



A FORTNIGHTLY NEWSLETTER ON NUCLEAR DEFENCE, ENERGY AND PROLIFERATION FROM CENTRE FOR AIR POWER STUDIES

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**OPINION – Jeremy Carl and David Fedor**

**Wasting America’s Nuclear Opportunity**

An effusive President Trump announced in late June that “we will begin to revive and expand our nuclear energy sector, which I’m so happy about.” Just a few months earlier, the left-leaning Environmental Defense Fund wrote, “We still need America’s nuclear power plants.” Meanwhile, Sen. James Inhofe just (R-Okla.) noted a similarly surprising non-partisan appreciation for nuclear power on the Senate Committee on Environment and Public Works: “It’s the only area where I think Sen. Whitehouse (D-R.I.) and I agree — that nuclear is so incredibly important for us to have in the mix.” The American public agrees with these senators. A recent Pew poll found that just 17 percentage points separate liberal Democrats from conservative Republicans in their support for expanding nuclear power — views that are even closer than those for wind power, often cited for its cross-party appeal. But despite nuclear power’s cross-partisan support, America’s nuclear capacity is shrinking.

Five of our nation’s 60 existing nuclear power plants have closed in just the past four years. At four other plants, planned capacity uprates have been called off, which would have allowed the existing plants to produce more electricity. And an unprecedented ten more

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existing plants have announced firm plans to prematurely shut down in the near future. Acknowledging this contradiction, Energy Secretary Rick Perry has commissioned a much-anticipated “baseload power” report, while Trump ordered a “complete review” of America’s nuclear power policies to “revitalize this crucial energy resource.”

At the Hoover Institution’s Shultz-Stephenson Task Force on Energy Policy, we have spent the last few months attempting to solve this seeming paradox.... America remains the world’s largest producer of nuclear power, nuclear is our own largest source of emission-

free energy, and US nuclear technology is exported around the globe. It provides both critical energy services and vital national security services: Among many other virtues, it backstops our nuclear navy and our leadership in global non-proliferation of nuclear weapons. For many reasons: economic, environmental and security, America should not give up its nuclear option.

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How did we get here? In short, our energy abundance dream has become nuclear's nightmare. Low electricity prices — both naturally driven down by cheap natural gas and artificially distorted by subsidies to other favored power generation technologies, like renewables — are the main culprit. Nuclear has long been assumed to one of the cheapest power sources and so not in need of particular government assistance, but today's wholesale energy prices are often falling below even just the operating costs of these heavily-regulated facilities. This is especially true for the half of the fleet located in states where electricity market designs optimize for short-term (and often not long-term) price efficiency over all else.

Meanwhile, slow economic growth and energy efficiency has left America with a novel problem: too many power plants, and too little demand for electricity. Most states now have less than 0.5 percent annual growth in electricity sales. Meanwhile 29 state governments have mandated generation quotes exclusively for new renewables like wind and solar, which further erodes the addressable market for nuclear. Then there is culture. Even with nuclear's complete lack of air pollution or carbon emissions, committed

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Waste storage so often dominates the public discussion of nuclear power, and it's an important

long-term topic for the country to settle, but the reality is that waste is not the primary roadblock to nuclear power operations today. Can anything be done? Some states have stepped in to preserve at-risk plants through nuclear power purchase mandates, as in New York and Illinois. This can be justified, even from a purely financial perspective: when California's San Onofre nuclear station was shuttered in 2013, researchers at Berkeley observed that electricity customers ended up paying an extra \$350 million when grid prices from other power generators increased in response.

In Vermont, the economy of the small town that built up around their Yankee plant was devastated not by a nuclear meltdown, but by its closure, mirroring an earlier experience in Maine. While these subsidies are a band-aid at

best, they may be needed to stop the bleeding, and recent research from MIT and from Carnegie Mellon argue that doing so can be cost-effective given the alternatives. Longer term though, the federal government — both the executive and legislative branches — already has its hands on key policy levers. It needs to pay attention. Electricity is thought of as a commodity, traded

like so many pork bellies or flats of orange juice concentrate.

But in truth, we can't help but assign value to these electrons: jobs, the environment and national security. The US should not allow itself to lose its capabilities in civilian nuclear power without a thoughtful reckoning of the profound impact — not just on the economy — that will ensue. It should not fall solely on the shoulders of ratepayers in Ohio or in Pennsylvania to preserve national goods like America's synergistic civilian-military nuclear ecosystem, global nuclear safety norms and advanced fission technology development. Towns and states are already starting to wake up to this, though for some it has been too late. Washington shouldn't make the same mistake about the one thing it already claims to agree on.

Source: <http://thehill.com>, 03 August 2017.

**OPINION – Ward Wilson**

**Nuclear Deterrence Will Fail**

... President Donald Trump got angry. With his arms folded across his chest, his eyes darting around the room, you can feel the emotion behind his words: "North Korea best not make any more threats to the United States. They will be met with fire and fury like the world has never seen." The president's remarks were clear evidence of a danger that must be addressed.

Not the danger of this particular crisis—there is little we can do about that. For now, US law puts no impediments—no checks or balances—on the president's ability to launch a nuclear war. Instead, what the president's words highlighted was the

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For decades, US security policy has relied on a theory, an idea about how human beings are likely to behave. And we, as a nation, have agreed to run risks based on this idea that the threat of mass destruction can prevent attacks. Nuclear deterrence seems sensible enough. Who, after all, would be crazy enough to start a nuclear war? And, for the most part, our presidents seemed to confirm that nuclear weapons were secure in American hands.

As former UN secretary general Ban Ki-moon is fond of saying, there are no right hands for nuclear weapons. The problem is the need for perfection. A single slip-up could lead to catastrophe. The instruments of deterrence are inherently fallible. I'm not talking about the computers that control our arsenal and its early-warning systems, though Eric Schlosser's Command and Control does an admirable job of explaining the risks inherent in keeping thousands of nuclear weapons on hair-trigger alert. But the machines are not the main problem—we are.

**Nuclear deterrence is not a computer that purrs quietly in a corner on its own. Human beings are intimately involved at every step. As the president is so vividly demonstrating, people lose their tempers, overreact, and get overwhelmed by emotion. People can lose their sanity—raving and acting at random.**

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Nuclear advocates have said for decades that nuclear weapons can't be gotten rid of, because they "can't be disinvented." This is undeniably true, but also entirely specious. No technology is ever

disinvented. Who disinvented the PalmPilot? Who disinvented black and white TV? Who disinvented the Hiller VZ-1—a flying platform designed to lift a single soldier 10 to 20 feet up into the air? These technologies weren't "disinvented," they were abandoned, either because better technology came along (as with PalmPilots and black and white TVs), or because people simply realized the original technologies weren't all that useful (like the Hiller VZ-1—why would you put a soldier in a position where the person's both especially noticeable and entirely vulnerable?) Nuclear weapons fall into the second category. They're just not very good for anything, except slaughtering civilians en masse.

Of course we can get rid of nuclear weapons—if they're stupid technology. Imagine you bought a new kind of stove that (you heard later) blew up on a regular basis and, it turned out, couldn't even boil water. Why would anyone keep technology that is both dangerous and virtually useless?

Eliminating nuclear weapons used to be considered pie-in-the-sky utopianism. But since 2008, when four cold war hawks of considerable standing—Secretary of State George Shultz, Secretary of Defense William Perry, Secretary of State Henry Kissinger, and Senator Sam Nunn—came out in favor of eliminating nuclear weapons, the debate has shifted.

Nuclear-weapons advocates imagine all sorts of exaggerated powers for nuclear weapons: They protect us, cement our alliances, even uphold the world order that sustains our prosperity. In their obsessed minds, nuclear weapons are essential. But their beliefs are based on misperception and wishful thinking, not reality.

People point to the fact that nuclear weapons haven't been used in 70 years as proof that they are awesome, portentous weapons, too powerful to use. And the fact of their disuse is suggestive;

it suggests they are lousy weapons. It's possible no one has used nuclear weapons for 70 years not because there is a kind of holy dread and wonder that surrounds them but because no one has been able to find a situation in which the weapons would actually be useful.

If you want to judge the question of whether nuclear weapons are essential or not, a far more telling piece of evidence comes from when George H.W. Bush retired almost all of the tactical nuclear weapons in the US arsenal. What was telling was not what was said, but rather what wasn't said. No one demanded their nuclear weapons back.

No military officers went to Congress, sat at the witness table, and demanded the return of their tactical nuclear weapons. No one pounded the table, shouting, "Those weapons are essential for the safety and security of this great nation!" Their silence speaks volumes about how military

professionals judge the military utility of nuclear weapons.

We need to dispel the nuclear believers' dark fever dream of awe and power, and insist on hard, cold reality: Nuclear weapons are risky, blundering weapons whose only real use—deterrence—will lead to catastrophe.

Trump's threat signals the end of the delusion that nuclear deterrence can be safe. If even stable, mature democracies can elect leaders who can't be trusted with nuclear weapons, then there is no way to justify keeping them.

Source: <https://www.thenation.com/article/nuclear-deterrence-will-fail/>, 11 August 2017.

**OPINION — Peter Jenkins**

**Provoking Iran into Tearing up the 2015 Nuclear Deal**

How easy will it be for President Trump to use the IAEA to provoke Iran to "tear up" the JCPOA

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aka the 2015 nuclear deal with Iran? Annex 1 of the JCPOA spells out the basis on which the IAEA may request extraordinary access to Iranian locations: Requests for access pursuant to provisions of this JCPOA will be made in good faith, with due observance of the sovereign rights of Iran, and kept to the minimum necessary to effectively implement the verification responsibilities under this JCPOA. In line with normal international safeguards practice, such requests will not be aimed at interfering with Iranian military or other national security activities, but will be exclusively for resolving concerns regarding fulfilment of the JCPOA commitments and Iran's other non-proliferation and other safeguards obligations.

In other words, if the US decides to submit to the IAEA information designed to trigger a request for access to a certain Iranian location or locations, this information must relate to activities involving the use of nuclear material or activities prohibited by the JCPOA. If and when such information is submitted, the IAEA secretariat will want to assess whether it is reliable—all the more so in light of recent leaks from the White House. In 2003 the secretariat reacted with commendable skepticism to information submitted by the UK that purported to be evidence of Iraqi acquisition of uranium from Niger. On several occasions it turned a deaf ear to claims about Iran originating with the Mujahedin-e Khalq (MEK).

In 2005, the IAEA secretariat was reluctant to believe in the authenticity of information on a laptop supposedly obtained from an Iranian scientist. When it came round to accepting the information's authenticity two or three years later, the circumstances were exceptional and, for all any outsider can know, the judgement may have

been right. The IAEA can be relied on for high standards of professionalism. Its reputation for impartiality and integrity contributes a great deal to the durability of NPT regime.

Let's suppose that the secretariat decides to believe in the authenticity and reliability of information submitted by the US. What will the secretariat do next? In furtherance of implementation of the JCPOA, if the IAEA has concerns regarding undeclared nuclear materials

**The officials accompanying IAEA inspectors to undeclared locations will have to struggle to control their pleasure in demonstrating the falseness of US allegations, but they will be ready to make that sacrifice. During the dark years when the IAEA was investigating the laptop material and other possible indications of a "military dimension," Iran frequently withheld cooperation. But during that period Iran was being asked to prove a negative: the absence of alleged activities. Now the burden of proof (through access to locations) would rest on the IAEA's inspectors.**

or activities, or activities inconsistent with the JCPOA, at locations that have not been declared under the comprehensive safeguards agreement or Additional Protocol, the IAEA will provide Iran the basis for such concerns and request clarification. If Iran's explanations do not resolve the IAEA's concerns, the Agency may request access to such locations for the sole reason to verify the absence of undeclared nuclear materials and activities or activities inconsistent with the

JCPOA at such locations. The IAEA will provide Iran the reasons for access in writing and will make available relevant information.

