolidate SNM
- Dismantlement
- Office of Transformation

**+\$10B thru 2015**

Low Risk

High Risk

Very High Risk (not valid)

**"Baseline" Status Quo**

**"Complex Transformation in Place"**

- Reduce effort at design Labs
- Close all redundant facilities
- Reduce one or more LEP

**\$175B (through 2030) with continuing issues**

**\$170B (through 2030) with no options**

~ 2035  
End of current Stockpile's Pit Life

- Delay start of CNPC
- Curtail or eliminate LEP
- CNPC assumes new role - close facilities
- Credit for reduction in Security
- Outsource non-nuclear components
- Reprogram FIRP
- Large RIF at Weapon Labs

**Continuum of business case options - very sensitive to these assumptions:**

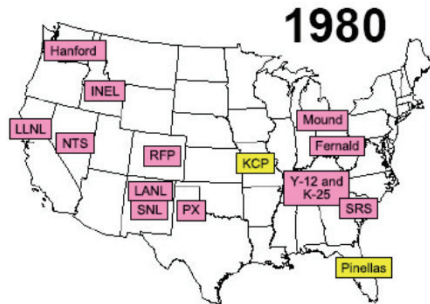
- Number and extent of LEP Programs
- Efficiencies of operation at the CNPC
- Reductions in the cost of Security

**"The Complex of 2030 should be an integrated, interdependent enterprise"**

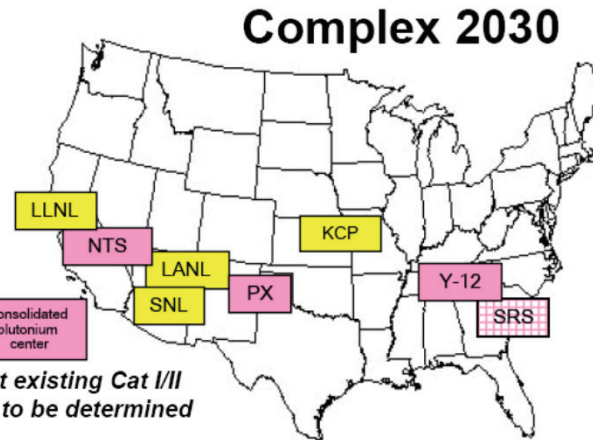
September 15, 2005



# NNSA Response: Complex 2030 (NSE)

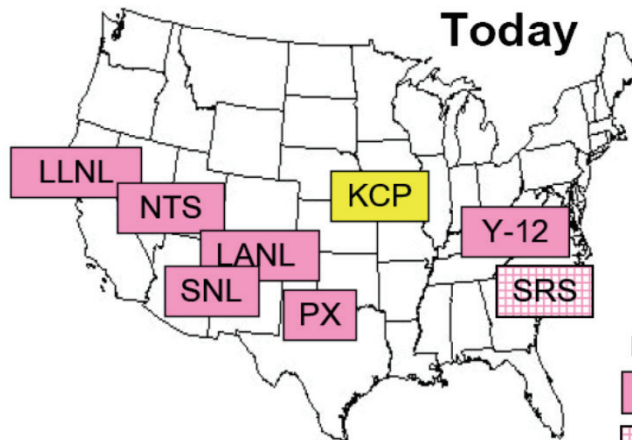


14 independent sites  
12 Cat I/II SNM sites



Located at existing Cat I/II  
SNM site to be determined

- 8 geographical sites
  - modernized
  - reduced footprints
- 1 integrated network
  - contracts consolidated
  - centralized acquisition
  - shared facilities
- 3-4 Cat I/II SNM sites



8 independent sites  
6-7 Cat I/II SNM sites

Legend:

- Cat I/II SNM
- Other DOE Cat I/II SNM
- No Cat I/II SNM

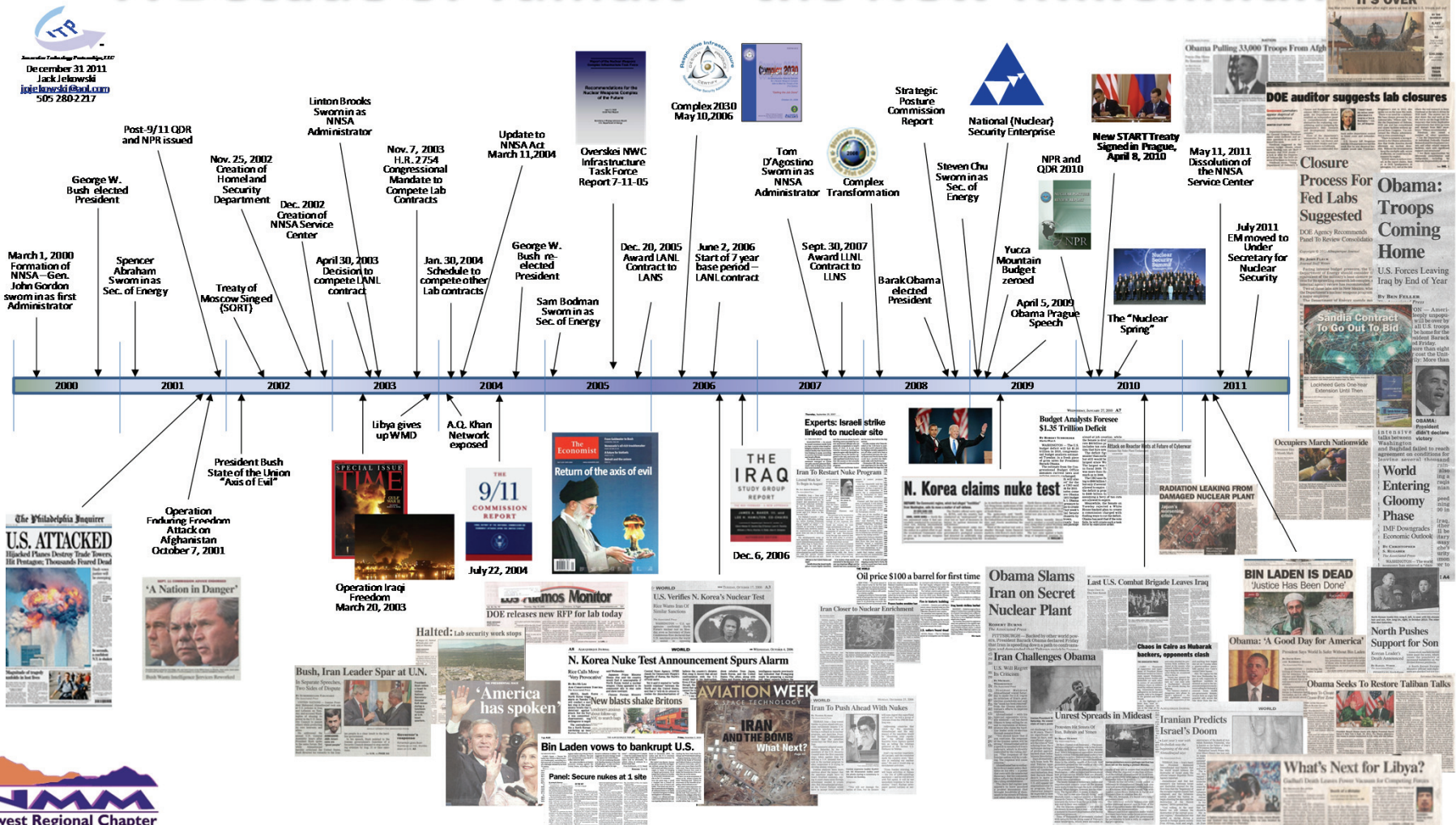
Stockpile size	↓
Dismantlements	↑
Complex square footage	↓





# The New Millennium - A Decade of Tumult

## A Decade of Tumult – the New Millennium





# The Seminal Event of Our Generation – 9/11



## Bin Laden Admits He Was Behind 9/11



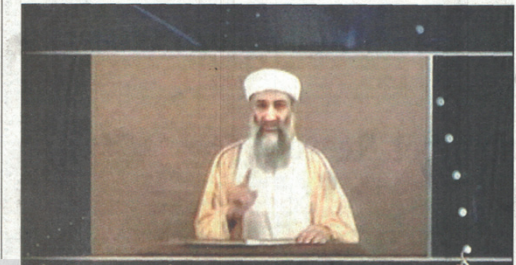
Osama bin Laden, an Islamic militant Web site whose al-Qaida's media arm, Al-Sabah, frequently posts messages. The al-Qaida chief called on Pakistanis to rebel against President Pervez Musharraf in a sound recording released Thursday.

