Nuclear weapon modernisation

Attitudes of non-nuclear weapon states
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This briefing collates the recent public positions taken by states without nuclear weapons on the nuclear modernisation programmes of the nuclear-armed states. It looks at official statements on the issue in a number of intergovernmental disarmament conferences: Nuclear Non-Proliferation Treaty (NPT) RevCon and Preparatory Committees (PrepCom), negotiations for the Treaty for the Prohibition of Nuclear Weapons (TPNW), and the 2016 Open Ended Working Group (OEWG) which preceded the TPNW. The briefing covers positions taken by states in these fora from the 2015 RevCon up to the present. An overview of the different fora can be found below.

This briefing lists all Non-Nuclear Weapon States (NNWS) that made a statement on this topic, and gives a brief summary of the comments made. These positions are presented to allow the reader to consider the extent to which modernisation programmes are contributing to dissatisfaction within the NPT and support for the TPNW. Although the focus of the briefing is on NNWS, the positions of Nuclear-Weapon States (NWS) are also listed in a separate section.

This briefing covers both written reports and spoken statements delivered by NNWS during the meetings. Written reports are submitted ahead of the fora or produced during the meetings and form part of the official records of the conference. In the NPT PrepComs and RevCons written reports can take the form of ‘national reports’, which focus on the activities or record of that particular state, or ‘working papers’, which address a particular subject area. Both written reports and verbal contributions can either be made on behalf of an individual state or on behalf of a group of states.

Much of the material for this briefing is drawn from United Nations (UN) documentation. The UN website archives the written reports for each of the fora, and these were the source material for the relevant section for each forum. The UN also compiled a written summary record of verbal proceedings for the NPT RevCon and the plenary sessions from the NPT PrepComs. Many of the statements delivered verbally during the meetings were also circulated during the meetings in written form, and were originally archived on the UN website. The Reaching Critical Will (RCW) website has a more complete record of these statements.

On 38 occasions where NNWS raised the issue of modernisation, this element of the statement either appears to have been omitted from the summary record, or the statement occurred in a meeting that was not included in the summary record. Where this is the case the archived written statements are used as source material; the remainder of the NPT verbal proceedings sections are based on the summary records.

The UN did not compile a summary record of the meetings held during the OEWG and TPNW negotiations. In both cases, the source material for these meetings were the regular updates published by RCW that summarised the negotiations while they were taking place.

When a state or group raised the issue of modernisation in both a written report and in the meetings at one of the fora both have been included in this briefing. However, multiple written or verbal mentions by a state or group during a single conference have been omitted for reasons of brevity.

All mentions of the modernisation issue that treat the issue as a problem or a source of concern have been included in this briefing. Mentions of the issue when states expressed the hope that ratification of the Comprehensive Test Ban Treaty (CTBT) or the Fissile Material Cut-Off Treaty (FMCT) would prevent modernisation programmes have not been included if the practice of modernisation was not explicitly criticised. Instances where the issue of modernisation was raised but was not distinguished from concerns about the acquisition of nuclear weapons by a possessor state, such as North Korea, have also not been included.
This briefing covers the NPT RevCon in 2015 and PrepComs leading up to the planned 2020 RevCon, as well as the Open Ended Working Group (OEWG) and Treaty on the Prohibition of Nuclear Weapons (TPNW) negotiations.

The Nuclear Non-Proliferation Treaty (NPT) was signed in 1968 to try and reduce the threat from nuclear weapons by limiting the number of nations that possess them and compelling possessor states to pursue disarmament. It entered into force in 1970 and is one of the most widely adopted international treaties, with 191 States parties.

The NPT recognises five named States parties as NWS: the United States (US), the United Kingdom (UK), France, Russia and China. There are four additional nuclear possessor states. Pakistan, India and Israel have never signed the NPT. North Korea signed the treaty, but announced its withdrawal from it in 2003.

Every five years, RevCons are held within the NPT to review the operation of the Treaty. The RevCons are intended to culminate in agreeing a consensus document. Since the 1995 RevCon agreed that the NPT should remain in force indefinitely, consensus documents have been agreed at the 2000 and 2010 RevCons, but no agreement was reached in 2005 or 2015. A series of PrepCom meetings are held in the three years leading up to each RevCon. The summary documents produced by these meetings do not have to achieve consensus.