At that point Iran will have two options: to cooperate with the secretariat or to withhold cooperation. If, despite the secretariat's positive assessment of the information submitted by the US, that information is in fact fabricated or from an unreliable source, Iran will have every incentive to cooperate to the full. The officials accompanying IAEA inspectors to undeclared locations will have to struggle to control their pleasure in demonstrating the falseness of US allegations, but they will be ready to make that sacrifice. During the dark years when the IAEA was investigating the laptop material and other possible indications of a "military dimension," Iran frequently withheld cooperation. But during that

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On the other hand, Iran might decline access or offer the IAEA unreasonable alternative arrangements for verification-to avoid detection of a JCPOA inconsistency or a safeguards violation. Then, what began as a US attempt to provoke Iran into walking away from the nuclear deal will have turned out to be an inspired service to the nuclear non-proliferation community.

One other possibility must be considered: *If the absence of undeclared nuclear materials and activities or activities inconsistent with the JCPOA cannot be verified...the members of the Joint Commission, by consensus or by a vote of 5 or more of its 8 members, would advise on the necessary means to resolve the IAEA's concerns.* In other words, the US, claiming that the absence of verification of US-supplied information was not proof of the information's unreliability, could seek to involve the Joint Commission. The composition of this commission is such that there is little or no chance of it abetting a US attempt to provoke Iran by feeding fabricated or unreliable information to the IAEA.

...The EU, France, and Germany see no interest at all in provoking Iran into renouncing the JCPOA. Nor do Russia and China. Those who value the JCPOA as a well-balanced non-proliferation achievement cannot afford to be complacent. No doubt the US government employs many ingenious minds. But it looks as though destroying the JCPOA by provoking Iran will be a tall order.

Source: <http://www.payvand.com>, 03 August 2017.

OPINION – Patrick Tucker

US Military Eyes New Mini-Nukes for 21st-Century Deterrence

The future of nuclear weapons might not be huge and mega destructive but smaller, tactical, and frighteningly, more common. The US Air Force is investigating more options for “variable yield” bombs — nukes that can be dialed down to blow up an area as small as a neighborhood, or dialed up for a much larger punch. The Air Force currently has gravity bombs that either have or can be set to low yields: less than 20 kilotons. Such a bomb dropped in the center of Washington, D.C.,

wouldn't even directly affect Georgetown or Foggy Bottom. But a Minuteman III missile tipped with a 300-kiloton warhead would destroy downtown Washington and cause third-degree burns into Virginia and Maryland.

Throughout much the Cold War, the thinking in Washington and especially Moscow was that bigger yields was better: the more destruction, the more deterrence. This thinking drove the Soviet Union to build the most powerful bomb ever, the Tzar Bomba, whose 100,000 kilotons, detonated over DC, would burn Baltimore. But the future of nuclear deterrence lies, at least in part, in smaller nuclear weapons that the US might actually use, Air Force Gen. Selva, the Vice Chairman of the

Joint Chiefs of Staff, said 03 August at a Mitchell Institute event in downtown Washington. The threat of mutually assured destruction doesn't work against smaller regimes in the way that it used to against the Soviet Union. Selva said

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the US needs to be able to launch a nuclear attack on an adversary without ending the world or causing massive “indiscriminate” casualties.

“If all you have is high-yield weapons to answer a low-yield attack, it’s still a nuclear attack. Answering that with a conventional weapon is likely not going to have the kind of deterrent value as saying, ‘Even if you use a low-yield weapon, we have options to respond,’” he said. “If the only options we have are to go with high-yield weapons

that create a level of indiscriminate killing that the President can’t accept, then we haven’t presented him with an option with an option to respond to a nuclear attack in kind.” The US is amid a massive modernization of its nuclear arsenal, including work on defining requirements for a new ICBM. In December, the Defense Science Board urged the Pentagon to incorporate low-yield and variable-yield reentry vehicles into future ICBM designs. Selva said on 03 August that the Air Force had not yet made a final decision on that.

“Whether we do it with a ballistic missile or re-entry vehicle or other tool in the arsenal, it’s important to have variable-yield nukes,” he said. The military has a requirement to explore such systems, mandated by several nuclear posture reviews and “that is a path we’re pursuing very quickly,” he said. But Congressional critics who say the proliferation of such weapons would bring less, not more security. ...She also sounded a skeptical note against ‘tactical nukes in general. “There’s no such thing as limited nuclear war, and for the Pentagon’s advisory board to even suggest such a thing is

deeply troubling.” The US military is not the only one that is envisioning the use of smallish nukes in combat. While Russia possesses the largest-yield nuclear weapons, it also boasts much smaller, “tactical” nuclear weapons that it’s used

in exercises. And has not foresworn the first use of nuclear weapons in a conflict. In fact, Russian lawmakers have threatened the use of low-yield nuclear weapons were NATO forces to attack pro-Russian forces in Eastern Ukraine.

North Korea claimed 2016 to have tested a hydrogen bomb, which would have a potential yield between 15,000 and 50,000 kilotons, but analysis of underground North Korean missile tests showed that the yield on the test device was closer to 10 kilotons, more like a regular fission bomb. Kristensen, director of the Nuclear Information Project at the Federation of American Scientists, points out that the US already has nuclear bombs that can be converted to low-yield weapons. And it may be building more. The controversial Long-Range Standoff Cruise missile will use a modified W80 nuclear warhead. “The rumor is that they want to modify that warhead to improve the selection of lower-yield options,” said Kristensen. “Military

leaders have talked about the LRSO mission as very ‘tactical’ or ‘war-fighting’ terms,” he said, highlighting this piece for the Union of Concerned Scientists.

“The still-unanswered question is why there would be a need for a low-yield warhead on ballistic missiles. What are the strikes that existing warheads can’t do, where would the President be self-deterred because of too big yield, where has

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the intelligence community concluded that catastrophic consequences. adversaries would get an advantage and deterrence (or war fighting) would fail if we didn't have low-yield, and why can existing capabilities not adequately hold at risk the same targets? Many questions, few answers." said Kristensen.

**Lithuanian authorities allege that Belarus did not conduct a cross-border environmental impact assessment, in breach of the Espoo Convention, and that in an event of a large-scale accident at the nuclear plant, the Lithuanian capital, as well as a third of the country's population, could face catastrophic consequences.**

Source: <http://www.defenseone.com>, 03 August 2017.

**OPINION — Lidia Kuransinska**

**A New Chernobyl at Your Doorstep?**

Speaking near the site of the Chernobyl nuclear disaster on the 31st anniversary of the accident this April, Belarusian president Lukashenka remarked that "both Belarusians and Ukrainians know that the Chernobyl catastrophe knows no borders", in reference to the fact that 70% of the radioactive dust created in the 1986 chemical explosion descended on Belarus. Following the same logic, the authorities of neighbouring Lithuania are trying to raise the alarm about Belarus's construction of its first nuclear power plant, which they believe to be the next nuclear disaster in waiting.

**One incident on 10 July 2016, when a 330-tonne reactor casing fell from a height of between two and four metres, drew particular condemnation. The accident was only acknowledged by the Belarusian authorities after it was reported in the local press two weeks later. Initially, the Russian state nuclear agency Rosatom, the main contractor for the project, denied the shell had been damaged, and agreed to replace it only following a media uproar.**

One of the major complaints concerns the choice of location. Set near the small town of Astravets, less than 50km from Vilnius, the site also falls within an earthquake-prone area. Lithuanian authorities allege that Belarus did not conduct a cross-border environmental impact assessment, in breach of the Espoo Convention, and that in an event of a large-scale accident at the nuclear plant, the Lithuanian capital, as well as a third of the country's population, could face

**Chain Reactions:** Fears of a nuclear accident at Astravets are not baseless — they have been fuelled by a string of technical mishaps at the construction site, and a Soviet-like culture of secrecy. According to Mikhadyuk, the Deputy Energy Minister of Belarus, there have been 10 incidents,

including three fatalities, since construction began in 2013. Mikhadyuk claimed it was a "reasonable figure" given the scale of the project. However, the Lithuanian Foreign Ministry alleged that there were six incidents in 2016 alone. One incident on 10 July 2016, when a 330-tonne reactor casing fell from a height of between two and four metres, drew particular condemnation. The accident was only acknowledged by the Belarusian authorities after it was reported in the local press two weeks later. Initially, the Russian state nuclear agency Rosatom,

the main contractor for the project, denied the shell had been damaged, and agreed to replace it only following a media uproar. The handling of the incident drew comparisons with the Chernobyl catastrophe, where first reports of the disaster didn't emerge until 36 hours after the explosion, and led to concerns about transparency and safety of the project.

Linkevicius, Lithuania's MEA, noted at the time that "the fact that we find out about the incidents from their website or press (...) indicates a tendency to either hide certain events or try to understate them once they become apparent. For this reason, it becomes very difficult to earn confidence." As part of Lithuania's accession agreement with the EU, it agreed to start shutting down its own nuclear power plant at Ignalina from 2004. According to Ozharovsky, a Russian nuclear

engineer and member of the Belarus Anti-Nuclear Campaign, Minsk has been trying to silence activists and members of the public opposed to the construction of the plant. In an interview with open Democracy, he claimed that the Belarusian government has tried to orchestrate public hearings on the project by preventing activists from joining in, and refusing to give the floor to those who managed to get in. Ozharovsky, who has been arrested twice in relation to his activism and banned from entering Belarus for 10 years, noted that the activists who attempted to raise awareness of the dangers of the project have faced harassment and intimidation from the state.

Trust in the safety of the project has been undermined further following the publication of an investigative TV programme about Rosatom by Belsat, an independent Belarusian news channel headquartered in neighbouring Poland. Belsat revealed that, in 2012, the Russian nuclear corporation took over Atomenergoproekt, a Soviet-era nuclear equipment giant, after it went bankrupt and was privatised. The move was intended to allow Rosatom to start producing its own equipment. The nuclear reactor for the Astravets plant (also referred to as BelNPP) was the first the revived Atomenergoproekt produced in 30 years.

An article on the company's own website appears to confirm Belsat's findings. It says that "during the post-Soviet period the enterprise almost lost its competences in manufacturing equipment for nuclear industry. Atomenergoproekt was incorporated in the machine-building division of the State

Corporation 'Rosatom' in 2012. The recovery program of the production facilities for manufacturing of nuclear power plants equipment then has been launched at the plant."

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On its website, Rosatom claims that VVER-1200, the reactor built for Astravets, "is a flagship nuclear reactor and a core product of Rosatom's integrated offering". The company states that "many modifications have been made to reactor internals

(core barrel, core baffle, protective tube unit and sensors) to prevent accidents and extend the service life to 60 years" and that "VVER-1200 combines reliability of time-proven engineering solutions with a set of active and passive safety systems compliant with post-Fukushima requirements." The reactor blocks will also be contained by an outer containment shell made of concrete and steel.

However, Ozharovsky stressed that he believes that new, untested reactors cannot be branded safe, despite manufacturers' assurances, and pointed to an unexpected technical fault that shut down a brand new VVER-1200 at the Novovoronezh Nuclear Power Plant in Russia. Ozharovsky also noted that both China and India refused to buy the VVER1200, the type destined for Astravets, for their own nuclear power plants, instead choosing units that had been previously tested.