### Bin Laden Urges Revolt in Pakistan

Message is Third This Month  
Bin Laden urged Pakistanis to rebel against President Pervez Musharraf in a sound recording released Thursday.

### Bin Laden Calls For More Martyrs

New Video Raises Health Questions  
Bin Laden's charisma is the strongest power in the history of mankind is today being deflated in front of the Muslim world.



Terrorist leader Osama bin Laden, in an undated video broadcast Friday by the Arab television station Al-Jazeera, warned Americans "the best way to avoid another Manhattan" was to stop threatening Muslim sanctity.

## U.S. Told Repeat Can Be Avoided

Iranian Predicts Israel's Doom  
U.S. official's message is a "cease and desist" order.

is in your own... Last year's war with... Hezbollah was the... Democratic offer... Does not mean... naturally guar...

## Report: Al-Qaida is in 60 nations

LONDON — Osama bin Laden's al-Qaida has spread to 60 nations, according to a report by the U.S. intelligence community. The report says al-Qaida is now active in 60 nations, including Afghanistan, Iraq, Sudan, and Somalia.

## Al-Qaida Issues New Threats

Terror group's second-in-command warns British, Americans  
Britain doesn't withdraw. He also threatened new attacks on Americans. The statement from Ayman Zawahiri was issued on a day in which London commuters rode trains and buses amidst one of the tightest security since World War II.

## Iranian Predicts Israel's Doom

U.S. official's message is a "cease and desist" order. The fighting ended with a U.N.-brokered cease-fire that called for the deployment of U.S. peacekeepers and Lebanese troops in Lebanon.

## Al-Qaida Takes Credit for London Bombings

Group's Number 2... Al-Qaida's second-in-command, Ayman Zawahiri, has taken credit for the London bombings.

## Bin Laden location known

U.S. troops can't get to him because of militants in the Pakistan region where he is hiding, a 9-11 panel member says.





# Extraordinary Times

- A nexus in the history of mankind has appeared between technologies of the 21<sup>st</sup> Century and fundamentalist extremism:
  - Proliferation of destructive technologies that can be unleashed by non-state adversaries
  - The emergence of religious fervor and fanaticism, enabled by global socio-economic, political and other factors



*"We are now 1.3 billion strong. We have the biggest oil reserve in the world. We have great wealth. We are not as ignorant as the Jahilliah who embraced Islam. We are familiar with the workings of the world's economy and finances. We control 57 out of the 180 countries in the world. Our votes can make or break international organizations."*



*"It cannot be that there is no other way. 1.3 billion Muslims cannot be defeated by a few million Jews. There must be a way. And we can only find a way if we stop to think, to assess our weaknesses and our strength, to plan, to strategize and then to counter attack."*

**The Honorable Datuk Seri Dr. Mahathir Mohamad  
Prime Minister of Malaysia  
The 10<sup>th</sup> Session of the Islamic Summit Conference  
October 16, 2003**



# The New Era – White House Foreign Policy

- A new Administration focused on eliminating nuclear weapons:
  - **Secure Loose Nuclear Materials from Terrorists:**
    - secure all loose nuclear materials in the world within four years
    - negotiate a verifiable global ban on the production of new nuclear weapons material [FMCT]
  - **Strengthen the Nuclear Non-Proliferation Treaty:**
    - crack down on nuclear proliferation by strengthening the Nuclear Non-Proliferation Treaty
  - **Move Toward a Nuclear Free World:**
    - set a goal of a world without nuclear weapons, and pursue it
    - always maintain a strong deterrent as long as nuclear weapons exist
    - stop the development of new nuclear weapons
    - work with Russia to take U.S. and Russian ballistic missiles off hair trigger alert
    - seek dramatic reductions in U.S. and Russian stockpiles of nuclear weapons and material
    - set a goal to expand the U.S.-Russian ban on intermediate-range missiles so that the agreement is global





# The New Era – The Prague Speech

- April 5, 2009 – the morning after the DPRK missile launch
  - *“In a strange turn of history, the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up.”*
    - Reaffirms the Administration goal of a world without nuclear weapons
    - Reduce the role of nuclear weapons in U.S. national security strategy
    - Negotiate a new, verifiable Strategic Arms Reduction Treaty with Russia by the end of the year [when the existing one ends]
    - Pursuit of U.S. ratification of the Comprehensive Test Ban Treaty (CTBT).
    - Pursuit of a Fissile Material Cutoff Treaty (FMCT). See <http://www.fas.org/nuke/control/fmct/> for background information
    - Strengthening the Nonproliferation Treaty (NPT - next conference scheduled for 2010]
    - Strengthening international inspections [IAEA]
    - New framework for civil nuclear cooperation including an international fuel bank
    - Consequences for countries breaking the rules
    - Secure all vulnerable nuclear material around the world within four years - establish the Proliferation Security Initiative, and the Global Initiative to Combat Nuclear Terrorism as durable international institutions





# Amended White House Foreign Policy

- **Keeping Nuclear Weapons Out of the Hands of Terrorists**



- On April 5, 2009 in Prague, President Obama presented an ambitious strategy to address the international nuclear threat. He proposed measures to: reduce and eventually eliminate existing nuclear arsenals, including negotiations on further nuclear reductions with Russia, ratification of the Comprehensive Test Ban Treaty, and completion of a verified Fissile Material Cutoff Treaty; halt proliferation of nuclear weapons to additional states, and prevent terrorists from acquiring nuclear weapons or materials.
- We have pledged to work with our partners to achieve the denuclearization of North Korea through the Six-Party process. And we will present a clear choice to Iran to take its rightful place in the community of nations, including its right to peaceful nuclear energy, or continue to refuse to meet its international obligations and fail to seize the opportunity of a positive future.





# Amended White House Foreign Policy (cont'd)

- **Keeping Nuclear Weapons Out of the Hands of Terrorists**

- President Obama declared his vision for achieving the “peace and security of a world without nuclear weapons,” laying out a plan for near term practical steps to move in that direction. He proposed measures to:
  - reduce the number and role of nuclear weapons by those states that already possess nuclear weapons, starting first with Russia and the U.S.;
  - to prevent additional countries from acquiring nuclear weapons by strengthening the international non-proliferation regime and by holding accountable those states that have violated their obligations, such as Iran and North Korea;
  - to prevent nuclear terrorism by securing vulnerable nuclear materials and strengthening international cooperation on nuclear security;
  - and, to develop new mechanisms to support the growth of safe and secure nuclear power in ways that reduce the spread of dangerous technologies.

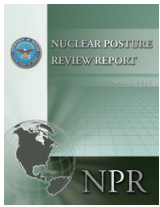


"Responsibility for Our  
Common Future"  
Barak Obama  
speech to the UN  
General Assembly  
September 23, 2009



# Today – White House Foreign Policy

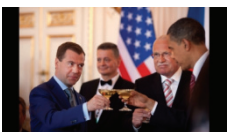
- **Keeping Nuclear Weapons Out of the Hands of Terrorists**



- President Obama issued an updated Nuclear Posture Review that reduces the role of nuclear weapons in our overall defense posture by declaring that the fundamental role of U.S. nuclear forces is to deter nuclear attacks against the U.S. and our allies and partners



- In April 2010, the President hosted the Nuclear Security Summit where leaders pledged specific steps to prevent nuclear terrorism and support the President's proposal to lock down all vulnerable nuclear materials in four years.