After the failure to achieve consensus at the 2015 RevCon, there is significant pressure on states to agree a consensus document at the postponed 2020 RevCon. The ability to achieve consensus has long been considered a key indicator of the health of the treaty regime, and additional significance would be attached to a second consecutive failure to do so during the conference that marks the treaty’s 50th anniversary.

Article 6 of the NPT requires all NWS members to engage in disarmament efforts in good faith, but along with the four nuclear weapon possessors outside the NPT, all five NWS members are engaged in modernising their nuclear weapon capabilities. The question of whether modernisation is permitted by the NPT and the agreements at subsequent RevCons is contested.

Dissatisfaction with the lack of progress on disarmament in the NPT led to a 2015 UN General Assembly resolution, which set up the OEWG to ‘address concrete effective legal measures, legal provisions and norms that will need to be concluded to attain and maintain a world without nuclear weapons’. The OEWG met over three sessions in February, May and August 2016 and produced a report that said a majority of states supported negotiations on a new treaty to prohibit nuclear weapons.

These negotiations began the following year and resulted in the TPNW. The TPNW is a separate treaty from the NPT. While the TPNW is opposed by the NWS and many of their allies, many other NPT States parties regard it as complementary to the NPT. The TPNW was agreed by 122 states in 2017 and entered into force in January 2021. In December 2020, at the UN General Assembly, 130 states voted in favour of a resolution welcoming the treaty and calling for states to join and ratify it.
Opening session of the 2017 NPT PrepCom 23 April 2017, UN.
What is modernisation?

Nuclear weapon modernisation can refer to upgrades to existing nuclear warheads themselves, to their delivery vehicles or to the platforms that carry them, such as aeroplanes or submarines. This can involve modifications to existing stock, building replacements or an increase in overall numbers. In states with long-established nuclear weapon programmes and existing systems that are nearing the end of their service lives, modernisation takes on a different form to states at an earlier stage of development.

States use a variety of terms to refer to modernisation, including ‘qualitative improvement’, ‘development’ and ‘upgrading’. However, ‘modernisation’ is the term most commonly employed, and is therefore used in this briefing to encompass the full range of activities described below.

For most of the five NWS, the current period of modernisation follows substantial reductions in total warhead numbers following the end of the Cold War, whereas some of the other four nuclear possessor states acquired nuclear weapons more recently. While this means that modernisation takes on different forms in different states, the common element across modernisation programmes is that they are all expected to deliver an increase in the nuclear capabilities of the possessor state in some way, such as increased range, destructive power or survivability.

The level of disclosure about nuclear modernisation also varies dramatically between states, and this is reflected below. The level of detail in this summary tends to be lower for states where there are fewer public sources. States are listed alphabetically, with the five NWS listed first as a group, followed by the other four nuclear possessor states.

China’s modernisation efforts involve increased numbers and more mobile versions of land-based intercontinental ballistic missiles (ICBMs) with multiple independently targetable re-entry vehicles (MIRVs). China is also building additional nuclear-armed submarines, and is expected to begin constructing a new submarine design in the 2020s.

France is developing a new submarine-launched ballistic missile (SLBM), and has begun developing a new generation of nuclear armed-submarines.

Russia is modernising its land-based ICBMs, nuclear-armed submarines, and nuclear-armed aircraft. It is also developing ‘non-traditional delivery systems such as a hypersonic glider vehicle, a nuclear-powered cruise missile, and an underwater nuclear-powered vehicle.’

The United Kingdom (UK) began work on a new generation of nuclear-armed submarines in 2007, and expects the first to enter service in the ‘early 2030s’. A life extension for the UK warhead has improved its accuracy. In February 2020, the UK announced its decision to begin building an entirely new nuclear warhead. In March 2021 it announced that the official size limit on its warhead stockpile, previously planned to be reduced to 180, would instead increase to 260.

The United States (US) has numerous modernisation programmes, including warhead modification and life extension projects, new ballistic and cruise missiles and new nuclear-armed submarines.