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**Good-Neighbourliness:** To

sweeten the deal, Minsk was offered a Russian credit line of up to \$10 billion to finance the construction. Under the terms of the agreement,

the loan from Moscow will provide 90% of the funding necessary to complete the construction, with Belarus having to foot only 10% of the bill. Russia will also be the sole supplier of fuel once the plant becomes operational. Although Belarusian authorities claim that the sale of energy from BelNPP will give the impoverished country a financial boost, there are fears that the project is being used by Russia to expand its influence in eastern Europe.

The Lithuanian authorities maintain that the Astravets plant is “a geopolitical project devoid of any economic logic”, given that Lithuania and Poland, both of which are wary of growing Russian leverage, have ruled out purchasing energy from the BelNPP in a bid to further synchronise their energy systems with Europe. The Latvian government, however, recently stated that the country will not introduce legislation prohibiting the purchase of electricity from Astravets. With other neighbouring countries still weighing their options, a collective refusal to purchase energy would undermine the project’s profitability given that one of the two units of the plant is intended to produce for export.

According to Slivyak, co-chairman of Ecodefense, a Russian environmental organisation, the main incentive behind the project might not have been a financial one. Speaking to openDemocracy, he said he believes that “the original idea behind the Astravets plant was to replace Russian gas consumed in Belarus by nuclear energy. As Russia wanted to sell more to the west, Moscow decided to build a two-reactor plant in Belarus: one would replace gas supplies from Russia, and the other would produce for export. But now, with Gazprom selling less abroad and with Belarus’s neighbours threatening boycott, the profitability of this enterprise is questionable.”

Slivyak added that “as with other Russian nuclear power deals, this one is widely believed by campaigners to be a geopolitical project aimed at making Baltic states dependent on the Russian supply. Once the Baltics resist, the whole project becomes useless.” As part of its campaign to draw international attention to the violations of standards in the construction of BelNPP, Lithuania drafted a resolution to be adopted during the OSCE Parliamentary Assembly session, held on 5-9 July 2017 in Minsk. The draft urged the international community to demand that

**Under the terms of the agreement, the loan from Moscow will provide 90% of the funding necessary to complete the construction, with Belarus having to foot only 10% of the bill. Russia will also be the sole supplier of fuel once the plant becomes operational. Although Belarusian authorities claim that the sale of energy from BelNPP will give the impoverished country a financial boost, there are fears that the project is being used by Russia to expand its influence in eastern Europe.**

“transparent and independent transboundary environmental impact assessment is made and that risk and safety assessments (so called stress-tests) are carried out or the construction of the nuclear power plant should be suspended”. The resolution also called for an end to human rights violations and a moratorium on the use of the death penalty in Belarus.

...According to Sinkevičius, head of the Lithuanian delegation to the OSCE PA session, these assumptions are unwarranted. Sinkevičius told that he was surprised by the fact that Lithuania’s draft resolution was rejected, but he stressed that this meant the country needed to step up its efforts to galvanise the international community into action: “The EU must stick together on this question because the border the Astravets nuclear power plant is built on is not only a Lithuanian border — it is also an EU border.” Haverkamp, an expert on nuclear energy, believes Belarus’s failure to consult its neighbour before choosing the location for the plant was a grave omission — and one that will override Belarus’s efforts to show that it takes safety seriously. ...Russia wants to be seen as able to build nuclear power stations outside of its borders, and the construction of the Astravets plant is being closely watched by Finland and Hungary, as both countries have signed agreements with Rosatom

for the construction of their own reactors.

**Dicing with déjà vu:** The fate of BelNPP draws parallels with the Kaliningrad Nuclear Power Plant, located in the Russian province just six kilometres from the Lithuanian border and 60km from Poland. Plans to complete the construction of the plant, which began in 2010, were quietly shelved three years later, after it emerged that both Germany and Poland, two of the biggest potential markets, ruled out purchasing energy from the unit. At the time, Polish media branded the project a Russian attempt at gaining energy and geopolitical dominance.

Concerns about growing Russian influence and a lack of accountability were raised further after Belarusian authorities refused to grant permission for a European Parliament delegation to visit the BelNPP construction site in April.... In a sign of growing concern over the safety of the project, Timmermans, the Deputy Head of the European Commission, urged Belarus to conduct a stress test at the Astravets site under the supervision of international experts. In June, the Parliamentary Assembly of the Council of Europe adopted a resolution calling to suspend the construction of the plant due to “numerous violations of international nuclear safety standards.”

Despite the fact that BelNPP is in breach of four articles of the Espoo Convention and the date of the planned launch of the first unit is set for November 2018, the recent Meeting of the Parties to the convention, which took place in Minsk, concluded without any decision regarding the project. Due to a lack of consensus over this and other issues, it was decided that an extraordinary meeting would be called next year. Ironically, the unproductive summit fell on the 20th anniversary of the entry into force of the convention.

In the meantime, the EU must continue to take decisive action to address the grave nuclear safety breaches on its eastern flank, as well as the allegations of harassment and intimidation against activists and members of the public critical of BelNPP. Given that the first unit is scheduled to become operational in 2019, and the

second one a year later, the response must come promptly. The culture of secrecy, which the project has been shrouded in since its inception, cannot continue unchallenged, or else Europe might face another nuclear catastrophe. Belarus’s own experience has shown that a nuclear accident can have far-reaching consequences with a cross-border impact, and the safety risk posed by the BelNPP must be seen as a continental threat — not just a local dispute on the European periphery. With the Chernobyl catastrophe still within living memory, Europe must not lose one more generation to a nuclear tragedy.

*Source: [www.opendemocracy.net/](http://www.opendemocracy.net/), 10 August 2017.*

## NUCLEAR STRATEGY

### SOUTH KOREA–USA

#### **Iran-Contra Arms Dealer Oliver North: Time to Confront Kim Jong Un by Putting ‘Tactical Nukes’ in South Korea**

Appearing on *Fox News’ “America’s Newsroom,”* former Iran-Contra gun-runner North proposed re-staging tactical nukes in South Korea in an effort to menace North Korea strongman Jong Un. North, who admitted selling weapons to Iran and funneling the money to the Contras in Nicaragua during the Reagan administration in defiance of the Boland Amendment, was invited onto Fox to give advice on how to handle the saber-rattling North Korean leader, reports Media Matters. The disgraced ex-military officer was asked by Fox host Vittierrt if the US should react militarily towards North Korea.

“Well, North Korea is where we’re getting when it comes to proliferation of nuclear weapons. The war drums have started to beat,” Vittierrt proposed. “North Korea has already gotten its nuclear bomb, now working on miniaturization. Is it worth keeping the military card on the table or is it better to pull it back a little bit and go, what you were talking about earlier, the tougher sanctions route?” North suggested that the Chinese step up and put pressure on the North Korean leader, but added that the U.S needs to a little sabre-rattling of its own, while pointing out that the same Iran that

he sold weapons to were “joined at the hip” in not caring about a nuclear aftermath. “China can influence the outcome of this. It was different in World War II — in the aftermath of World War II with the Soviets and the Chinese getting weapons, because they wanted to survive the experience,” North lectured. “There’s nothing that indicates that the Iranians and the North Koreans, who are joined at the hip in the nuclear weapons and ICBMs, actually want to survive the experience.”

“Tell the Chinese quietly it’s time for regime change and the pressure on them is you won’t have tens of millions of refugees and you can stop this thing,” North advised. “Next thing that ought to happen is announce the US is making plans to return the tactical nukes that we pulled out of Korea — put them back in,” he continued. “Finally, bottom line is the pressure’s got to be on Beijing. And they won’t act until they hurt.”

Source: [www.rawstory.com](http://www.rawstory.com), 05 August 2017.

## USA

### US Considers Mini-Nukes for Future Weapons of War

Speaking on 03 August in Washington at a Mitchell Institute event, US Air Force Gen. Selva said “if all you have is high-yield weapons to answer a low-yield attack, it’s still a nuclear attack.” Were the US to be targeted by a limited or targeted nuclear strike, “answering that with a conventional weapon is likely not going to have the kind of deterrent value as saying, ‘Even if you use a low-yield weapon, we have options to respond.’” As recently as June, China tested medium-range Dongfeng missiles capable of striking strategic US and Japanese bases, Sputnik reported. China “continues to have the most active and diverse ballistic missile program in the world,” the National Air and Space Intelligence Center reported June 26, adding that Moscow is expected “to retain the largest force of strategic ballistic missiles outside the US.”

Stanford University professor Hecker estimates there are around 25 nuclear warheads in North Korea’s arsenal and that Pyongyang’s military can produce between six and seven more nukes annually. India has between 120 and 130 nuclear weapons, yet experts suggest the Asian nation has enough plutonium for a 150- to 200-weapon nuclear force. Last December, the Defense Sciences Board within the US Defense Department published a report on defense priorities for the incoming administration. Among the topics of interest and focus for the board were low-yield weapons.

The DSB included several recommendations in their report, some of which spark concern for US safety, according to critics who disagree with the development of a small- or variable-yield nuclear warhead. It encouraged the next presidential administration to “provide many more options” for reducing nuclear proliferation, including a “more flexible nuclear enterprise that could produce, if needed, a rapid tailored nuclear option should existing non-nuclear or nuclear options prove insufficient.” The only possibility stipulated in the report is to develop low-yield weapons. Stimson Center co-founder and former US State Department official Krepon wrote in March that he assumes that means having baby nukes that would still have a global reach on a single-warhead ICBM.

California Senator Feinstein expressed her opposition to the development of yet more nuclear options in the US arsenal in an interview with Roll Call earlier this 2017, observing that “the proposal to research low-yield nuclear weapons is just the first step to actually building them,” and noting that she would continue to combat “such reckless efforts” with “every tool at [her] disposal.”

Source: <https://sputniknews.com>, 04 August 2017.

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BALLISTIC MISSILE DEFENCE

CHINA

**China Displays DF-31AG Intercontinental Ballistic Missile at Parade**

China has displayed its 10,000 kilometers range DF-31AG ICBM, for the first time at a military parade to mark the 90th anniversary of the People's Liberation Army (PLA). China showed off the DF-31AG mobile intercontinental ballistic missile, an upgrade to the DF-31A that was introduced in 2009. The AG version is believed to be having better off-road ability and capable of carrying multiple warheads," the Chinese Defence Ministry spokesman said. Previous DF-31AG displays were models while this display was said to be of the actual working missile and launcher. The PLA has announced that only fighting units and their equipment would be on display at the parade.

DF-31A is fitted with one warhead. Deploying multiple warheads on China's strategic missiles gives them better abilities to penetrate US missile defense, the spokes person added. The latest upgrade, the DF-31AG, incorporates three new features, including an off-road vehicle chassis that improves missile mobility and a multiple independently targetable re-entry vehicle, which enhances penetration capability. The third feature is an unsupported random launching system that greatly improves mobility and launch concealment, thus improving missile system survivability.

Source: <http://www.defenseworld.net>, 31 July 2017.

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NORTH KOREA

**Pyongyang Missile Tests Alarming: Pak**

Pakistan on 31 July expressed concern over the launch of an intercontinental ballistic missile by North Korea and asked Pyongyang to refrain from actions that could lead to escalation of tensions in the region and beyond. On 28 July, North Korea fired a new ICBM that experts say has the potential to reach the US mainland. Pakistan's Foreign Office said that North Korea's actions are in contravention to the UNSC resolutions and undermine peace and stability in the Korean Peninsula as well as

North East Asia.