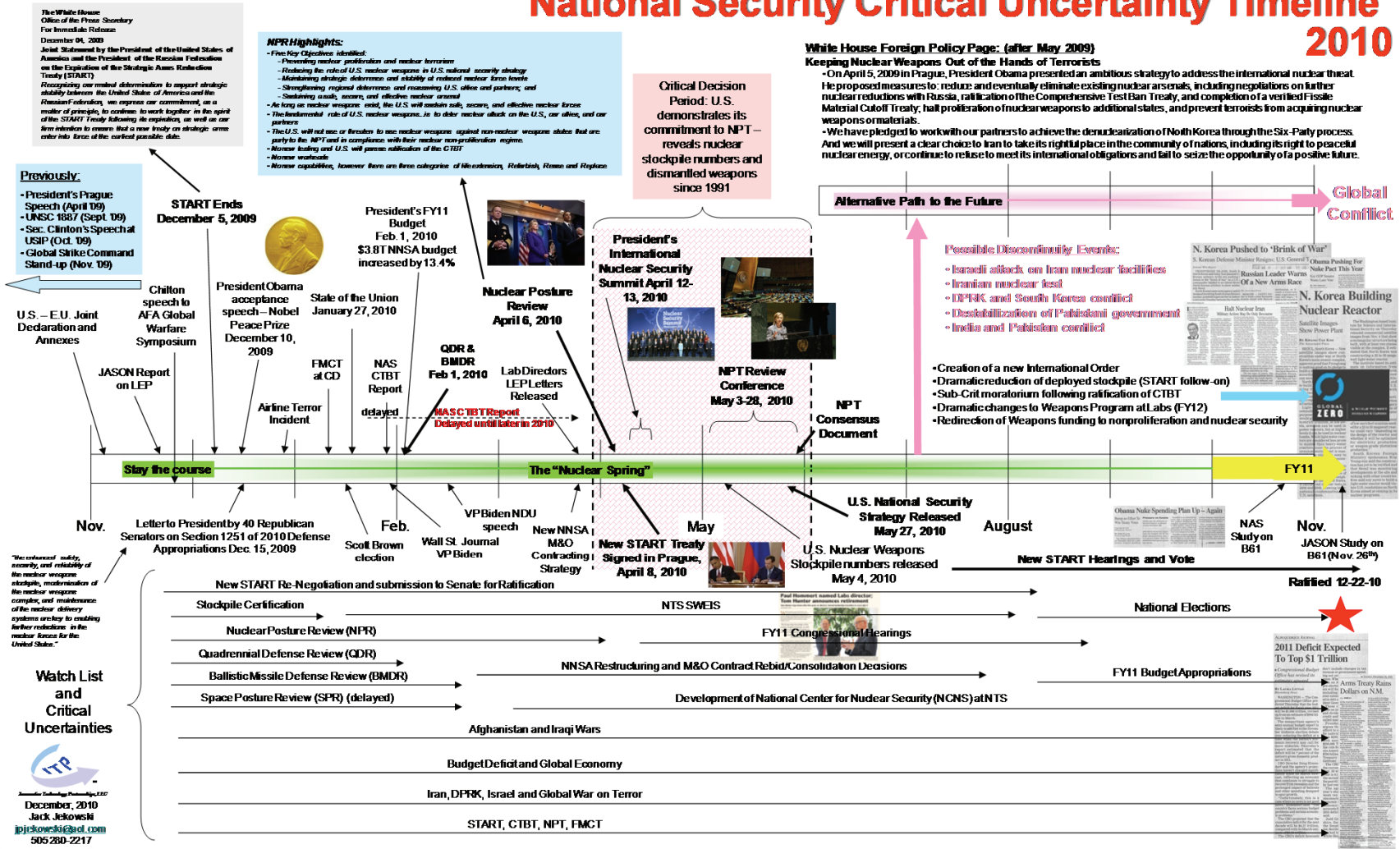


- The Administration also oversaw the negotiation and ratification of the New START Treaty, which President Obama and President Medvedev signed in April 2010 in Prague. By significantly reducing levels of U.S. and Russia deployed strategic weapons, the Treaty represents a commitment by the world's two largest nuclear powers to the goal of disarmament. In addition, the Treaty strengthens the reset in relations between Washington and Moscow that is helping us to address the most urgent proliferation threats we face in Iran and North Korea



# Critical Uncertainty Timeline - 2010

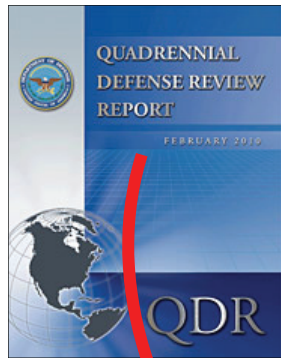
## National Security Critical Uncertainty Timeline 2010





*"Defending our nation against its enemies is the first and fundamental commitment of the Federal Government."*

# National Policy Strategic Linkages



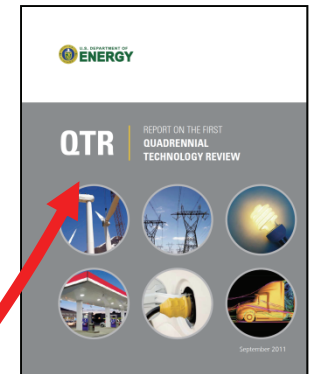
The QDR analysis strongly suggested that the Department must further rebalance its policy, doctrine, and capabilities to better support the following six key missions:

- Defend the United States and support civil authorities at home;
- Succeed in counterinsurgency, stability, and counterterrorism operations;
- Build the security capacity of partner states;
- Deter and defeat aggression in anti-access environments;
- Prevent proliferation and counter weapons of mass destruction; and
- Operate effectively in cyberspace.

*"Until such time as the Administration's goal of a world free of nuclear weapons is achieved, nuclear capabilities will be maintained as a core mission for the Department of Defense. We will maintain a safe, secure, and effective nuclear arsenal to deter attack on the United States, and on our allies and partners."*

Joint Tri-Lab Director statement on Nuclear Posture Review:

*"We believe that the approach outlined in the NPR, which excludes further nuclear testing and includes the consideration of the full range of life extension options (refurbishment of existing warheads, reuse of nuclear components from different warheads and replacement of nuclear components based on previously tested designs), provides the necessary technical flexibility to manage the nuclear stockpile into the future with an acceptable level of risk."*

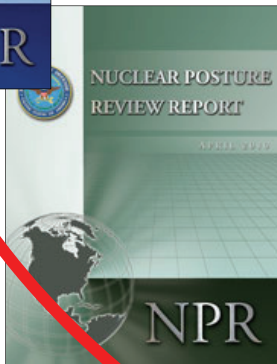


*"With this QTR, we bind together multiple energy technologies, as well as multiple DOE energy technology programs, in the common purpose of solving our energy challenges. In addition, the QTR provides a multi-year framework for our planning. Energy investments are multi-year, multi-decade investments. Given this time horizon, we need to take a longer view."*

*"It is possible that our deterrence goals can be achieved with a smaller nuclear force, which would reduce the number of nuclear weapons in our inventory as well as their role in U.S. national security strategy."*

*"U.S. economic and security interests are inextricably linked to developments in the arc extending from the Western Pacific and East Asia into the Indian Ocean region and South Asia...while the U.S. military will continue to contribute to security globally, we will of necessity rebalance toward the Asia-Pacific region."*

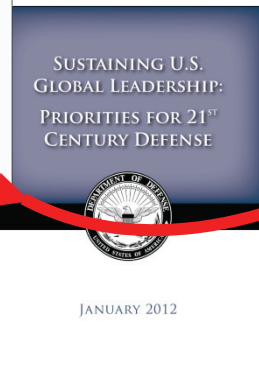
*"...pursuing...a safe, secure, and effective nuclear arsenal at the lowest levels consistent with U.S. and allied interests as we pursue the peace and security of a world free of nuclear weapons."*



NPR Policy Framework:

- Preventing nuclear proliferation and nuclear terrorism;
- Reducing the role of U.S. nuclear weapons;
- Maintaining strategic deterrence and stability at reduced nuclear force levels;
- Strengthening regional deterrence and reassuring U.S. allies and partners; and
- Sustaining a safe, secure, and effective nuclear arsenal.

*"Our Armed Forces will always be a cornerstone of our security, but they must be complemented. Our security also depends on diplomats who can act in every corner of the world..."*



### Four enduring national interests:

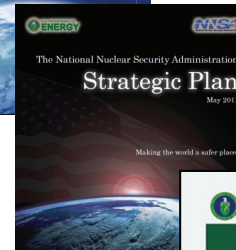
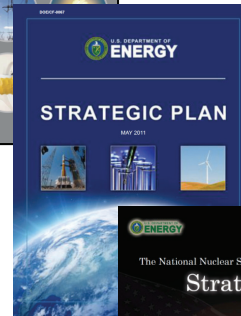
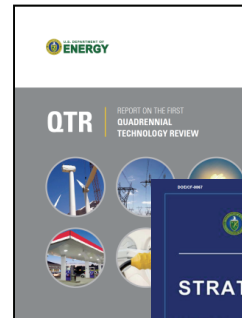
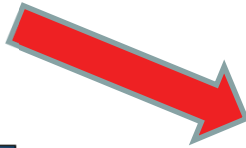
- **Security** of the U.S., allies and partners
- **Prosperity** both in the U.S. and abroad
- **Values** and respect at home and abroad
- **International Order** that promotes peace, security and opportunities

### The U.S. will:

- Pursue the goal of a world without Nuclear weapons
- Strengthen the Nuclear Non-Proliferation Treaty
- Present a clear choice to Iran and North Korea
- Secure vulnerable nuclear weapons and material
- Support peaceful nuclear energy
- Counter biological threats



# Strategic Linkages to DOE and NNSA



### NNSA Responsibilities:

- Reduce nuclear dangers
- Manage the nuclear weapons complex
- Advance naval nuclear propulsion
- Modernize the NNSA infrastructure
- Strengthen the science, technology and engineering base
- Drive an integrated and effective Enterprise



Maintain a safe, secure, and effective nuclear arsenal while managing the nuclear deterrent by understanding the stockpile, extending the life of warheads, and dismantling retired weapons.