“The common element across modernisation programmes is that they are all expected to deliver an increase in the nuclear capabilities of the possessor state in some way.”
The Democratic People’s Republic of Korea (DPRK) has developed a diverse range of land-based ballistic missiles and carried out six nuclear tests between 2006 and 2017. In early 2021, at the Eighth Congress of its ruling party, the DPRK announced its intention to develop tactical nuclear weapons and multiple re-entry vehicles.

India has quadrupled its number of warheads over the last two decades, has recently upgraded its nuclear-armed aircraft, and has signed a deal to purchase new Rafale aircraft from France. It has been developing longer-range, land-based ballistic missiles, and deployed its first nuclear-armed submarine in 2018. Construction on a further submarine has begun, and two more are planned to follow.

Little is in the public domain about Israel’s nuclear weapons or any modernisation programmes involving the warhead. However, it is thought that Israel operates a nuclear triad of land-based ballistic missiles, submarine and air-launched weapons. These delivery systems are being upgraded, with F-35I aircraft being brought into service, along with new ballistic missiles and submarines.

Pakistan, has increased its warhead stockpile by a factor of ten over the last two decades, and further increases are predicted over the next five years. Pakistan continues to produce both plutonium and highly enriched uranium (HEU) for weapons production.
**2015 NPT Review Conference**

The 2015 RevCon heard critical statements on modernisation from four groups and 22 individual NNWS, representing 162 states in total. The statements are ordered so that similar themes and topics are grouped together. The scale of concerns was reflected in the president's working paper, which noted that NNWS had expressed concerns about modernisation.

**2015 RevCon written reports**

Brazil called for states to refrain from modernisation and said that subcritical testing goes against the objectives of the Treaty. Chile said that NWS were not fulfilling their commitments and obligations under the Treaty by modernising their nuclear weapons.

The New Agenda Coalition (NAC) and the States Parties to the Treaty of Tlatelolco called for a moratorium on nuclear modernisation.

The League of Arab States (LAS) stated that modernisation of nuclear arsenals pose a threat to international peace and security, and emphasised the need for states to respect the ‘articles and spirit’ of the Treaty. The De-Alerting Group cited modernisation as being among the negative consequences of nuclear forces being kept at high alert levels. Austria said the risks of accidental, mistaken or intentional nuclear explosions were in part due to NWS modernising and maintaining their arsenals, and that the risks were increasing over time.

The Non-Aligned Movement (NAM) expressed concern about the lack of progress on disarmament and said that modernisation programmes undermined any bilateral or unilateral reductions in the stockpiles of NWS. Similarly, Algeria cited modernisation programmes as one of the reasons reductions in nuclear arsenals had been insufficient.

Switzerland raised concerns that NWS were not only maintaining deterrence policies, but also modernising their arsenals, and called on NWS to comply with Article VI of the NPT.

**2015 RevCon meetings**

During the conference itself Papua New Guinea stated that the retention and modernisation of nuclear weapons was contrary to the NWS' obligations under the Treaty. The Maldives and Namibia said modernisation is contrary to the NPT's disarmament objectives. Switzerland said that the motivations behind modernisation programmes did not appear to conform with the purpose of the Treaty. Similarly, Austria argued that the modernisation programmes of NWS are contrary to the spirit of the Treaty and commitments made at RevCons.

Cuba called for the modernisation of nuclear weapons to be halted immediately and for the elimination of nuclear weapons within 20 years under a new legal instrument.

Myanmar, on behalf of the ASEAN countries, and Singapore called for an end to nuclear modernisation. Niger also supported appeals to the NWS to cease their modernisation programmes.

Canada expressed concern about the development of missile technologies. Australia expressed concern about the battlefield-scale weapons being developed. Venezuela stressed that modern nuclear weapons were much more powerful than the ones used in the Second World War, and mentioned US modernisation plans.