"We continue to urge the North Korea to comply with its obligations under the UNSC resolutions and to refrain from actions that could lead to escalation of tensions in the region and beyond," it said. "We call on all relevant parties to pursue the path of dialogue and diplomacy to reduce tensions and work towards achieving a comprehensive solution," it said. North Korea has fired 18 missiles during 12 tests since February, further perfecting its technology with each launch. On July 4, North Korea conducted its first test of an ICBM, which it claims could reach "anywhere in the world." Meanwhile, The US has said the time for talk over

North Korea was "over," spurning a UN response to Pyongyang's latest ICBM launch in favour of bomber flights and missile defence system tests.

Source: <http://www.freepressjournal.in>, 01 August 2017.

USA

**US 'Ready' to Install More THAAD Launchers - Pentagon**

The US is ready to deploy the remaining parts of

an advanced missile defence system to South Korea, the Pentagon said on 31 July with tensions rising over North Korea's latest missile test, South Korea's Yonhap news agency reported. The remark by Pentagon spokesman Navy Capt Davis comes three days after North Korea test-fired a second ICBM, marking a significant step forward in its pursuit of a nuclear-tipped ballistic missile capable of hitting the continental US. Shortly after the launch, South Korean President Jae-in ordered the "temporary" installation of four additional launchers on the THAAD missile defence system to boost the country's defence capabilities.

A THAAD battery is made up of six launchers, but only two have been installed in South Korea pending an environmental impact review. "We made an alliance decision with South Korea government last year to deploy THAAD to the Korean Peninsula as a defensive measure," Davis told reporters at the Pentagon. "We have gotten that to an initial missile defence ability just within the past few months," Davis added. The US is standing by to bring in additional elements, and talks on how to do that are ongoing, the captain said. "We are certainly ready to bring additional pieces in as quickly as we can," he added. THAAD's deployment has met strong protests from China and Russia, which claim it is a threat to their national security, and residents near the site of the battery, who are concerned about the potentially harmful impact of its powerful radar.

"A lot of people question the need for THAAD; they question the requirement for us," Davis noted. "But the North Koreans are being far better spokespeople on that than we're capable of. They're making the case for us rather effectively," Davis said. On 30 July, the US Joint Chiefs of Staff said its Chairman Gen Dunford discussed military response options to North Korea's missile launch in a phone call with his South Korean counterpart Gen Sun-jin. The revelation prompted speculation as to what kind of military response the allies

may be considering. "We are always talking with our allies, and clearly in the face of a threat like this, one of the first things we do is talk to our allies," Davis said. "We in the military are obsessive planners and certainly, in as much as we are talking with our allies, we're always planning as well," he noted.

There is nothing to announce, however, and the two sides are "always" looking at military options, he said. The captain also said the sortie of two B-1B US bombers over South Korea on 30 July was scheduled in advance but moved up by about a day due to the ICBM test. The show of force was designed to demonstrate the allies' ability to "rapidly deploy very significant firepower through the peninsula in a short period of time," he said. On recent reports that the allies are in talks to revise South Korea's missile guidelines, Davis declined to comment, saying he is not at liberty to provide details but is certainly aware of the issue.

**The danger of the US taking reckless action on the Korean Peninsula is heightened by the acute political crisis engulfing the Trump administration, highlighted by the sacking of the president's chief of staff and the installation of former general, John Kelly, previously head of Homeland Security, in the post. An attack on North Korea would serve to distract attention from the internal turmoil within the White House over allegations of collusion with Russian officials during the presidential election campaign.**

Source: <http://english.astroawani.com>, 01 August 2017.

### Trump Slams China over North Korean Missile

US President Trump has lashed out at China following North Korea's long-range missile test last 28 July, accusing Beijing of failing to force Pyongyang to abandon its nuclear and missile programs. In his tweets 30 July, Trump declared that he was "very disappointed in China," stating that they made "hundreds of billions of dollars a year in trade, yet they do NOTHING for us with North Korea, just talk." In a menacing warning, he added: "We will no longer allow this to continue." For months, Washington has been pressuring Beijing to impose crippling sanctions on North Korea as a means of bullying it to accept US demands. Trump's impatient tweets are another sign that the White House is actively considering far more aggressive methods, including military strikes against North Korea.

The danger of the US taking reckless action on the Korean Peninsula is heightened by the acute

political crisis engulfing the Trump administration, highlighted by the sacking of the president's chief of staff and the installation of former general, John Kelly, previously head of Homeland Security, in the post. An attack on North Korea would serve to distract attention from the internal turmoil within the White House over allegations of collusion with Russian officials during the presidential election campaign. In a show of force, the Pentagon flew two strategic B-1 bombers over the Korean Peninsula 30 July as part of joint war games with Japanese and South Korean fighter jets. The fly-over followed a live fire exercise on 28 July by the American and South Korean militaries, including the firing of missiles into the sea.

Commander of the US Pacific Air Forces, General O'Shaughnessy, reinforced the message sent by the B-1 bombers. He warned that the US and its allies were ready to "respond with rapid, lethal, and overwhelming force at a time and place of our choosing." The US also conducted another test of its THAAD anti-ballistic missile system over the weekend, shooting down a target missile launched in Alaska. Following the North Korean missile launch, South Korea dropped its objections and gave the green light for the full deployment of a US THAAD battery in its territory.

US ambassador to the UN, Haley, dismissed suggestions that the US was going to call an emergency session of the UNSC—as it did after North Korea first tested its long-range missile on July 4. She said it was pointless as long as China refused to commit to increasing pressure on North Korean leader Jong-un. "In fact," Haley said, "it is worse than nothing, because it sends the message to the North Korean dictator that the international community is unwilling to seriously challenge him. China must decide whether it is

finally willing to take this final step. The time for talk is over."

Haley made clear that if China refused to bully North Korea into submission, the US would act militarily. Earlier, she retweeted a photo of the B-1 bombers flying over the Korean Peninsula to reinforce the warning. US Secretary of State Tillerson blamed Russia as well as China for failing to take action against North Korea. He branded

Moscow and Beijing as the "principal economic enablers of North Korea's nuclear and ballistic missile development program. China and Russia bear unique and special responsibility for this growing threat to regional and global stability."

China has already imposed heavy sanctions on North Korea in line with resolutions in the UNSC, restricting the import of coal and banning the import of gold, rare earths and other minerals.

The Trump administration, however, is pressing for Beijing to bring Pyongyang to its knees by cutting off oil and other essential exports to North Korea. While imposing sanctions, the Chinese government is reluctant to impose measures that would bring about a complete economic crash, threatening an implosion

of the Pyongyang regime that could be exploited by the US and its allies to intervene. Beijing has long regarded its ally North Korea as a crucial buffer on China's northern border against the US.

The growing danger of an American attack on North Korea has been underscored by a new leaked assessment by the Pentagon's Defence Intelligence Agency that North Korea will have a "reliable, nuclear-capable" ICBM as soon as next

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year—two years earlier than previously estimated. The revised assessment was made on the basis of the July 4 test by North Korea and prior to last launch. After Jong-un announced on January 1 that North Korea was on the brink of testing an ICBM, Trump tweeted “it won’t happen.” His latest tweets indicate that time is running out for a peaceful solution to the confrontation on the Korean Peninsula.

The US and international press are stepping up the drum beat of condemnation against North Korea, claiming that it is a threat to the US and the world. A constant stream of articles and commentary speculate about the means for halting North Korea’s nuclear weapons—including an all-out military attack. The propaganda barrage in the media is to whip up a climate of fear and provide the pretext for war. In reality, it is the US, not North Korea, which has waged one war after another over the past 25 years in a bid to retain its global dominance. The US threats of another, even more devastating war on the Korean Peninsula, are not primarily aimed at Pyongyang, but at Beijing, which Washington regards as the chief threat to its hegemony.

The recklessness of military action against North Korea was underscored by US Joint Chiefs of Staff chairman, General Dunford who declared that a war on the Korean Peninsula would be “horrific” and result in “a loss of life unlike any we have experienced in our lifetimes.” The last war on the Korean Peninsula between 1950 and 1953 brought the Chinese and US militaries into direct conflict and led to the deaths of millions of military personnel and civilians. Under conditions of acute

geo-political tensions, a new war could rapidly draw in the major nuclear-armed powers and have far more catastrophic consequences for humanity.

Source: [www.wsws.org](http://www.wsws.org), 31 July 2017.

## NUCLEAR ENERGY

### GENERAL

#### Nuclear Capacity Could More than Double by 2050, Says IAEA

The long-term potential of nuclear power remains high, according to the IAEA’s latest high case projection, which sees global nuclear generating capacity increasing 123% by 2050 compared with its current level. The IAEA has provided a comprehensive report on the international status and prospects for nuclear power twice a year since 2008. However, a resolution from the IAEA General Conference last year called for the report to be produced every four years, starting in 2017. The IAEA has now published its latest report, titled *International Status and Prospects for Nuclear Power 2017*, which report analyses the factors that could influence the future of nuclear power, such as funding and financing, electricity markets and public acceptance.

If nuclear power’s potential as a low-carbon energy source grows in recognition and advanced reactor designs further improve both safety and radioactive waste management, the use of nuclear power could grow significantly, the report says. In its high case projection, global nuclear

generating capacity increases from 392 GWe at the end of 2016 to 554 GWe by 2030, 717 GWe by 2040 and 874 GWe by 2050. Nuclear’s share of global electricity generation would increase from

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the current level of about 11% to 13.7% by 2050. This projection - which assumes that current rates of economic and electricity demand growth, particularly in Asia, will continue - reflects that 30-35 new reactors are expected to be grid connected annually starting around 2025. This rate of connections was last seen in 1984, when 33 new reactors were connected to the grid, the IAEA noted. However, it says 33 grid connections by 2025 "would require immediate action today".

Although all regions of the world will contribute to this expansion of nuclear power, the largest growth is expected in central and eastern Asia, where capacity increases about 3.5 times by 2050, compared with current levels. Capacity in North American is expected to decrease slightly by 2050, while in Europe (excluding eastern Europe) capacity initially dips but recovers to reach 120 GWe by 2050. The IAEA said, "The decline compared to previous projections is mainly on account of early retirement or lack of interest in extending [the] life of nuclear power plants in some countries, due to the reduced competitiveness of nuclear power in the short run and national nuclear policies in several countries following the accident at the Fukushima Daiichi nuclear power plant in 2011."

**Low Case Projection:** The IAEA's low case projection assumes a continuation of current market, technology and resource trends with few changes to policies affecting nuclear power. It is designed to produce "conservative but plausible" estimates". It does not assume that all national targets for nuclear power will be achieved. Under this projection, nuclear capacity decreases from 392 GWe at the end of 2016 to 345 GWe by 2030, a further decrease to 332 GWe by 2040, before

recovering to present levels by 2050. Nuclear's share of global electricity generation declines from the current level of about 11% to 6% by 2050.

**Nuclear's share of global electricity generation would increase from the current level of about 11% to 13.7% by 2050. This projection - which assumes that current rates of economic and electricity demand growth, particularly in Asia, will continue - reflects that 30-35 new reactors are expected to be grid connected annually starting around 2025. This rate of connections was last seen in 1984, when 33 new reactors were connected to the grid, the IAEA noted.**

**More than 30 advanced water cooled reactors are already under construction worldwide. In the meantime, and in light of increased demand for clean energy, maintaining an operating fleet is necessary in order to bridge the gap between existing and next-generation technologies.**

The IAEA noted that, although this projection appears to show no net growth in installed capacity through to 2050, it does not mean there is no new construction. "In fact, even in the low case, some 320 GWe of new nuclear power capacity will be installed by 2050, making up for the loss caused by retiring reactors, albeit not necessarily in the same regions." Chudakov, IAEA deputy

director general and head of the agency's department of nuclear energy, said: "In some countries, concerns about climate change provide an incentive to support continued operation of nuclear power plants, or are part of the argument for a new build program."