Detect and prevent illicit trafficking of weapons of mass destruction-related material, equipment and technology, support the development of framework for export controls, and install nuclear detectors at borders and ports.

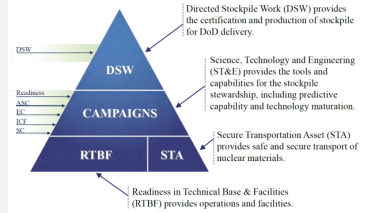
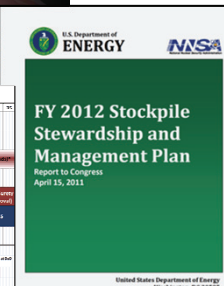
Provides the U.S. Navy research, development, design and operational support for effective nuclear propulsion plants; and enriched uranium for fabrication into fuel for propulsion reactors.

Protect NNSA personnel, capabilities, facilities, nuclear weapons/materials and information from the full spectrum of security threats.

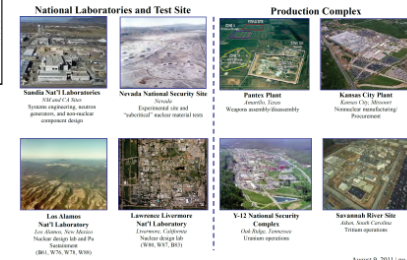
Respond to nuclear and radiological emergencies through enhanced technologies and deployment of trained technical teams. Pursue new technologies and forensic capabilities to identify the source of nuclear material used in explosive devices.



Fiscal Year	Fiscal Year											
	08	09	10	11	12	13	14	15	16	17	18	19
Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



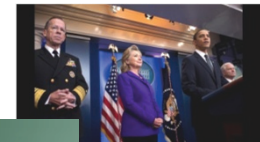
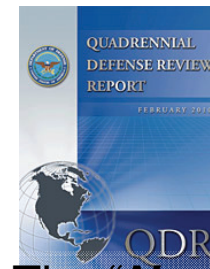
### NUCLEAR SECURITY ENTERPRISE SITES





# Establishing the Legacy

- April 5, 2009 – President Obama’s Prague speech
- President chairs U.N. Security Council – UNSC 1887
- New START negotiations
- Nobel Peace Prize
- NNSA budget plus-up
- Quadrennial Defense Review
- Nuclear Posture Review
- National Security Strategy
- New START Treaty signed
- “Section 151” Report
- Nuclear Security Summit
- NPT Review Conference



The “*Nuclear Spring*”



# Critical Uncertainty Timeline - 2011

## National Security Critical Uncertainty Timeline 2011

### Nuclear Posture Review Highlights:

- Five Key Objectives identified:
  - Preventing nuclear proliferation and nuclear terrorism
  - Reducing the role of U.S. nuclear weapons in U.S. national security strategy
  - Maintaining strategic deterrence and stability at reduced nuclear force levels
  - Strengthening regional deterrence and reassuring U.S. allies and partners; and
  - Sustaining a safe, secure, and effective nuclear arsenal
- As long as nuclear weapons exist, the U.S. will sustain safe, secure, and effective nuclear forces
- The fundamental role of U.S. nuclear weapons... is to deter nuclear attack on the U.S., our allies, and our partners
- The U.S. will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear non-proliferation regime.
- None of testing and U.S. will pursue ratification of the CTBT
- None of weapons, however there are three categories of life extension, Retain, Reuse and Replace

### National Security Strategy Highlights:

- Reaffirms basic tenets of Prague speech
  - Recognizes the need to "take a longer view"
  - Recognizes the role of diplomats
  - Narrows the view of a global war to one with a specific network at Qaeda
  - "International Order" mentioned 27 times in document
- "The International Order we seek is one that can resolve the challenges of our time... ensuring violent extremism and insurgency; stopping development of nuclear weapons and securing nuclear materials; combating a changing climate and sustaining global growth; helping countries feed themselves and care for their sick; resolving and preventing conflict; while also leading to peace."

### White House Foreign Policy Page: (after May 2009)

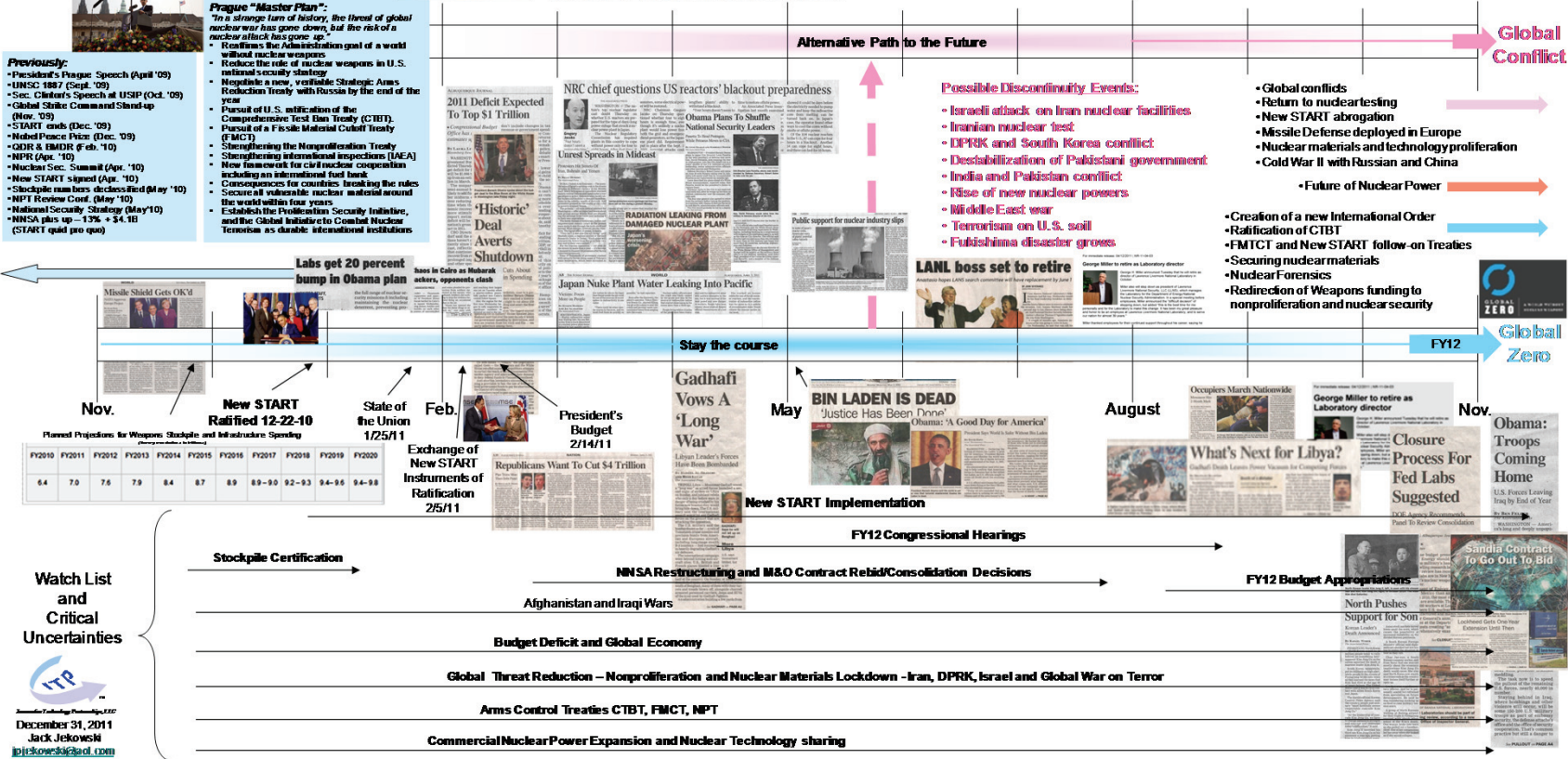
- #### Keeping Nuclear Weapons Out of the Hands of Terrorists
- On April 5, 2009 in Prague, President Obama presented an ambitious strategy to address the international nuclear threat. He proposed measures to: reduce and eventually eliminate existing nuclear arsenals, including negotiations on further nuclear reductions with Russia, ratification of the Comprehensive Test Ban Treaty, and completion of a verified fissile material cutoff treaty; halt proliferation of nuclear weapons to additional states, and prevent terrorists from acquiring nuclear weapons or materials.
  - We have pledged to work with our partners to achieve the denuclearization of North Korea through the Six-Party process. And we will present a clear choice to Iran to take its rightful place in the community of nations, including its right to peaceful nuclear energy, or continue to refuse to meet its international obligations and fail to seize the opportunity of a positive future.