South Africa said that new categories of delivery

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**2015 RevCon**

162 states in total. 4 groups. 22 individual states.
vehicles and nuclear weapons were being developed and stressed that indefinite extension of the Treaty did not mean indefinite retention of nuclear weapons.65 New Zealand, speaking on behalf of the NAC, argued that modernisation programmes were evidence of NWS’ reluctance to fulfil their obligations under the NPT.66 Likewise, Egypt said that billion-dollar investments in modernisation signalled a long-term intent to retain nuclear weapons.67

Zimbabwe said that nuclear modernisation programmes did not make the world safer, but ‘sharpen the destructive capabilities’ of nuclear weapons.68 Ireland criticised the suggestion that nuclear weapons contributed to stability in the world order.69 Costa Rica said that modernisation would not help to achieve collective security and peace.70

On behalf of a group of 26 states, Australia expressed concern about new weapons being produced by current possessor states.71

Indonesia argued that a lack of progress on disarmament brought into question the rationale behind the Treaty and that investments in nuclear modernisation undermined the credibility of its goal of a nuclear-free world.72 Chile believed that to ‘boost the political legitimacy of the Treaty regime’, NWS should transparently and verifiably eliminate their weapons, instead of modernising them.73

Libya called for a new legal instrument to prohibit ‘the storage, modernization, production, acquisition, testing, accumulation, transfer and use or threat of use of nuclear weapons’.74 Norway said that the New START Treaty should be a first step in a process
of nuclear arms reduction that prohibited the
development of new nuclear weapons.\textsuperscript{75}

Jamaica, speaking on behalf of the Caribbean
Community (CARICOM), noted that many NNWS
were dissatisfied with the NWS' failure to comply
with the Treaty, and said modernisation programmes
increased the risk of further proliferation.\textsuperscript{76} A similar
point was made by Montenegro.\textsuperscript{77} Iran said that
modernisation programmes were one of the factors
eroding the credibility of the NPT.\textsuperscript{78}

Iran, speaking this time on behalf of the NAM, said
that stockpile reductions were offset by the NWS' ongoing modernisation programmes, and argued that
these programmes and the increasing role of nuclear weapons in security doctrines lowered the threshold
for their use.\textsuperscript{79}

Ecuador, on behalf of the Community of Latin
American and Caribbean States (CELAC),\textsuperscript{80} and Brazil\textsuperscript{81}
argued that the resources used for nuclear weapon modernisation should be used to fund development instead. Sweden\textsuperscript{82} also expressed concern about the funds being spent on modernisation.

Belarus stated that it had a ‘zero tolerance’ policy with
regard to nuclear weapons, including modernisation.\textsuperscript{83}
Palau said that the Treaty had not achieved much in
the field of disarmament, and expressed concern about the
modernisation programmes of the NWS.\textsuperscript{84} Malawi said the ongoing impact of the nuclear weapons on Nagasaki and Hiroshima was being disregarded by
the NWS with their modernisation programmes.\textsuperscript{85} The
Marshall Islands criticised modernisation and said NWS did not have a right to ‘indefinite possession’ of nuclear weapons.\textsuperscript{86}

\textbf{2017 NPT Preparatory Committee}

In the 2017 PrepCom two groups and 18 individual
NNWS made critical statements about modernisation.
Together 134 states were represented by these statements. Again the scale of concern was indicated
by the chair’s summary, which noted that some
states expressed the view that modernisation
could undermine nuclear stockpile reductions and
contribute to a new arms race.\textsuperscript{87}

\textbf{2017 PrepCom written reports}

Syria said that nuclear modernisation was contrary
to the NPT and to UN resolutions such as resolution 70/38.\textsuperscript{88} Iran called for a halt to modernisation
programmes by 2025.\textsuperscript{89}

The NAC stated that developments such as
‘modernising and qualitatively improving nuclear weapons’ were contributing to a renewed arms race,\textsuperscript{90} and suggested that NWS should include
modernisation plans in their reports for the 2020
RevCon.\textsuperscript{91}

The NAM focused on the future of arms control, and
the potential for the New START Treaty between the
United States (US) and Russia to expire in February
2021, if the parties did not agree to an extension.\textsuperscript{92} After
concerns that President Trump would allow the treaty
to expire,\textsuperscript{93} the treaty was renewed under the Biden
administration on February 3rd.\textsuperscript{94}

Ireland said many of the modernisation programmes
would make it easier for states to use nuclear weapons.\textsuperscript{95}

\textbf{2017 PrepCom meetings}

The Philippines condemned modernisation
programmes as being contrary to the disarmament
commitments of NWS.\textsuperscript{96}

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\textbf{2017 PrepCom}

134 states in total. 2 groups. 18 individual states.
Bulgaria suggested a moratorium on nuclear modernisation as a feasible step that could be undertaken by NWS on the path to disarmament. Kazakhstan also called for a moratorium on modernisation. Vietnam and Cuba called for an end to modernisation.