He added, "Over time advanced technologies may become commercially available for consideration as part of a low carbon energy mix. More than 30 advanced water cooled reactors are already under construction worldwide. In the meantime, and in light of increased demand for clean energy, maintaining an operating fleet is necessary in order to bridge the gap between existing and next-generation technologies."

The IAEA report notes the World Nuclear Association's vision for the future of electricity, referred to as Harmony. This is based on the IAEA's 2DS scenario which aims to avoid the most damaging consequences of climate change and requires a large increase in nuclear energy. Harmony envisages a diverse mix of low-carbon generating technologies deployed in such a manner that the benefits of each are maximised while the negative impacts are minimised. The association's target for nuclear energy is to

provide 25% of electricity in 2050, requiring roughly 1000 GWe of new nuclear capacity to be constructed.

*Source: <http://www.world-nuclear-news.org/>, 08 August 2017.*

## **INDIA**

### **India to Add 7K MW Nuclear Power Capacity**

The Centre is looking at doubling the nuclear power generation capacity to about 14,000 MW, Union Minister Piyush Goyal said on 12 August even as he ruled out its becoming the main source of energy for the country. At present, India generates about 6,800 MW of nuclear energy. "We have recently embarked on a plan to expand it by about 7,000 MW more and this will be through indigenously manufactured equipment. So, 10 units of 700 MW each we have proposed and we shall be investing in and we will start on that," the power and coal minister said at an event here.

The Union Cabinet in May had already approved the setting up of 10 indigenous PHWRs for nuclear power generation. "But, nuclear power will never ever become the main source of energy for India because it is very expensive. It has its own benefits. It is quite free of carbon, it does not pollute the environment and therefore, our government is encouraging it. We do need clean renewable sources of energy which is available 24 hours," Goyal said.

He said solar energy can only be generated during the day time and wind energy can be generated only during windy hours. "Therefore, there is a need of a resource, which can be available 24 hours. Hydro is one such energy which we will promote and nuclear energy also we are promoting. But both these source are still quite expensive," he added.

**NSG:** Goyal further said: "We are dependent on foreign sources for Uranium. As you are aware, China is blocking our entry into the NSG, so we have some challenges. But, we are confident we will make progress."

In a veiled reference to Donald Trump's rejection of the Paris climate change agreement, Goyal said India does not agree with the US President's views on the issue. "There is an effort and an attempt

by some senior leaders of very large countries to belittle the issue of climate change and try and say that it is not really a problem for the world. But, we in India don't believe so. "For all of us Indians, we have always respected nature. We have always believed that the environment is an integral part of human existence," he added.

*Source: <http://www.thehindubusinessline.com>, 12 August 2017.*

## **USA**

### **US Nuclear Construction Project to be Abandoned**

Santee Cooper said its decision to suspend construction was based "in large part" on analysis of detailed schedule and cost data provided by project contractor Westinghouse and subcontractor Fluor Corporation after Westinghouse filed for Chapter 11 bankruptcy protection in March. That data, which has now been analysed by Santee Cooper and SCE&G, shows unit 2 will not be completed until December 2022 and unit 3 not before March 2024 - four years after the most recent completion date provided by Westinghouse.

Santee Cooper and majority partner SCE&G's original contract with Westinghouse had provided for substantial completion of Summer unit 2 by 2016 and unit 3 by 2019. In 2015 the contract was amended, fixing Santee Cooper's share of the cost at \$6.2 billion. This was approved by Santee Cooper's board in 2016. Santee Cooper said its most recent analysis, which anticipates the rejection of that contract as part of Westinghouse's bankruptcy proceedings, found that completing the project would cost the company \$8 billion plus about \$3.4 billion in interest, with schedule delays contributing to the increased interest. It has already spent \$4.7 billion on construction and interest to date for its 45% share of the project.

"After Westinghouse's bankruptcy and anticipated rejection of the fixed-price contract, the best case scenario shows this project would be several years late and [cost] 75% more than originally planned," Lonnie Carter, Santee Cooper president and CEO, said. "We simply cannot ask our customers to pay for a project that has become uneconomical." Santee Cooper has directed its management to

preserve and protect the site and related components and equipment. "During the wind-down, Santee Cooper will also continue investigating federal support and additional partners to see if we can make the project economical again," Carter said.

The operating Summer unit 1 - also co-owned by Santee Cooper and SCE&G - provides the lowest cost electricity of all Santee Cooper's base load generation, the company said. However, since the companies applied to build the new units in 2008, its load forecast has slowed, in part due to energy efficiency programs, while natural gas prices have fallen and "the current political landscape has reduced the urgency for emissions-free baseload generation". Santee Cooper chairman Lord said that although the cost of completing the Summer units was "simply too much for our customers to bear", generation diversity remained important to the company, which was proud of its role in the effort to "restart" the US nuclear industry. "Nuclear power needs to remain part of the US energy mix," he said.

**Prudent Course of Action:** SCE&G had been evaluating options including: continuing with the construction of both units; focusing on the construction of one unit, and delaying the construction of the other; continuing with the construction of one and abandoning the other; and abandoning both units. On 31 July, it said its evaluation and analysis had concluded that completion of both units would be "prohibitively expensive". According to SCE&G's evaluation, the company would face a total cost of \$9.9 billion to complete its 55% share of the project. Even taking into account a \$1.1 guarantee payment it is to receive from Westinghouse parent company Toshiba, this would "materially exceed" prior estimates.

SCE&G's analysis also concluded that the units could not be brought on line before the 1 January 2021 deadline to qualify for production tax credits under current tax rules.

The company said it had considered the feasibility

of completing the construction of unit 2 and abandoning unit 3 under the existing ownership structure and using natural gas generation to fulfill any remaining generation needs as a potential path forward. Scana Chairman and CEO Marsh told investors after the announcement that this option would have resulted in a combined cost that was less than that previously approved by the South Carolina Public Service Commission (PSC) under the fixed price option for completing the two nuclear units.

"Santee's decision to suspend construction of the project made further analysis of this alternative unnecessary as SCE&G concluded it would not be

in the interests of its stakeholders and customers to continue construction of the project on its own," he said. The company had "reached out to other potential partners and pursued governmental support", but without success. "Based on this evaluation and analysis,

and Santee Cooper's decision, SCE&G has concluded that the only remaining prudent course of action will be to abandon the construction of both unit 2 and unit 3," the company said.

Marsh said the company had evaluated the project from "all perspectives" before reaching the "very difficult but necessary" decision. "Many factors outside our control have changed since inception of this project. Chief among them, the bankruptcy of our primary construction contractor, Westinghouse, eliminated the benefits of the fixed-price contract to our customers, investors, and other stakeholders. Ultimately, our project co-owner Santee Cooper's decision to suspend construction made clear that proceeding on our own would not be economically feasible. Ceasing work on the project was our least desired option, but this is the right thing to do at this time," he said. Normal construction activities at the site will cease immediately, Scana said. The company intends to formally brief the PSC of its decision today, after which it will initiate the abandonment proceeding. It is seeking an amortisation of the project costs over a period of 60 years.

**According to SCE&G's evaluation, the company would face a total cost of \$9.9 billion to complete its 55% share of the project. Even taking into account a \$1.1 guarantee payment it is to receive from Westinghouse parent company Toshiba, this would "materially exceed" prior estimates.**

**Westinghouse Progress:** Westinghouse president and CEO Gutiérrez said the company was disappointed that the project would no longer go forward. “The South Carolina economy is sure to feel the negative impact of losing over five thousand high-paying, long-term jobs, as well as not having available the reliable, clean, safe and affordable energy these units would provide. Also, at a time when other nuclear plants are being retired, the US energy sector is sure to feel the stunting impact of walking away from these two nuclear units,” he said.

Gutiérrez made these comments as Westinghouse announced the submission of its five-year business plan, which it described as a critical milestone in the Chapter 11 bankruptcy process. The plan integrates the company’s strategic initiatives, competitive landscape and market dynamics into a five-year financial forecast. Comprising strategic transformation initiatives resulting in savings of \$205 million over the five-year term, the plan supports the operation of the company’s core businesses as well as its New Projects Business. One component of these savings will be an “adjustment of the company’s global headcount” of about 7% for the 2017 fiscal year.

**Valiant Effort:** Korsnick, president and CEO of the US Nuclear Energy Institute, said Santee Cooper and SCE&G’s decisions were disappointing developments for the US nuclear industry, but applauded the two companies for their “valiant and visionary” efforts to embark on a new US nuclear construction program for the first time in over 30 years. “While many factors have changed

since these two companies started construction of the new nuclear units, one thing has not changed, and that’s the value of nuclear as a safe, reliable, clean source of energy,” she said.

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“As a first-of-a-kind nuclear construction project of this size and scope, the project u n d e r s t a n d a b l y encountered many economic, regulatory and other challenges along the way. SCE&G and Santee Cooper, however, have always managed those challenges impressively. It is unfortunate that circumstances beyond their control have led to this outcome today. All the more now, we must impress upon our energy policy decision makers the vital role of nuclear energy in America’s energy

portfolio. As America’s need for electricity continues to grow, which means hundreds of new generating facilities will need to be built, clean and reliable nuclear energy will be an essential part of America’s energy security,” she added.

**Construction began on the first of four AP1000 reactors in the USA - Summer unit 2 and Vogtle unit 3 in Georgia - in March 2013, with work beginning on Summer 3 and Vogtle 4 in November of that year. Work is still continuing at the Vogtle project, for which Westinghouse recently negotiated a long-term services agreement with co-owner Southern Nuclear Co. AP1000s under construction in China are unaffected by the Westinghouse bankruptcy filing.**

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filing. Binghua, chairman of China’s State Power Investment Corporation, recently vowed that his company will make sure its first two AP1000 plants at Sanmen and Haiyang will start producing electricity by end of 2017.

Source: <http://www.world-nuclear-news.org/>, 01 August 2017.

## **NUCLEAR COOPERATION**

### **CHINA–GHANA**

#### **Chinese Institution Completes Converting Ghana's Nuclear Reactor into an LEU**

The China Institute of Atomic Energy (CIAE) has completed the conversion of Ghana's Nuclear Reactor from a HEU reactor to a LEU one. At a ceremony to celebrate the completion of work here, China's Ambassador to Ghana Sun Baohong noted that this project had opened a new window in the bilateral cooperation between the two countries.

In response to the Global Threat Reduction Initiative (GTRI) by the United States, the IAEA supported the conversion of Ghana's HEU plant installed in 1994. "This is another achievement we have chalked in our bilateral cooperation," Sun noted during the inspection of the facility. She added: "It is a good day because it is the start of another opportunity in our cooperation. China and Ghana are longstanding friends and we have carried out a lot of cooperation in all fronts and nuclear energy; we have carried out cooperation for 25 years."

She noted that Ghana was ahead of many other African countries in the field of nuclear energy, adding that the program is very significant in various respects. "This program is very significant to the global non-proliferation undertaking. It is also significant to enrich our cooperation in science and technology. And it is also very important for the further steps of Ghana to engage in peaceful use of atomic energy and in this context I firmly believe that it has opened a new window for our cooperation," Sun said. The ambassador pledged the full support of the embassy to the cooperation on nuclear power development between Ghana and China to enable engagement with the Atomic Energy Commission in further exploring the possibilities in cooperation.