### Prague "Master Plan":

- "In a strange turn of history, the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up."
- Reaffirms the Administration goal of a world without nuclear weapons
  - Reduce the role of nuclear weapons in U.S. national security strategy
  - Negotiate a new, verifiable Strategic Arms Reduction Treaty with Russia by the end of the year
  - Pursuit of U.S. ratification of the Comprehensive Test Ban Treaty (CTBT)
  - Pursuit of a Fissile Material Cutoff Treaty (FMCT)
  - Strengthening the Nonproliferation Treaty (NPT)
  - Strengthening international inspectors (IAEA)
  - New framework for civil nuclear cooperation including an international fuel bank
  - Consequences for countries breaking the rules
  - Secure all vulnerable nuclear material around the world within four years
  - Establish the Proliferation Security Initiative, and the Global Initiative to Combat Nuclear Terrorism as durable international institutions

### Previously:

- President's Prague Speech (April '09)
- UNMOCT 1887 (Sept. '09)
- Sec. Clinton's Speech at USIP (Oct. '09)
- Global Strike Command Stand-up (Nov. '09)
- START ends (Dec. '09)
- Nobel Peace Prize (Dec. '09)
- QDIR & EMDFR (Feb. '10)
- NPR (Apr. '10)
- Nuclear Sec. Summit (Apr. '10)
- New START signed (Apr. '10)
- Stockpile man bars disclosure (May '10)
- NPT Review Conf. (May '10)
- NNSA plus up - \$1.2B + \$4.1B (START paid pro quo)



**Watch List and Critical Uncertainties**

ITP

December 31, 2011  
Jack Jekowski  
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# Critical Uncertainty Timeline - 2012

**Nuclear Posture Review Highlights:**

- Five Key Objectives identified:
  - Preventing nuclear proliferation and nuclear terrorism
  - Reducing the role of U.S. nuclear weapons in U.S. national security strategy
  - Maintaining strategic, deterrence and stability at reduced nuclear force levels
  - Strengthening regional deterrence and reassuring U.S. allies and partners; and
  - Sustaining a safe, secure, and effective nuclear arsenal
- As long as nuclear weapons exist, the U.S. will sustain safe, secure, and effective nuclear forces
- The fundamental role of U.S. nuclear weapons... is to deter nuclear attack on the U.S., our allies, and our partners
- The U.S. will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear non-proliferation regime.
- No new testing and U.S. will pursue ratification of the CTBT
- No new warheads
- No new capabilities, however there are three categories of life extension, Refurbish, Reuse and Replace:

**Prague "Master Plan":**  
*"In a strange turn of history, the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up."*

- Reaffirms the Administration goal of a world without nuclear weapons
- Reduce the role of nuclear weapons in U.S. national security strategy
- Megatrends are now, verifiable Strategic Arms Reduction Treaty with Russia by the end of the year
- Pursuit of U.S. ratification of the Comprehensive Test Ban Treaty (CTBT)
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**Previously:**

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- NPR (Apr. '10)
- Nuclear Sec. Summit (Apr. '10)
- New START signed (Apr. '10)
- Stockpile numbers disclosed (May '10)
- NPT Review Conf. (May '10)
- National Security Strategy (May '10)
- NNSA plus up - 13% + \$4.1B (STARTI quad pro quo)

## National Security Critical Uncertainty Timeline 2012

**National Security Strategy Highlights:**

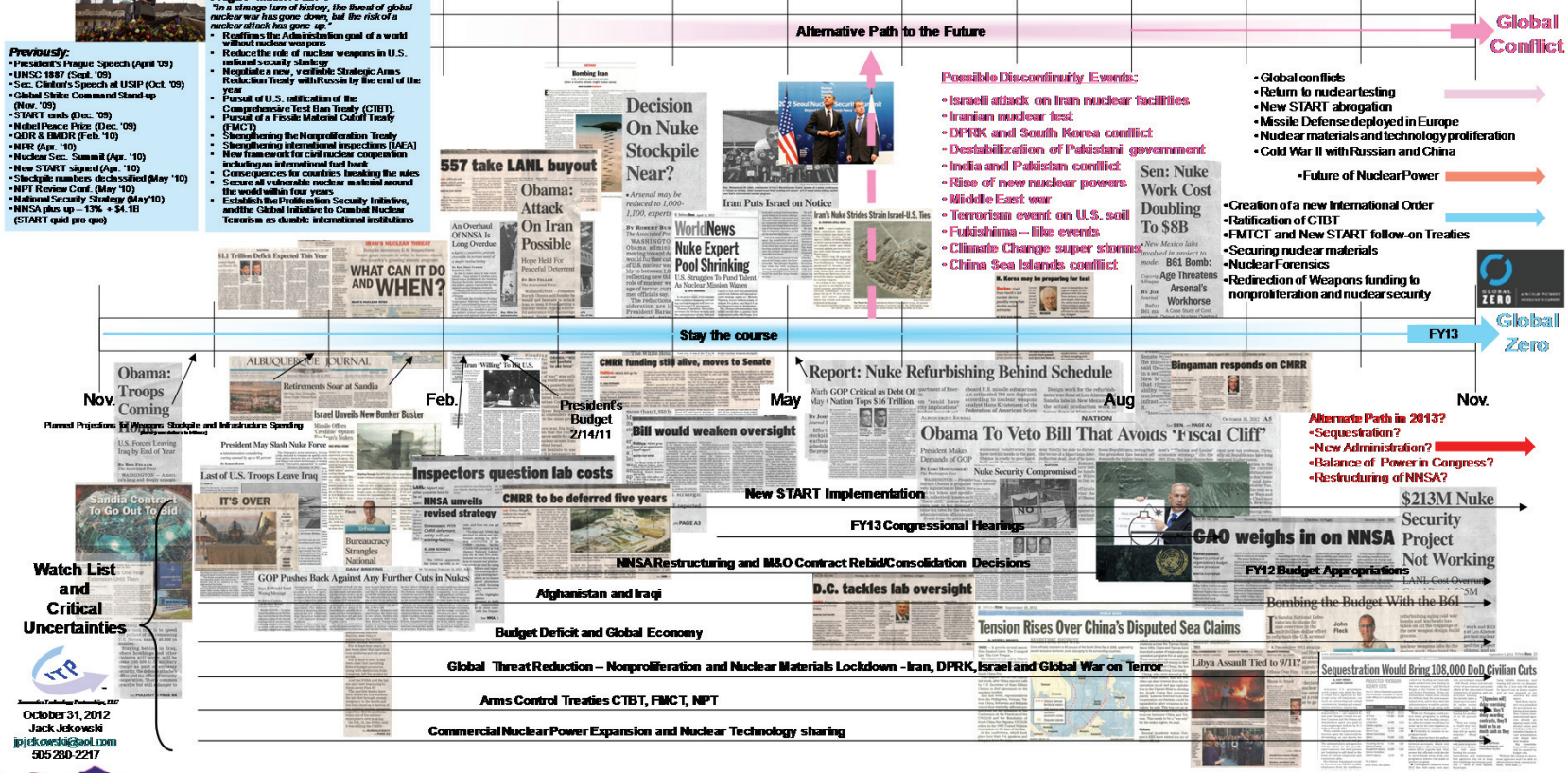
- Reaffirms basic tenets of Prague speech
- Recognizes the need to "take a longer view"
- Recognizes the role of diplomats
- Narrows the view of a global war to one with a specific nature: at G8+9
- "International Order" mentioned 27 times in document

*"The International Order we seek is one that can resolve the challenges of our times - countering violent extremism and terrorism, stopping the spread of nuclear weapons and securing nuclear materials, combating a changing climate and sustaining global growth, helping countries feed themselves and care for their sick, resolving and preventing conflict, while also leading by example."*