Tanzania called for NWS to refrain from any modernisation efforts and fulfil their obligations under the NPT. CELAC called for nuclear possessor states to refrain from conducting nuclear testing.

Iran submitted a report saying that there is a persistent lack of progress on disarmament and issues such as ‘vertical proliferation, including modernisation of nukes and development of mini-nukes’.

South Africa stated that some countries aspire to the indefinite retention of nuclear weapons, which is in contravention of their legal and political obligations. The NAM, said that modernisation undermines the cuts in nuclear weapon stockpiles by the NWS.

The Holy See, which has observer status at the UN, stressed the ‘urgent need’ for states to make progress on not only the NPT, but also the Fissile Material Cut-off Treaty (FMCT), Comprehensive Nuclear-Test-Ban Treaty (CTBT) and New START. In response to growing tensions in world politics and modernisation plans it called for full compliance with Article 6 of the NPT.

Belgium stated in its report to the 2017 Preparatory Committee that global distrust has been sharpened by the modernisation programmes and this further deepens non-compliance with the non-proliferation treaty. Malaysia and Nicaragua said that modernisation undermined disarmament and non-proliferation regimes. Brazil stated that the NPT had not proven successful in curbing modernisation programmes and nuclear weapons made the world order more uncertain. Costa Rica said that peace and security would not be achieved while modernisation programmes continue.

Indonesia said that NWS were relying on nuclear weapons in their security doctrines and modernising them instead of eliminating them, and called for a change. The NAC also linked modernisation with a failure to reduce the role of nuclear weapons in security policies.

Ireland criticised the resources spent on modernisation and the development of ‘so-called tactical’ nuclear weapons.

Austria called for NWS to answer questions about their modernisation programmes during the PrepCom. Ecuador said that modernisation programmes were concerning. Algeria made the case for the elimination of nuclear weapons as the only way to prevent modernisation programmes and proliferation. Mexico said that geopolitical tensions did not justify modernisation programmes.

2018 NPT Preparatory Committee
Three groups and 27 individual countries discussed nuclear modernisation at the 2018 PrepCom. In total these statements represented the views of 133 states. The issue was again noted in the chair’s factual summary, which noted concerns that some modernisation programmes were inconsistent with NPT commitments. This language was challenged by Brazil and the NAC on the basis that it underplayed the level of concern, and many states believe all modernisation programmes are contrary to the NPT’s purposes.
2018 PrepCom written reports
As noted above, Brazil stated that any modernisation programme is contrary to the NPT's purposes. Switzerland said that modernising nuclear weapons was not compatible with nuclear disarmament efforts.

The NAM called upon all NWS to refrain from conducting tests or modernising nuclear weapons. It also said that the modernisation programmes lower the threshold for use of nuclear weapons and constitute a new arms race. Ireland drew attention to nuclear weapons 'disproportionate gendered impacts on women', and called all NWS to cease maintaining and modernising them. Japan called for restraint or even a freeze of modernisation programmes.

New Zealand, on behalf of the NAC, said that modernising nuclear weapons poses a threat to the NPT treaty regime.

Egypt argued that modernisation programmes are an indication that 'nuclear deterrence continues to feature highly in the defence and security doctrines'. It also said that these programmes weaken the commitments of NWS to the objectives of the NPT.

Iran criticised the US plans to spend more than $1 trillion on modernising its arsenal and called for NWS to commit to ceasing their modernisation plans in the 2020 RevCon final document.

2018 PrepCom meetings
South Africa cited the presence of nuclear weapons in the security doctrines of some NWS, alongside modernisation, as being against both the 'letter and spirit' of the Treaty. Thailand said that modernisation was inconsistent with the purpose of the NPT, and The Philippines and Nigeria said modernisation was contrary to the NPT commitments of NWS. Austria made a similar point and said that the 'catastrophic humanitarian consequences' of nuclear weapons had been underestimated. New Zealand, speaking on behalf of the NAC, said that many States parties did not believe modernisation programmes were consistent with the objectives and the purpose of the Treaty.