China was chosen by the IAEA to carry out the more than 20 million US dollars conversion project because the original HEU reactor was of Chinese origin. The process involved replacing the original core of the reactor which has 90.2 percent uranium enrichment with one that is below 20

percent.

"We've been cooperating very closely with China on the technical front and also financial assistance for the whole project. We are appreciative that now the conversion is finished and today we would put power in the thing as a way of beginning the whole process of application of this technology," Kweku Aning, Chairman of the Governing Council of GAEC, said in his brief remarks.

Among the Chinese institutions which have cooperated with the GAEC over the years and on the project are China National Nuclear Corporation (CNNC), China Atomic Energy Authority (CAEA), China Institute of Atomic Energy (CIAE) and China Atomic Energy Commission (CAEC). "Our cooperation with China in the area of nuclear has been very beneficial, especially for research, for training and also support for industry, nuclear security and other issues so they have helped us move from HEU to LEU," Anning added. ...

Source: [http://news.xinhuanet.com/english/2017-08/12/c\\_136520827.htm](http://news.xinhuanet.com/english/2017-08/12/c_136520827.htm), 11 August 2017.

## **URANIUM PRODUCTION**

### **AUSTRALIA**

#### **Boss Resources Bags \$3mln for Uranium Project**

Boss Resources (ASX:BOE) is raising \$3mln via a placement of shares at \$0.05 each to advance its Honeymoon Uranium Project in South Australia. The placement is being made to new and existing sophisticated investors. The company's Honeymoon project is a high-grade sandstone hosted uranium project on a granted mining lease. Boss recently completed a drill hole programme at Honeymoon in preparation for the commencement of a field leach trial, which is an integral part of the ongoing definitive feasibility study. Importantly, the company had completed a preliminary feasibility study in May 2017, which confirmed a highly economic project.

Boss estimates a low capital outlay of US\$10mln to re-start the existing solvent extraction plant for the production of 0.88 mln pounds per annum of uranium. Importantly, all-in-sustaining costs of US\$23.90 per pound of uranium is projected over the life of mine, which is among the lowest cost quartile of world-wide uranium producers. The project has a significant potential for economic

upside with further resource expansion and life of mine extension.

Source: <http://www.proactiveinvestors.com.au/>, 09 August 2017.

**NUCLEAR PROLIFERATION**

**NORTH KOREA**

**New North Korean Sanctions Unanimously Adopted by UN Security Council**

The UNSC on 05 August unanimously backed a resolution tightening sanctions against North Korea due to its ballistic missile activities, as broadcast by the press service of the UN. The new sanctions on the DPRK are intended to cut 33 percent of Pyongyang’s \$3 billion annual export budget. The US-led bill, a response to Pyongyang’s two ballistic missile tests in July, prevents DPRK commodities exports of coal, iron, lead and other materials, including seafood. The new sanctions bill also prevents adding to the current number of North Korean laborers working abroad, as well as banning new bilateral business ventures — and new investment schemes — with Pyongyang.

The UNSC resolution, adopted unanimously, now includes nine North Koreans — as well as four business entities — to the sanction blacklist, cited by Reuters, including the primary foreign exchange bank in the DPRK; making them subject to a global asset freeze and ban on travel. Following the UNSC announcement the Chinese UN ambassador urged the DPRK to stop testing new nuclear weapons and cease launching increasingly powerful missiles, as the moves continue to escalate

tension in the region and around the globe.

In asking for calm, Russia has called on the increasingly isolated nation to end its nuclear and missile programs, and has entreated Pyongyang to return to the negotiating table and its participation in the world’s non-nuclear-proliferation protocols, according to an unnamed Russian envoy in the region, who added that the US-led sanctions must not be used

against Pyongyang to ‘choke the life’ out of the country.

Source: <https://sputniknews.com/>, 06 August 2017.

**Beijing Willing to Fully Implement UNSC Sanctions on North Korea: China FM**

China has vowed to join other nations in imposing tough international sanctions on North Korea. Chinese Foreign Minister Yi told his British counterpart Johnson, in a phone call on 04 August, that Beijing will fully implement UNSC sanctions on North Korea. The Chinese diplomat said other countries should also do their utmost to fulfill their responsibilities as well. He stressed that while Pyongyang should refrain from further nuclear and missile tests, Seoul and Washington should also stop their joint military drills...saying such a compromise would provide momentum to resolve the North Korean issue through dialogue.

Source: <http://www.arirang.co.kr>, 05 August 2017.

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**NUCLEAR NON-PROLIFERATION**

**IRAN**

**Europe and USA on a Collision Course over Iran Nuclear Deal**

If there is one place in the world where the

difference of opinion between Europe and the USA over how to deal with Iran will be most glaringly apparent, it will be in Tehran on 05 August. That is where Iran's re-elected president, Rouhani, will take the oath of office for his second term. EU High Representative for Foreign Affairs Mogherini and French Foreign Minister Drian will be among the guests at the ceremony. Germany will be represented by a deputy foreign minister. Their appearance will stand in stark contrast to the attitude of the US. Speaking in Saudi Arabia in May on his first foreign trip, US President Trump said, "all nations of conscience must work together to isolate Iran." The attitude signals a serious threat to the so-called Iran nuclear deal signed just two years ago.

The JCPOA agreement to contain Iran's nuclear activities was the basis for that country's return to the international stage and its reintegration into the global economic system after years of harsh sanctions. The core of the nuclear deal: Iran commits to rolling back parts of its nuclear program, as well as allowing regular inspections thereof, and in return, related sanctions will be suspended and eventually lifted altogether. So far, the agreement has worked. In six consecutive reports, the IAEA has certified that Iran is upholding its end of the bargain. Therefore, the EU sees the nuclear deal as a major step toward making the world safer and stopping nuclear proliferation.

'Majority wants to derail the nuclear deal'- The mood in the USA couldn't be more different.

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every 90 days so that the body can decide whether or not to extend sanctions relief. Trump has already done so twice, albeit with discernible reluctance – and with obvious displeasure over the approach of his own State Department. Meanwhile, the White House has assembled its

**The US president is obliged to inform Congress whether or not Iran is continuing to uphold the agreement every 90 days so that the body can decide whether or not to extend sanctions relief. Trump has already done so twice, albeit with discernible reluctance – and with obvious displeasure over the approach of his own State Department. Meanwhile, the White House has assembled its own working group on Iran – tasked with finding a way for Trump to impose new nuclear-related sanctions on the Islamic Republic.**

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for regime change in Iran." This also fits with *Wall Street Journal* (WSJ) reports that CIA Director Pompeo has set up a special Iran Mission Center.

Lohmann, from the Berlin-based German Institute for International and Security Affairs (SWP), told DW that both the president and Congress are skeptical about the deal. "A broad majority is in favor of scrapping the deal or trying to renegotiate a better one. That means there is a great danger that things may soon change on the US end of the agreement in the very near future," says Lohmann.

The next opportunity to initiate such a change will come in October. The US president is obliged to inform Congress whether or not Iran is continuing to uphold the agreement

– tasked with finding a way for Trump to impose new nuclear-related sanctions on the Islamic Republic.

Vaez told DW that this fact leads him to fear that the Iran nuclear deal is in grave danger. An Iran expert from the International Crisis Group, Vaez says it is more than media reports claiming President Trump promises to refuse certifying Iranian compliance in October that concern him. When speaking with DW he added: "US government officials are openly calling

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WSJ quoted anonymous US officials who said the CIA's activities mirrored the Trump administration's prioritization of Iran as a target for US agents. Pompeo has been a hawk on Iran for years and has harshly criticized the nuclear deal in the past. But the deal is working as far as Republican Senator Corker of Tennessee is concerned. Corker, who chairs the Senate Foreign Relations Committee, has lobbied against derailing the agreement. But his true intentions became clear in a recent interview with David Ignatius of the *Washington Post* (WaPo). "What you want is you want the breakup of this deal to be about Iran. You don't want it to be about the US," said Corker. He also called for "radically enforcing" the agreement, for instance by demanding access to "various facilities in Iran. If they don't let us in, boom."

Sword dance and tweets- European allies, on the other hand, have shown no intention of following the US's lead. For Mützenich, chairman of the German-Iranian parliamentary group in Germany's lower house, the Bundestag, the presence of European foreign policy representatives at Rouhani's inauguration sends a clear signal that Europe "intends to maintain its contract-based agreement with Iran." At the same time it sends the message that, "we want to continue to work in trusting cooperation with President Rouhani." In Mützenich's opinion that is important because he sees Rouhani as a guarantor for Iran opening itself to the world – "unlike other actors in Iran." EU High Representative Mogherini is relentless in her promotion of the nuclear deal as well: She was the first foreign politician to congratulate Rouhani on his election victory, via Twitter – and at the same time she used the opportunity to emphasize European willingness to work toward accomplishing the aims of the agreement.

'EU companies aren't regulated in Brussels but rather in Washington'- Should the USA actually break away from the JCPOA it would have far-

reaching consequences – even if other partners stuck with it. Those partners are the EU, Germany, France, the UK, China and Russia. The economic exchange that has finally been reignited could suffer greatly, as so-called secondary sanctions could hit European companies doing business with Iran. SWP Iran-expert Lohmann was very clear when speaking with DW: "We are faced with the problem that EU companies are not actually being regulated by Brussels, but rather by Washington. That is why big companies have openly said: US sanctions are the

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determining factor for us. Even if we have no legal consequences to fear from the European side, we still won't do business with Iran. We are too scared of violating US sanctions."

Source: <http://www.dw.com/>, 05 August 2017.

#### Iranian President Calls for EU Support on Nuclear Deal

Iranian President Hassan Rouhani accused the US of violating the Iran nuclear deal and stressed the need to continue building cooperation with the European Union, while being sworn in for a second term on 05 August. US President Trump signed off on a law to add sanctions against Iran, as well as Russia and North Korea. The move comes two years after the Obama administration, Russia, China, Britain, France and Germany agreed on the nuclear non-proliferation deal. EU foreign policy chief Mogherini, who attended Rouhani's swearing in ceremony in Tehran on 05 August, said the EU wants to make sure the so-called JCPOA is fully implemented.

**Iran will continue to carry out the agreement as long as others don't violate it, he said, adding that full implementation requires the parties to facilitate economic, banking and business relations with Iran.**

"The recurrent violation of commitments by the US administration and imposing new sanctions against Iran have negative impacts on the Iranian nation's public opinion and could be detrimental to the process of implementation of the JCPOA," Rouhani said in a meeting with Mogherini before the ceremony, according to the Iranian news agency Tasnim. Iran will continue to carry out the agreement as long as others don't violate it, he

said, adding that full implementation requires the parties to facilitate economic, banking and business relations with Iran.

Rouhani praised the progress in Iran-EU relations over the past four years and said there's room for greater investment in Iran's oil, gas and petrochemical sectors. Mogherini confirmed that Iran has fully complied with the nuclear deal. Rouhani was elected to a second term in May. More than 130 officials from 85 countries attended his swearing in, Tasnim reported.

Source: <http://www.politico.eu/>, 05 August 2017.