**White House Foreign Policy Page: (amended)**

**Keeping Nuclear Weapons Out of the Hands of Terrorists**

- President Obama issued an updated Nuclear Posture Review that reduces the role of nuclear weapons in our overall defense posture by declaring that the fundamental role of U.S. nuclear forces is to deter nuclear attacks against the U.S. and our allies and partners
- In April 2010, the President hosted the Nuclear Security Summit where leaders pledged specific steps to prevent nuclear terrorism and support the President's proposal to lockdown all vulnerable nuclear materials in four years.
- The Administration also oversaw the negotiation and ratification of the New START Treaty, which President Obama and President Medvedev signed in April 2010 in Prague. By significantly reducing levels of U.S. and Russia deployed strategic weapons, the Treaty represents a commitment by the world's two largest nuclear powers to the goal of disarmament. In addition, the Treaty strengthens the reset in relations between Washington and Moscow that is helping us to address the most urgent proliferation threats we face in Iran and North Korea



**Watch List and Critical Uncertainties**

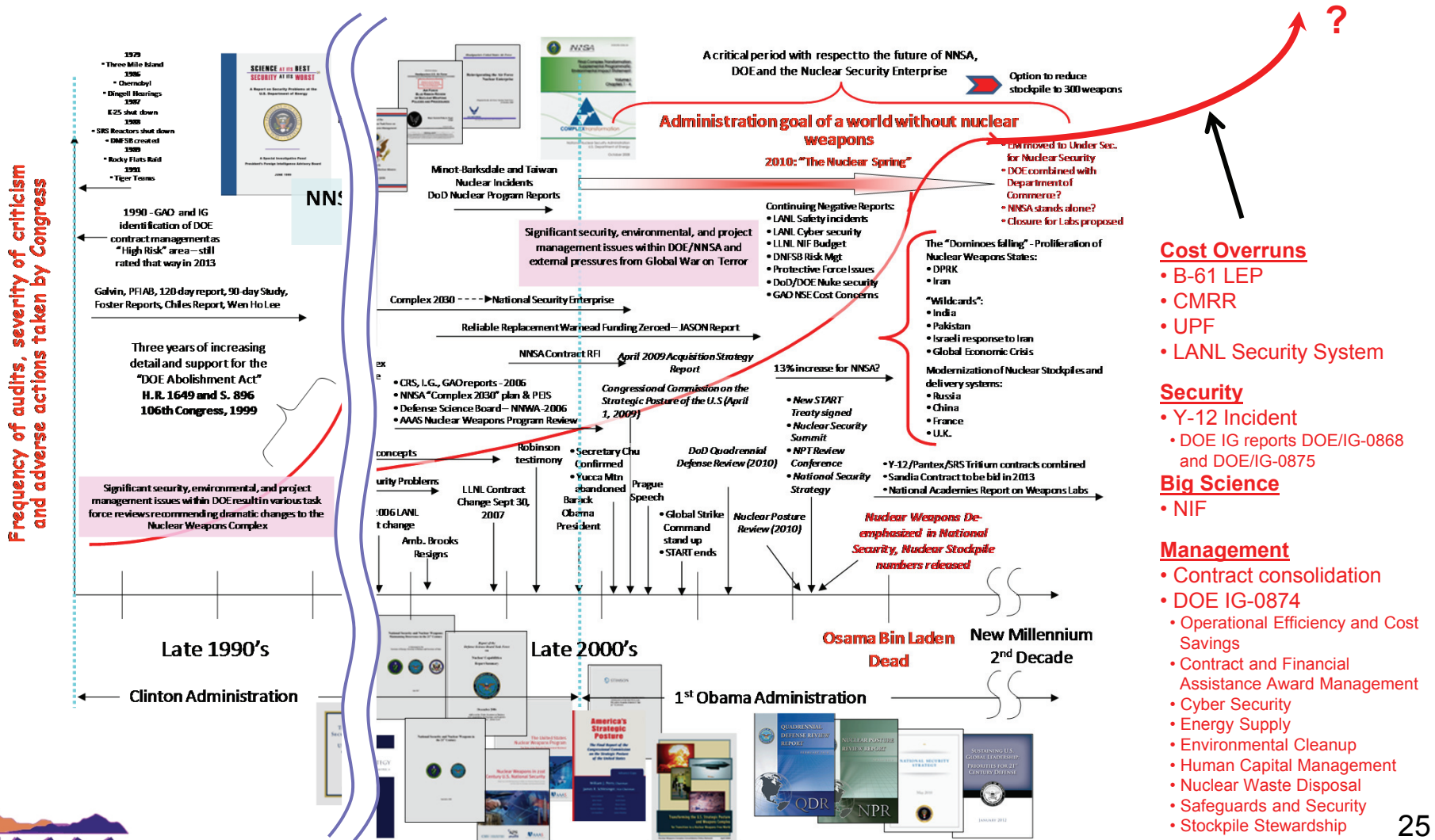
- Obama: Troops Coming
- Planned Projections: Oil Usage, Stocks and Infrastructure Spending
- Sandia Contract to Go Out to Bid
- U.S. Forces Leaving Iraq by End of Year
- Refinements Soar at Sandia
- Israel Unveils New Bomber Bister
- President May Sign Nuke Force
- Last of U.S. Troops Leave Iraq
- IT'S OVER
- Renoucy Strangles National Security
- GAO Pushes Back Against Any Further Cuts in Nukes
- Inspection question lab costs
- NNSA unveils revised strategy
- CMRR to be deferred five years
- New START Implementation
- FY13 Congressional Hearings
- NNSA Restructuring and M&O Contract Rebid/Consolidation Decisions
- Afghanistan and Iraq
- D.C. tackles lab oversight
- Budget Deficit and Global Economy
- Global Threat Reduction - Nonproliferation and Nuclear Materials Lockdown - Iran, DPRK, Israel and Global War on Terror
- Arms Control Treaties CTBT, FMCT, NPT
- Commercial Nuclear Power Expansion and Nuclear Technology sharing

October 31, 2012  
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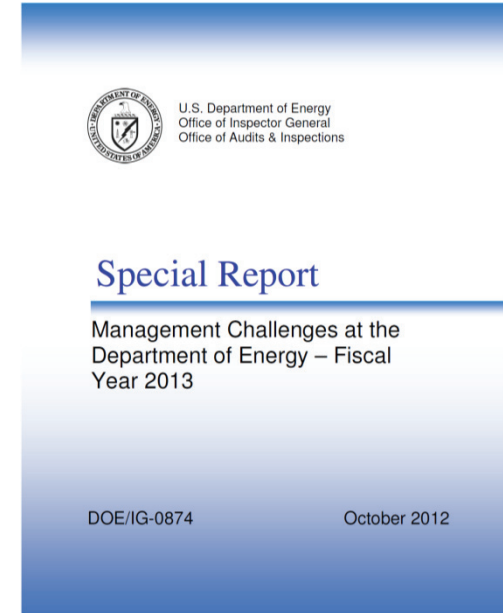
# What Future Path Awaits the NSE?





# 2013 DOE IG Recommendations

- Apply the Quadrennial Technology Review (QTR) strategic planning concept to the Department's entire science and technology portfolio;
- Eliminate duplicative National Nuclear Security Administration (NNSA) functions;
- Establish a "BRAC-style" commission to analyze the Department's laboratory and technology complex;
- Reprioritize the Department's environmental remediation efforts; and
- Re-evaluate the current structure of the Department's physical security apparatus





# Paul Robinson on the Future of the Complex\*

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*“Personally, and after many years of believing that it was important to keep the nuclear weapons design, development, and production separate from the Defense Department, I have now reached the point that I believe it is worth considering removing the weapons responsibilities from DOE and placing it as a new agency within the DoD. The presence of a uniformed military could provide a continuity that has been lacking as different administrations came and went. The nation’s nuclear deterrent has only suffered from these short-term upheavals in what must be a long-term commitment.”*



# Getting Past the Presidential Election

- From the headlines today:  
***“Presidential Candidates’ Paths Diverge on Nuclear-Weapon Policies, Arms Control”***



- Divergent Paths to the future:
  - Reducing Nuclear weapons
    - Obama – continue further discussions with Russia, possible unilateral reductions below 1,000 warheads
    - Romney – New START was Obama’s “worst foreign policy mistake yet” (Washington Post commentary)
    - Romney – must watch China and Russia modernization initiatives
  - Russia
    - Obama – More flexibility after the election to continue negotiations, including missile defense
    - Romney – “I’m not going to wear rose-colored glasses when it comes to Russia” – Presidential debate on October 22<sup>nd</sup>
  - Cooperative Threat Reduction
    - Public indications that Russia will not renew the long-standing agreement