Namibia, on behalf of the Group of African States, and Indonesia, on behalf of the NAM, called for an end to modernisation. Ukraine called for the cessation of modernisation programmes. Kenya said that NWS ceasing their nuclear weapon modernisation programmes would assuage NNWS's concerns over the threat of the use of nuclear weapons.

Brazil said there was a widespread belief that a new arms race was under way with the modernisation programmes of nuclear-armed states' arsenals, and that this raised doubts about NWS commitment to the Treaty. Mexico stated that modernisation suggests NWS are not committed to their NPT obligations. The League of Arab States expressed concern about the importance attached to modernisation by the NWS.

Sweden, speaking on behalf of the Nordic countries, cited the threat to the INF Treaty, and said that a 'rules-based system' had become vital in the context of modernisation. The US withdrew from INF in August 2019 citing longstanding allegations of Russian non-compliance.

Costa Rica expressed dissatisfaction over the lack of progress on disarmament and said that investment in modernising, maintaining and producing nuclear weapons was making nuclear weapons use more likely.

Kuwait included modernisation programmes in a list of challenges to the NPT regime. Iran said modernisation was an obstacle to disarmament, and Cuba said that modernisation weakened the Treaty.

On behalf of the NAM, Venezuela stated that the role of nuclear weapons in security doctrines had increased, and expressed concern about modernisation programmes. Panama expressed concern about the NWS giving prominence to nuclear weapons within military doctrines and modernising and broadening
their arsenals. Ireland, Switzerland, and Morocco also linked modernisation with a failure to reduce the role of nuclear weapons in security policies.

The Holy See and Nicaragua argued that the resources devoted to nuclear modernisation should have been spent on poverty and human development. Nepal expressed a similar view, arguing that the resources should instead be used to help achieve the UN Sustainable Development Goals. Algeria also decried the sums spent on modernising nuclear weapons. Chile called for reductions in spending on nuclear weapons and modernisation programmes.

Belgium criticised the modernisation programmes and behaviour of several NWS and nuclear possessor states without specifically naming them. Egypt cited modernisation as a regressive development, and Malaysia called for NWS to take steps to prevent the problem of modernisation.

2019 NPT Preparatory Committee

Three groups and 27 individual states took critical positions on modernisation during the 2019 PrepCom. In total this represented the views of 143 states. The Chair’s recommendations to the 2020 Review Conference included a call for NWS to halt modernisation programmes.

2019 PrepCom written reports

The NAM recommended that the 2020 RevCon should call on NWS to cease modernisation plans. It also expressed its deep concern regarding the lack of progress towards achieving nuclear disarmament and said that modernisation undermined the stockpile reductions of the NWS. This position was echoed by the Treaty of Tlatelolco members.

As in its report to the 2018 PrepCom, Iran criticised the US’s plans to modernise and develop new types of nuclear weapons, and argued that the US puts the NNWS ‘under the real threat of the possible use of nuclear weapons’.

The report that Brazil submitted on behalf of the NAC said that NWS modernisation increases the risk of a conventional conflict turning into a nuclear one. Japan said that nuclear arms modernisation is potentially destabilising.

Sweden’s report to the 2019 PrepCom called for NWS to provide clarity about modernisation plans as a confidence-building measure.

Austria, Costa Rica, Indonesia, Mexico, Nigeria, San Marino and Thailand argued in a joint report that the spectacle of nuclear modernisation may tempt some NNWS into developing nuclear weapons.

2019 PrepCom meetings

Morocco stated that the international situation was deteriorating and modernisation programmes contravene the ‘letter, spirit and purpose of the Treaty’. Liechtenstein said that there was backtracking on disarmament, and that modernisation was in contravention of the Treaty. Mexico and Nicaragua both said that security doctrines involving nuclear weapons and modernisation programmes are contrary to the NPT obligations of NWS. Ecuador, Nigeria, and Costa Rica also said that modernisation is contrary to NWS’s NPT obligations.