#### Iran Rules Out Inspections of its Military Sites

A senior Iranian official said on 05 August that Tehran will allow no inspection of its military sites, an issue set to open the latest chapter in Trump's antagonistic approach toward Tehran. "Under no circumstances are the Americans allowed to inspect Iran's military sites," media outlets quoted Velayati, a senior adviser to Supreme Leader Khamenei, as saying. "Neither would they be allowed to do so, nor do they dare to violate Iran's security," Velayati, Iran's former foreign minister for 16 years, added. "The sites are part of the Islamic Republic of Iran's security." Washington's inspection bid, Velayati ridiculed, is similar to Don Quixote, a reference to the famous Spanish novel by Miguel de Cervantes Saavedra, whose protagonist was pursuing quixotic plans. The AP reported that Trump administration intends to drum up "foolproof intelligence" inspections of what is claimed to be suspicious Iranian military sites in a bid to test the strength of the nuclear deal that President Trump desperately wants to cancel. During his campaign trail, Trump pledged to "tear up" the deal

**Under the accord, Iran agreed to roll back parts of its nuclear program in exchange for removal of nuclear-related sanctions. Since taking office, Trump has taken a much harder line on the deal, calling for renegotiation, what Tehran has categorically ruled out for the multilateral accord. ...While the Trump administration seeks to police the existing deal more strictly, it is also working to fix what Trump's aides have called "serious flaws" in the landmark deal that, if not resolved quickly, will likely lead Trump to pull out.**

which he said was "the worst deal ever negotiated". The nuclear deal, officially known as the JCPOA, was forged between Tehran, the EU, and six world countries of the US, Russia, China, England, Germany and France.

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strictly, it is also working to fix what Trump's aides have called "serious flaws" in the landmark deal that, if not resolved quickly, will likely lead Trump to pull out.

That effort also includes discussions with European countries to negotiate a follow-up agreement to

**Access to Iran's military sites was a key sticking point during two years of negotiation which led to the accord, under which requests for access to military sites should "be made in good faith" and "kept to the minimum necessary to effectively implement the verification responsibilities". Also, such requests will not be aimed at interfering with Iran's military or other national security activities, but will be exclusively for resolving concerns regarding fulfillment of the JCPOA commitments and Iran's other non-proliferation and safeguards obligations. There is, yet, little backing from the other nations involved in the deal.**

prevent Iran from resuming nuclear development after the deal's restrictions expire in about a decade. The campaign gained fresh urgency this August following a dramatic clash within the administration about whether to recertify Iran's compliance, as is required every 90 days. People close to the Oval Office said Trump had begrudgingly certified the accord, and is likely to pull out of the deal. To force its inspections plan, Washington needs to enlist the support of the 34 other countries who sit on the IAEA board of governors. Under the nuclear accord, the IAEA, the UN nuclear watchdog, is

responsible for verifying Iran's adherence to the deal. The UN watchdog has so far confirmed Iran's compliance with the deal six times. Access to Iran's military sites was a key sticking point during two years of negotiation which led to the accord,

under which requests for access to military sites should “be made in good faith” and “kept to the minimum necessary to effectively implement the verification responsibilities”. Also, such requests will not be aimed at interfering with Iran’s military or other national security activities, but will be exclusively for resolving concerns regarding fulfillment of the JCPOA commitments and Iran’s other non-proliferation and safeguards obligations. There is, yet, little backing from the other nations involved in the deal.

Back in January, Schmid, secretary general of the EU’s foreign policy service in Brussels, said that the foreign policy team of Trump had misunderstood the Iran nuclear deal and that it was not up for renegotiation. “There is a misunderstanding that you can renegotiate this agreement. This cannot be done.... It’s a multilateral agreement, that cannot be renegotiated bilaterally,” she said.

Source: <http://www.tehrantimes.com/>, 05 August 2017.

**In Hiroshima’s ceremony on 06 August to commemorate its own atomic bombing, Mayor Matsui stopped short of demanding that Japan join the treaty, but urged the government to do “everything in its power to bridge the gap between the nuclear weapon and non-nuclear weapon states, thereby facilitating the ratification.**

that suffered atomic bombings,” Taue said at the city’s Peace Park. “As the only country in the world to have suffered wartime atomic bombings, I urge the Japanese government to reconsider the policy of relying on the nuclear umbrella and join the NPT at the earliest possible opportunity,” he said.

Taue also called on the government to “affirm to the world its commitment to the pacifist ethos of the Constitution of Japan, which firmly renounces war,” at a time when PM Abe’s Liberal Democratic Party is seeking to formally propose an amendment to the foundational document. For his part, Abe avoided any explicit mention of the treaty in his speech at the ceremony as he did in

Hiroshima, but stressed that both nuclear weapon states and non-nuclear weapon states need to be on board if efforts toward nuclear abolition are to succeed. “Japan is determined to lead the international community...by continuing to appeal to both sides,” the PM said.

Representatives of nearly 60 nations and the EU were scheduled to attend the ceremony, including all five recognized nuclear powers — Britain, China, France, Russia and the US — as well as undeclared nuclear weapon state Israel. Nakamitsu, U.N. undersecretary general and high representative for disarmament affairs, read out a message to the people of Nagasaki on behalf of UNSC Guterres, in which the U.N. chief noted “growing differences among countries about how to achieve the abolition of nuclear weapons.”

In Hiroshima’s ceremony on 06 August to commemorate its own atomic bombing, Mayor Matsui stopped short of demanding that Japan join the treaty, but urged the government to do “everything in its power to bridge the gap between the nuclear weapon and non-nuclear weapon states, thereby facilitating the ratification.” ...Shortly after dawn, members of a high school student peace ambassador program that began in Nagasaki 20 years ago gathered around a monument near the park at the hypocenter of the bombing. The 22 student ambassadors, along with dozens of other students who have collected signatures from around Japan in support of nuclear abolition, formed a circle around the

**NUCLEAR DISARMAMENT**

**GENERAL**

**Nagasaki Marks 72nd Anniversary of A-Bombing with Call to Join Nuclear Ban Treaty**

Nagasaki Mayor Taue demanded on 09 August that the Japanese government join a recently adopted treaty banning nuclear weapons, as the city marked the 72nd anniversary of the US atomic bombing. Taue’s call for Japan’s inclusion in the treaty adopted by 122 UN members in July followed an appeal on 06 August by the mayor of Hiroshima, Japan’s other atomic-bombed city, to “bridge the gap” between nuclear and non-nuclear states to help realize a ban on nuclear weapons.

In Nagasaki’s annual Peace Declaration at its memorial ceremony, Taue called the government’s stance “incomprehensible” while pleading for Japan to join the treaty along with nuclear weapon states as well as other countries under the US nuclear umbrella. “The Japanese government’s stance of not even participating in the diplomatic negotiations for the NPT is quite incomprehensible to those of us living in the cities

monument....

**Gist of Nagasaki Mayor Taue's Speech:** With nuclear-armed states opposed to the recently adopted U.N. Treaty on the Prohibition of Nuclear Weapons, there is no end in sight to the road toward a world free of nuclear weapons.

- Nagasaki urges the Japanese government to rethink its policy of relying on the US nuclear umbrella and join the nuclear prohibition treaty at the earliest possible opportunity.
- Nagasaki calls on signatories to the NPT to fulfill their obligations to achieve nuclear disarmament.
- Nagasaki asks the Japanese government to affirm its commitment to the pacifist ethos of the Japanese Constitution.
- The Japanese government should look into the concept of a nuclear weapons-free zone in Northeast Asia.
- World leaders should visit Hiroshima and Nagasaki.
- Nagasaki calls on the Japanese government to improve assistance to the "hibakusha" who survived the atomic bombings.

#### **Gist of PM Abe's Speech**

- As the only country to have sustained atomic bombings in wartime, it is Japan's duty to work ceaselessly in pursuit of a world without nuclear weapons.
- The participation of both nuclear weapon states and non-nuclear weapon states is needed to truly realize a world without nuclear weapons.
- Japan will actively contribute to making the 2020 NPT review conference significant.
- The government will continue to improve its support for survivors of the bombings and expedite the process of certifying atomic bomb radiation disease sufferers.

Source: <https://japantoday.com>, 09 August 2017.

## PAKISTAN

### **Pakistan Reaffirms its Commitment to Nuclear Disarmament**

The MEA on 07 August issued a press release in which it reaffirmed Pakistan's commitment to nuclear disarmament, stating meanwhile that the country does not recognise the Treaty on Prohibition of Nuclear Weapons adopted in New York earlier this 2017. "Pakistan is committed to the goal of a nuclear weapons free world through the conclusion of a universal, verifiable and non-discriminatory, comprehensive convention on nuclear weapons. The Geneva-based CD, the world's single multilateral disarmament negotiating body, remains the most ideal forum for concluding such a convention," read the press release.

The press release further stated that the UNGA, at its first special session devoted to nuclear disarmament in 1978, had agreed by consensus that in the adoption of disarmament measures, the right of each State to security should be kept in mind, and at each stage of the disarmament process

the objective would be undiminished security for all States at the lowest possible level of armaments and military forces. Pakistan believes that this cardinal objective can only be achieved as a cooperative and universally agreed undertaking, through a consensus-based process involving all the relevant stakeholders, which results in equal and undiminished, if not increased security for all States. It is indispensable for any initiative on nuclear disarmament to take into account the vital security considerations of each and every State.

The Treaty on Prohibition of Nuclear Weapons, adopted by a vote on 7 July 2017 in New York, did not fulfill these essential conditions – both in terms of process and substance. Treaties that do not fully take on board the interests of all stakeholders fail to achieve their objectives. Pakistan, therefore, like all the other nuclear armed states, did not take part in its negotiation and cannot become a party to this Treaty.

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Pakistan does not consider itself bound by any of the obligations enshrined in this Treaty. Pakistan stresses that this Treaty neither forms a part of, nor contributes to the development of customary international law in any manner. Pakistan reaffirms its commitment to nuclear disarmament in a way that promotes peace, security and stability at the regional and global levels, said the press release.

Source: [www.samaa.tv](http://www.samaa.tv), 07 August 2017.

**USA**

**Peacemakers at White House Vigil Urge US to Empty its Nuclear Arsenal**

Saying the possession, upgrading and potential use of nuclear weapons are sinful, peacemakers gathered outside the White House on the feast of the Transfiguration and implored the US government to empty its arsenals and embrace a world of peace.... Laffin urged the group to recall that the anniversary was a time of “remembering the horror, repenting the sin and reclaiming a future without nuclear weapons” during the one-hour vigil just after sunrise. The group included members of Catholic movements working to end nuclear weapons. They had gathered to “apologize” for the Hiroshima bombing, and for the bombing three days later of the Japanese city of Nagasaki Aug 9, 1945, both of which culminated in the death and maiming of hundreds of thousands of people, the peacemakers said. As they gathered, representatives of organizations such as the Maryknoll Office for Global Concerns, Pax Christi USA and the Columban Center for Advocacy and Outreach placed photos of the destruction and the Japanese victims of the bombing on the street in front of the presidential mansion, calling it a “shrine of remembrance.”

Participants were invited to recommit their lives

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to “disarming and dismantling the machinery of mass destruction” and offered an apology to bombing survivors, known as Hibakusha. Red and white roses were distributed to participants during the event. The red roses were said to symbolize the sacredness of life and the grief and suffering caused by war and the atomic bombings. The white roses were said to symbolize hope and the commitment to work for a nonviolent world. Laffin criticized the US commitment to spend \$1 trillion during the next three decades to modernize its nuclear arsenal. He said such spending is “a direct

theft from the poor.”

“If the US is to ever truly lead the way to real disarmament, it must first repent for the nuclear bombings of Hiroshima and Nagasaki. Then and only then can the US legitimately ask other nuclear nations to disarm,” he said. Since the end of World War II, US and political leaders have maintained that nuclear weapons are necessary and serve as a deterrent to potential attacks from other countries. The peacemakers planned a second vigil Aug. 9 at the Pentagon to recall the anniversary of the bombing of Nagasaki.

Source: [www.america magazine.org/](http://www.america magazine.org/), 08 August 2017.