# Getting Past the Presidential Election

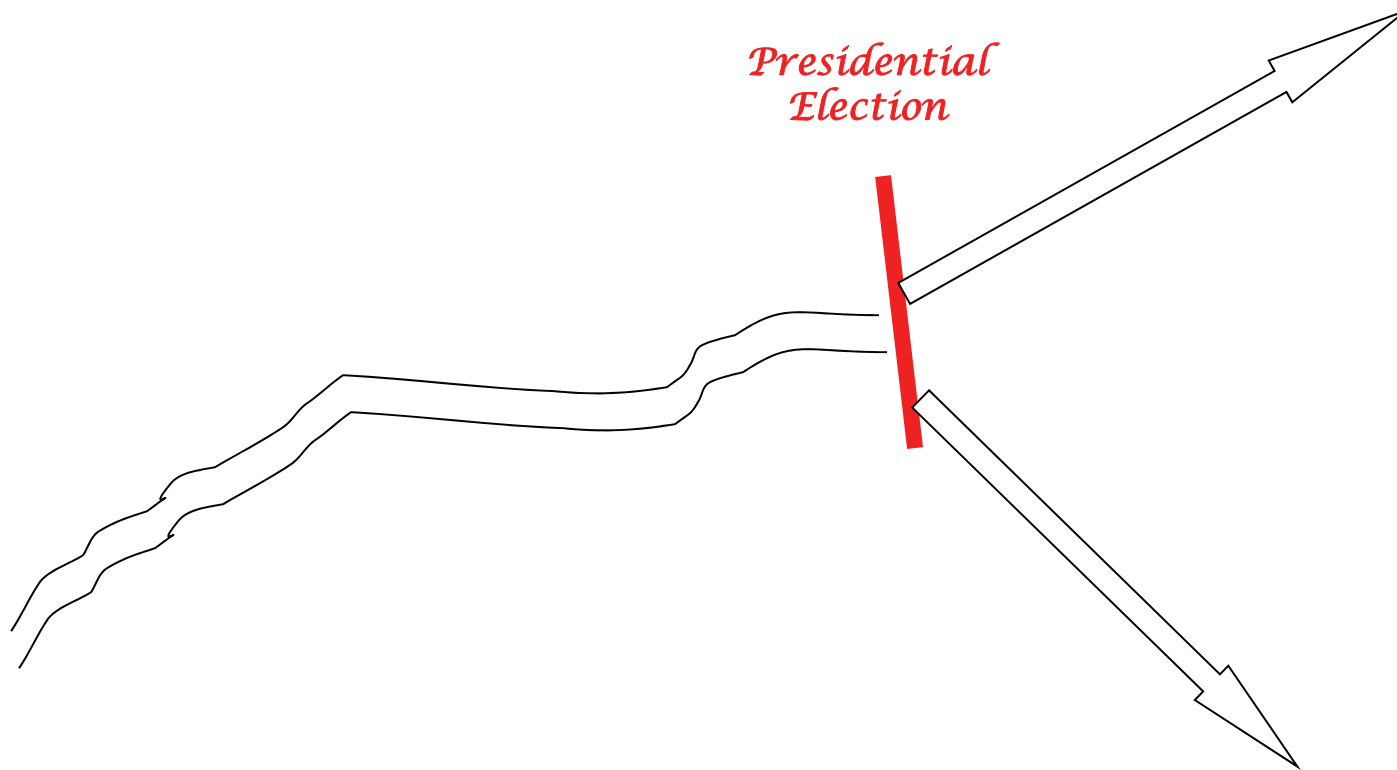
- Divergent Paths to the future:
  - CTBT Ratification
    - Obama – a key long term element in the Prague strategy – needs votes in Senate
    - Romney – “...the Senate did the right thing when it soundly rejected the CTBT treaty...the reasons underlying the rejection remain valid today.” (Romney spokesperson)
  - Preventing a Nuclear-Armed Iran
    - Similar positions – must not happen
    - Romney – more aggressive sanctions, more sympathetic view of use of force (multiple sources)
  - Missile Defense
    - Obama – willing to negotiate to achieve Prague goals
    - Romney – less likely to negotiate away (multiple sources)



# Divergent Paths to the Future

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*“Taking the Long View in a Time of Great Uncertainty”*





# The Landscape Ahead – Future Drivers

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- Partisan political battles
  - Presidential/Congressional elections of 2012
  - Rise of the Tea Party
  - Obama Administration push to deemphasize nuclear deterrence
- Global political strife
  - Continuing saga of the “Arab Spring”
  - Changes in global leadership
- Global Economic Crisis
  - U.S. debt and deficit spending
  - Euro problems – Greece, Portugal, Ireland and Spain – Italy next?
  - Climate Change – growing indicators
- International Nuclear and WMD Security Threats
  - Iran, DPRK, Syria, Middle East, Al-Qaida and other terrorist groups
- Disparate perspectives on Nuclear Stockpiles
  - U.S. and U.K. de-emphasizing role of nuclear deterrent
  - Russia, China, and Pakistan continuing to rely on Stockpiles as core national security strategy – upgrading their stockpiles



# What is the Future Path?

A newly revised scenario construct:

## Consolidation

- The reduction in the global threat allows the consolidation of the Nuclear Security Enterprise into a new entity that maintains a minimal nuclear deterrent while scientific resources are re-directed to climate change and renewable energy issues.

- *NPT Regime is strengthened*
- *Iran nuke program shut down*
- *DPRK abandons Nuke program*
- *U.N role grows – source material*
- *CTBT enters into force*
- *Article VI of NPT pursued*
- *Pakistan nukes secured*

## Global Zero

- The reduced global threat delays transformation initiatives and results in significant weapons funding decrease at the Labs as budget pressures redirect needed funding to social, energy and environmental programs. Confidence in the stockpile gradually erodes, forcing concessions in arms control negotiations that help the Global Zero movement.

DOE/NNSA Future

- *Labs/Weapons Program move to new entity*
- *New national security missions funded for Labs*
- *Revitalization of stockpile funding*
- *Direct “WFO” link to DoD*
- *NPR consensus – Replacement option exercised*

## Damn the Torpedoes, Full Speed Ahead

- As new nuclear-capable weapons states emerge, the NPT is abandoned and the U.S. and other G-5 states revitalize their stockpiles. The U.S. prepares to withdraw from the CTBT to test a new replacement warhead. A new organizational entity is implemented to support a 21st Century nuclear arms race and the National Laboratories are infused with new war-related funding.

- *NPT abandoned*
- *DPRK tests again*
- *Iran tests*
- *NWS test new designs*
- *Arab states move toward nuclear*
- *Pakistan loses control of Nukes*

## The Global Nuclear Posture

## Nuclear Security Enterprise

- Global proliferation and an increased terrorist threat provide impetus to support Complex Transformation plans and Life Extension Programs as Labs struggle to maintain a reliable stockpile in an austere fiscal environment.

- *NNSA and DOE remain intact*
- *Status quo for LEPs and Complex*
- *NPR stays ambiguous*
- *Budgets continue to decline*

Can the DOE/NNSA and the Laboratories develop robust strategies to prepare for dramatically different worlds?





# A Long View in a Time of Great Uncertainty

- A column to continue the discussion of “Externalities” and their impact on the INMM mission
  - Based on techniques employed by Global Business Network and Peter Schwartz, customized for use in the National Security environment (see <http://www.gbn.com>)
  - Designed to challenge the reader to think about “what might be”
  - Members encouraged to provide topics or guest author
  - Poses strategic questions to the membership
  - Columns to date (since Fall of 2010)
    - Fall 2010 – *Taking the Long View*
    - Winter 2011 – *Focusing on the Nuclear Fuel Cycle*
    - Spring 2011 – *Preparing for Social Chain Reactions*
    - Summer 2011 – *A Strategic Inflection Point? The Nuclear Crisis in Japan*
    - Fall 2011 – *The Changing Face of INMM*
    - Winter 2012 – *Focusing on the Future of Safeguards and Nonproliferation*
    - Spring 2012 – *Looking Back at a Decade of Tumult*
    - Summer 2012 – *Sustaining the Institute*
    - Fall 2012 – *INMM’s International Role*