Bangladesh said that modernisation programmes must be reversed because nuclear weapons cause misery and insecurity. Antigua and Barbuda, speaking on behalf of CARICOM, suggested that NWS

2019 PrepCom

143 states in total. 3 groups. 27 individual states.
Meeting of the 2018 NPT PrepCom.

should report on their actions which are consistent with ‘achieving and maintaining a nuclear-weapon-free world’, and suggested the termination of modernisation programmes could be one of them.\textsuperscript{186} Nepal said that NWS should halt their modernisation programmes\textsuperscript{185}. Similarly, Nigeria, speaking on behalf of the Group of African States, called for modernisation programmes to be stopped and for nuclear weapons to be eliminated.\textsuperscript{182} Kazakhstan called for an end to modernisation.\textsuperscript{183}

Belgium said missile system developments needed to be addressed.\textsuperscript{184} Iran singled out the US’s modernisation programmes as threatening to start a new arms race.\textsuperscript{185}

Venezuela\textsuperscript{186} and Guyana\textsuperscript{187} were concerned that the modernisation programmes of NWS were indicative of a new arms race. The NAM said that the trend of modernisation was a new nuclear arms race and a violation of Article 6 of the NPT.\textsuperscript{188} The NAC,\textsuperscript{189} Canada,\textsuperscript{190} and Malaysia\textsuperscript{191} all warned of the prospect of a nuclear arms race.

Austria expressed concern over the fate of the New START and INF Treaties, and said that the modernisation programmes of the NWS contradicted previous commitments.\textsuperscript{192} The LAS said that the largest NWS used the security of their nations as a pretext for withdrawing from treaties and were modernising and developing their nuclear arsenals, and called for the final document of the PrepCom to express concern.\textsuperscript{193}

Cuba said that the threshold for the use of nuclear weapons was being lowered, and called modernisation programmes ‘unacceptable’.\textsuperscript{194} Sweden said the global security environment was the worst since the Cold War, and disarmament was being replaced by modernisation.\textsuperscript{195} Syria said the ‘world was facing increased dangers’ from the modernisation of nuclear weapons.\textsuperscript{196}

Ireland said that modernisation programmes are a threat to the NPT and called for NWS to ‘engage constructively’ with the TPNW for a world without nuclear weapons.\textsuperscript{197} Finland also said that development
of new nuclear weapons represents a threat to the NPT. Switzerland said that the long-term success of the NPT was threatened by the development of new nuclear weapon capabilities. In a joint statement the sponsors of UN resolution 73/48 said that modernisation was overshadowing progress on disarmament and undermining the implementation of NPT Article 6. Niger argued that the efforts of the international community to ensure peace and security were undermined by modernisation programmes.

Uruguay regretted the modernisation of nuclear weapons and their role in military doctrines. Peru, Chile and Moldova also criticised both modernisation and the role of nuclear weapons in security doctrines. South Africa said modernisation programmes indicate that some NWS intend to retain nuclear weapons indefinitely.

The Philippines and Guatemala criticised the sums spent on nuclear modernisation. Equatorial Guinea stated that the sums spent on modernisation is preventing money being spent on attaining the UN Sustainable Development Goals.

Brazil said that significant reductions in nuclear weapons had been made since the Cold War peak, but since then the NWS have been reversing course by pursuing modernisation.

Thailand also stated that ongoing modernisation programmes were a concerning aspect of the international security context. Côte d’Ivoire said that the ongoing modernisation programmes, tensions between NWS and stagnation in disarmament efforts were worrying. Kuwait called on the Preparatory Committee to take a strong stance on the development and modernisation of nuclear weapons.

**Open Ended Working Group**

The OEWG was set up by United Nations General Assembly resolution 70/33, entitled ‘Taking Forward Multilateral Nuclear Disarmament Negotiations’. The OEWG had a mandate to consider ‘effective legal measures, provisions and norms that would need to be concluded to attain and maintain a world without nuclear weapons’. Two groups and four individual states, representing 15 states in total, made critical statements about modernisation during the OEWG. The OEWG met in February and May 2016. The UN hasn’t published an official record of the proceedings, but Reaching Critical Will (RCW) produced detailed daily reports of proceedings.