**NUCLEAR SAFETY**

**SCOTLAND**

**Scottish Government Raises Safety Concerns over Dounreay Clean-Up**

The Scottish Government has raised safety concerns over the £1.6billion clean-up of the Dounreay nuclear complex in Caithness. Environment Secretary Cunningham has written to the UK Government seeking assurances about the decommissioning work after the management of

radioactive waste was branded “at risk” and “poor”. The verdict was delivered by the Scottish Environment Protection Agency (Sepa) in its end-of-year assessment, and highlighted in the annual report of the Nuclear Decommissioning Authority (NDA), alongside a “deterioration” in safety performance at Dounreay.

In a letter to UK Energy Minister Harrington, Ms Cunningham said: “I would like to raise concerns that I have about performance at the Dounreay site, and seek your assurance that in its role as the lead sponsor of the NDA, the UK Government is giving sufficient attention to Dounreay. “There continues to be cause for concern in Dounreay’s environmental performance, with the Sepa having to take action.

“In addition, the recently published NDA annual report presented in stark terms the lack of progress at Dounreay across a wide range of projects.” Ms Cunningham added the situation was disappointing and at odds with the expected loss of around 200 jobs at the site. Local MSP Ross said: “The Dounreay site is a vital employer in Caithness and north Sutherland and the effects of the redundancy scheme which the NDA has implemented has been keenly felt in both counties. “I’m very concerned that the redundancy policy they currently have is still being pursued, despite this report stating that the site is struggling with maintaining safety and performance”. Thurso and north-west Caithness councillor Mackay said: “If there were any concerns on the safety side then I would certainly be speaking out about losing any jobs.

“They will have to be looking very carefully at this.” Built in the 1950s to push forward the UK’s nuclear energy ambitions, decommissioning Dounreay is viewed as one of the most complex closure programmes in Europe. Dounreay Site Restoration Ltd recently lodged a planning application for the third and final phase of the

work, expected to last until about 2030. At present the plant employs about 1,100 people – but it was announced in April that up to 150 employees would be invited to apply for a redundancy package, with a further 50 agency roles also being discontinued.

An NDA spokesman said: “Decommissioning and hazard reduction at Dounreay remain a priority for the NDA, and the contractors performing the work. “We will respond directly to Ms Cunningham about the points she raises in her letter.” A spokesman for the UK Department for Business, Energy and Industrial Strategy (BEIS) said: “The NDA continues to monitor progress at the Dounreay site closely to ensure that it is delivering high quality work and that it remains value for money. “BEIS will respond to the letter in due course.”

Source: [www.pressandjournal.co.uk/](http://www.pressandjournal.co.uk/), 07 August 2017.

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## INDIA

### HCC Bags Rs 763 Crore Contract from IGCAR

Infrastructure major HCC 07 August said it has bagged Rs 763.57 crore contract from Indira Gandhi Centre for Atomic Research (IGCAR) for construction of a fast reactor fuel cycle facility in Kalpakkam, Tamil Nadu. The project is to be completed in 48 months, Hindustan Construction Company (HCC) said in a BSE filing. “The scope of work includes building up of nuclear safety compliant structures for fuel processing plant for fast breeder reactors and allied facilities including civil, electrical and mechanical works,” HCC said. The company further said this is the fourth contract awarded to HCC by IGCAR. Prior to this, the company has received three contracts to build administrative blocks. Shares of the company were trading up 1.65 per cent at Rs 40.05 apiece.

Source: <http://www.moneycontrol.com>, 07 August 2017.

NUCLEAR SECURITY

UK

**Three Men Jailed for Turning Nuclear Bunker into £2m-a-Year Cannabis Factory**

Three men who turned an underground nuclear bunker designed for Army VIPs into the “largest cannabis factory to be found in the south of England” have been jailed for a total of 18 years. Martin Fillery, 46, had written a screenplay about cannabis production before he joined the £2m-a-year criminal enterprise at the Regional General Headquarters (RGHQ) in Chilmark, Wiltshire. The movie memorabilia buff leased the remote building in 2013 and initially used it as a storage facility for his business selling model Daleks and cars.

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Plamen Nguyen, 27, and Ross Winter, 31, joined the pot production plot to help organise the gardeners and transport the drugs, Salisbury Crown Court heard. Prosecutor Charles Thomas said: “This case concerns what had originally been built and designed as a nuclear bunker to be used by important personnel coming from the Army headquarters in the event of a nuclear war. “In the 1990s that building was decommissioned.”

The court heard police were tipped off by a delivery driver who reported a cannabis smell at the site and officers carried out three periods of CCTV surveillance before raiding the bunker in February 2017. They found 4,425 plants at all stages of production as well as 6,500 dead used plants with a total value of £1.25m. Mr Thomas said that about 20kg of harvested and dried cannabis was also found with a value of about £99,000. The factory was capable of producing up to £2m-worth of cannabis a year. ...

Source: <http://www.independent.co.uk>, 12 August 2017.

NUCLEAR WASTE MANAGEMENT

USA

**NEI Seeks to Block Texas from Nuclear Waste Fund Withdrawal**

In an effort to keep the Nuclear Waste Fund intact, the Nuclear Energy Institute (NEI) filed a legal brief in the US 5<sup>th</sup> Circuit Court of Appeals to block Texas

from being awarded restitution and disgorgement from the Nuclear Waste Fund based on the government’s long delays in setting up a national repository for spent nuclear fuel. Texas filed a lawsuit in March intending to prod the federal government into fulfilling its obligations under the Nuclear Waste Policy Act, which was set up to fund a national repository for nuclear waste. However, the NEI believes that a national repository will need solid backing from every state involved in the program.

“The Nuclear Waste Fund is needed to pay for the used fuel management program and, therefore, restitution and disgorgement would be counterproductive and would potentially result in new costs being imposed on generators and their customers,” said NEI vice president and general counsel Ginsberg.

“Texas simply will not achieve its objective to have the government resume the disposal program if the Nuclear Waste Fund is depleted,” Ginsberg said. Furthermore, according to the NEI, Texas withdrawing from the fund would constitute a breach of contract with the federal government, which could give the federal government a legal argument for withdrawing from its obligations, which include development of a repository at Yucca Mountain in Nevada. Federal courts have already said that the Nuclear Waste Policy Act does not allow for a total breach of contract. That option is “foreclosed by statute,” the courts have said.

Source: <https://nuclearstreet.com/>, 08 August 2017.

**NRC Aims for ‘Informed Decisions’ on Yucca Mountain**

The US NRC has approved further actions related to its review of the DOE’s application for authorisation to construct a high-level radioactive waste repository at Yucca Mountain in Nevada. Yucca Mountain has since 1987 been named in the US Nuclear Waste Policy Act as the sole initial repository for disposal of the country’s used nuclear fuel and high-level radioactive wastes. The DOE submitted a construction licence application for the Yucca Mountain repository to the NRC in 2008, but following 2009’s presidential

elections the Obama administration subsequently decided to abort the project, appointing a high-level Blue Ribbon Commission to come up with alternative strategies. The NRC terminated licensing activities for Yucca Mountain in 2011, but in August 2013 was ordered to resume work on its technical and environmental reviews of the application by the US Court of Appeals.

The NRC said on 08 August that its next steps involve information-gathering activities related to the suspended adjudication on the application, enabling “efficient, informed decisions” in support of executing any further appropriations of funds for the High-Level Waste Program. It has directed agency staff to hold a “virtual meeting” of the Licensing Support Network (LSN) Advisory Review Panel to provide information to, and gather input from, advisory panel members and the public regarding reconstitution of the Licensing Support Network or a suitable replacement system.

The LSN was an online database of nearly four million documents supporting the adjudicatory hearing on the Yucca Mountain application. The hearing was suspended in 2011, and the LSN was decommissioned. The documents are stored in a publicly available LSN Library in the NRC’s ADAMS document system. The NRC has limited expenditures for the information-gathering activities to \$110,000 from the Nuclear Waste Fund. As of 30 June, it had about \$634,000 in remaining unobligated Nuclear Waste Fund appropriations. Since 2013, the agency has directed its staff to complete its Safety Evaluation Report, prepare a supplement to the DOE’s Environmental Impact Statement, and preserve the documents from the LSN within ADAMS.

The Government Accountability Office (GAO) said in May that the DOE and NRC will need to rebuild their organisational capabilities in order to restart the suspended licensing process for the Yucca Mountain repository. GAO was asked by the House of Representatives’ Committee on Energy and

Commerce to examine the likely steps needed to resume the Yucca Mountain licensing process. US nuclear waste management policy is enshrined in the 1982 Nuclear Waste Policy Act, which established federal responsibility for all civil used fuel and obliged the government - through the DOE - to begin removing used fuel from nuclear facilities by 1998 for disposal in a federal facility. The act was amended in 1987 to designate Yucca Mountain in Nevada as the sole site for the repository for 70,000 tonnes of high-level waste.

*Source: <http://www.world-nuclear-news.org/>, 09 August 2017.*

### **Washington State Utility’s Nuclear Waste Shipments Suspended**

Officials in Washington state indefinitely suspended a public utility’s authority to ship low-level radioactive waste after the utility mislabeled a shipment. *The Tri-City Herald* reported that the Washington Department of Health took the action late last month against Energy Northwest. State officials say the utility on July 20 sent a mislabeled shipment of radioactive

waste to the Hanford nuclear reservation in southeastern Washington.

Energy Northwest spokesman Mike Paoli says the mislabeling was minor and did not endanger public health or safety. Paoli says the state health department acted correctly, but the shipment itself was properly packaged and accepted for storage at the Hanford site. He says the no-shipment order means material will be stored at the Columbia Generating Station while officials review shipping procedures.

*Source: <http://abcnews.go.com/>, 12 August 2017.*

### **SC Files \$100M Lawsuit Against US Over Failed Plutonium Removal**

The South Carolina Attorney General’s Office says they filed a lawsuit on 07 August to recover \$100 million the US Department of Energy owes the

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state for failing to meet its promise to remove one ton of plutonium from the Savannah River Site this 2017. A case of such magnitude has never been filed by South Carolina against the federal government, according to the press release from the attorney generals office. Congress mandated that the US Department of Energy would pay South Carolina \$1 million per day, beginning January 1, 2016, for every day the department failed to remove one metric ton of weapons-grade defense plutonium. The requirement is in place during the first 100 days of each year from 2016 through 2021.

The Department of Energy has failed to process or remove the plutonium or pay the state the \$100 million owed for 2016 or 2017. The lawsuit filed aims to recover the \$100 million owed for 2017. The Savannah River Site was built in the 1950's to refine nuclear materials to be used in nuclear weapons. According to a fact sheet on the Savannah River Site's website,

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environmental stewardship." The site itself is 310 miles of land located on land in Aiken, Allendale and Barnwell counties next to the Savannah River, about 25 miles southeast of Augusta Georgia.

The state sought the 2016 payments in the pending case before the federal court in South Carolina, but a federal judge ruled that the state should file the claim in the US Court of Federal Claims. The State intends to pursue the 2016 money when that matter

concludes. The federal government cannot "renege on its obligations" and "leave South Carolina as the permanent dumping ground for weapons-grade plutonium," Attorney General Wilson said in the complaint.

Source: <http://wbtw.com>, 08 August 2017.



Centre for Air Power Studies

The Centre for Air Power Studies (CAPS) is an independent, non-profit think tank that undertakes and promotes policy-related research, study and discussion on defence and military issues, trends and developments in air power and space for civil and military purposes, as also related issues of national security. The Centre is headed by Air Marshal Vinod Patney, SYSM PVSM AVSM VrC (Retd).

Centre for Air Power Studies

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