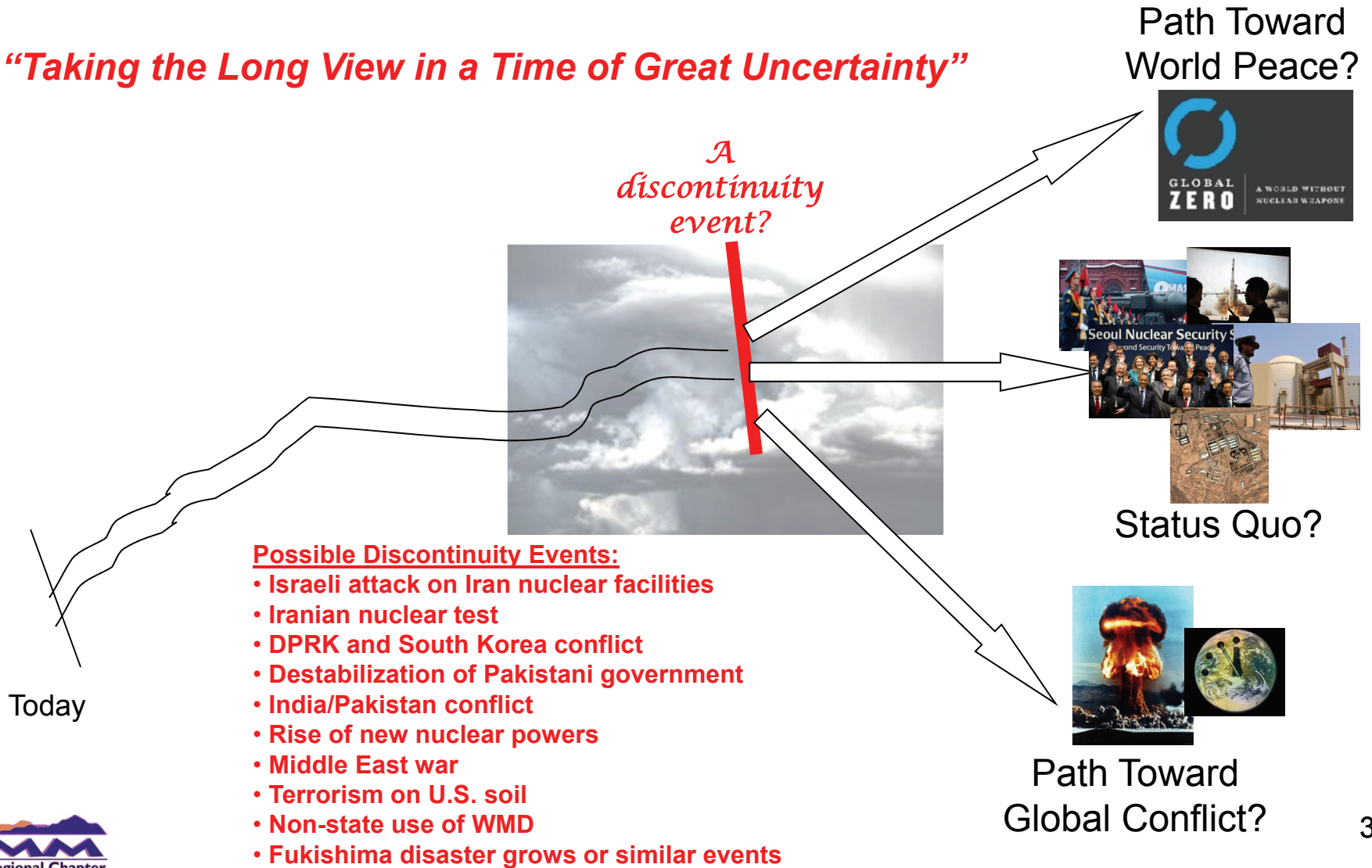


**“What should the INMM’s role be in a world defined by the new ‘international order’ and how should we be preparing today to fill that role in the future?”**



# Divergent Paths to the Future

*“Taking the Long View in a Time of Great Uncertainty”*





# Preparing for the Second Decade

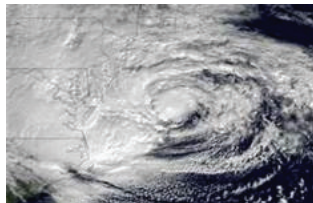
Y-12, CMRR, UPF, NIF, B-61 LEP



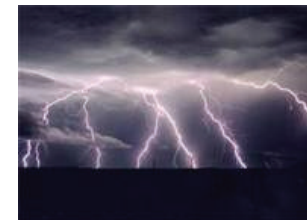
Iran and DPRK



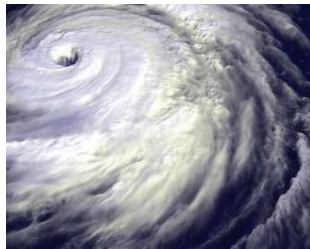
Arab Spring



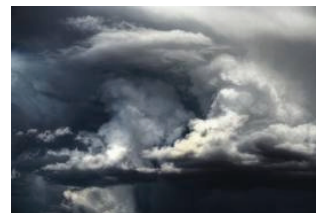
Proliferation of  
Nuclear Technology



Middle East War



Budget Deficit



Pakistan



Climate Change

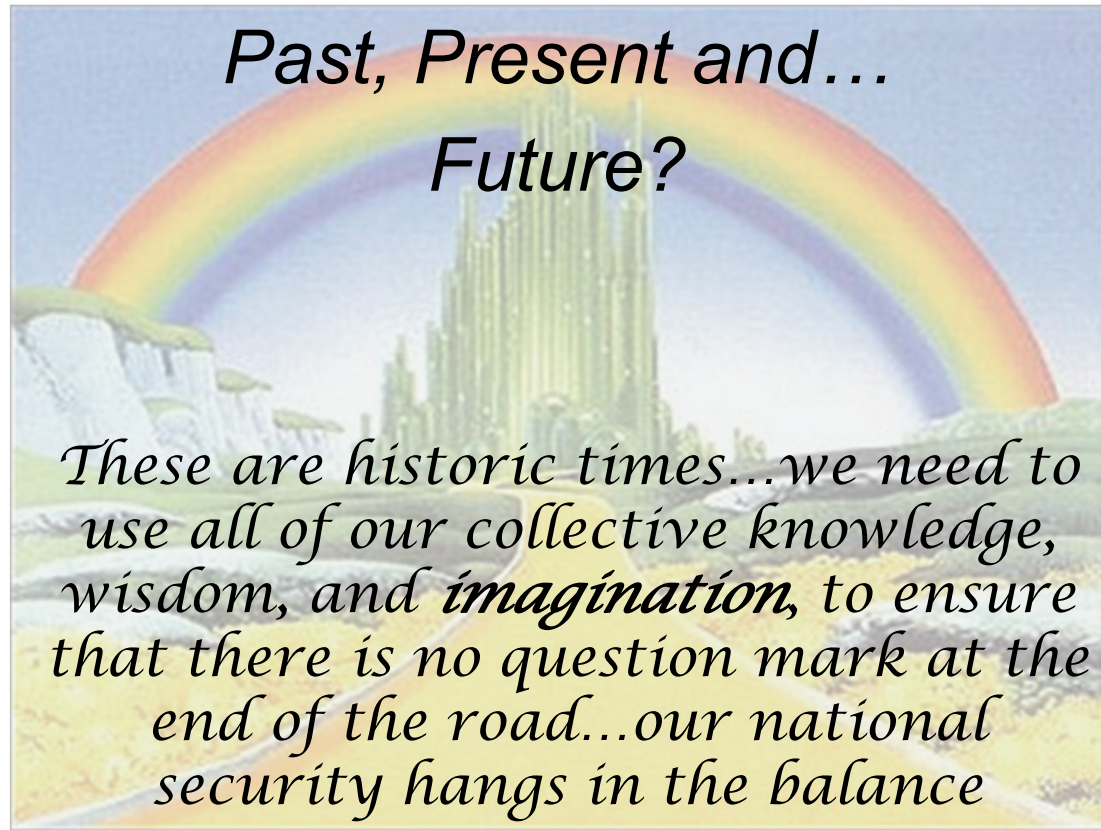


# Weathering the Perfect Storm: Implications of 2012 events on the Nuclear Security Enterprise (NSE)



2012

"It is five minutes to midnight. Two years ago, it appeared that world leaders might address the truly global threats that we face. ...Despite the promise of a new spirit of international cooperation, and reductions in tensions between the United States and Russia, the Science and Security Board believes that the path toward a world free of nuclear weapons is not at all clear, and leadership is failing."



For electronic copies of this presentation email Jack Jekowski: [jjekowski@aol.com](mailto:jjekowski@aol.com); visit ITP's website: (<http://www.itpnm.com>) and click under "What's New"; or visit the ANS Trinity Web Site: <http://local.ans.org/trinity/>