In written reports to the OEWG Fiji, Nauru, Palau, Samoa and Tuvalu categorised ‘contributing funds for modernisation of nuclear weapons and their delivery vehicles’ as a problematic policy area that should be prohibited by a ban treaty. Costa Rica and Malaysia cited the modernisation programmes of the five NWS as evidence that stockpile reductions were unlikely to take place and therefore other measures, including a ban treaty, would be more fruitful. In similar language to their 2015 NPT RevCon report, the De-Alerting Group cited vertical proliferation and modernisation as being among the negative consequences of nuclear forces being kept at high alert levels.

Ireland argued that OEWG was timely, in the light of the fact that many countries include nuclear weapons in their security doctrines and make efforts to modernise them. Iran, in its report to the OEWG, argued that nuclear-armed countries should publish
information about their nuclear weapons, including their modernisation plans, expenditure and related facilities. \(^{220}\)

During the meetings Malaysia asked whether modernisation programmes might increase the risks of accidental nuclear weapons use. \(^{221}\)

Nicaragua suggested that prohibitions of modernisation and subcritical testing could be features of a treaty, as well as prohibitions on possession and use. \(^{222}\) Mexico also argued that prohibitions on financing and modernisation should be included. \(^{223}\)

Although the total numbers of states recorded as making statements discussing modernisation during the OEWG was lower than in the NPT fora, concerns about modernisation were cited in its final report and sharing information about or cancelling modernisation programmes were both suggested as a possible way to take forward multilateral disarmament.

**TPNW negotiations**

On the recommendation of the OEWG, the UN convened a conference to negotiate a treaty for the complete elimination of nuclear weapons in 2017. \(^{224}\)

The negotiations led to the TPNW, which entered into force on January 22nd 2021.

In the written reports submitted by states, modernisation was only directly referenced by Papua New Guinea, which suggested the treaty preamble should call for the redirection of funds spent on modernisation towards social and economic development and for States parties to be prohibited from investing in companies involved in modernisation programmes. \(^{225}\)

During the negotiations on the Treaty text nine countries expressed concern about nuclear modernisation. Ethiopia said modernisation programmes increased the risk from nuclear weapons. \(^{226}\) Ecuador and Cuba spoke about the cost of modernisation programmes and asked for a paragraph in the treaty preamble calling for the economic resources spent on nuclear arsenals to be devoted to social and economic development. This suggestion was supported by Brazil, South Africa, Venezuela, Mexico and Austria. \(^{227}\) Similarly, Sweden criticised the large amount of resources spent by the NWS on their production and modernisation of nuclear weapons. \(^{228}\)

In the final text of the TPNW modernisation programmes are prohibited under Article 1 (a), which forbids the development, testing and manufacturing of nuclear weapons. \(^{229}\)
Statements by nuclear-weapon states

Although the focus of this briefing is the positions of NNWS, most of the NWS have also discussed modernisation at one or more of the fora. The majority of the interventions portray modernisation as a problem, taking the form of criticisms of each other or of the four nuclear possessor states who are not NPT members. There are also instances where they try to justify their own modernisation programmes.

In 2017 the United States (US) warned that several countries were ‘expanding their nuclear arsenals or developing new nuclear capabilities’.\(^{230}\) In 2018 the US said the bleak prospects for disarmament were in part due to states expanding and modernising their stockpiles,\(^{231}\) singling out Russia,\(^{232}\) China and North Korea for criticism.\(^{233}\) In 2018 the United Kingdom (UK) said that the development of new missile systems would undermine strategic stability and called for Russia to engage in constructive dialogue regarding the Intermediate-range Nuclear Forces (INF) Treaty.\(^{234}\)

In 2019 China said NWS should refrain from developing new types of nuclear weapons,\(^{235}\) and Russia proposed ‘comprehensive discussions’ on international security issues including the ‘improvement of existing types of weapons and the emergence of new ones’, though this appears to refer more to US missile defence systems and the imbalance of conventional forces between the US and Russia, rather than nuclear modernisation.\(^{236}\)

At the 2015 RevCon the US justified its modernisation programmes on the basis that they were only intended to increase ‘safety, improve security and use control features’\(^{237}\) and would enable further reductions in its arsenal.\(^{238}\) In 2015 China stated that its modernisation programme is only to ensure ‘safety, security, reliability and effectiveness’ of its nuclear stockpile.\(^{239}\) This language was repeated in its statement to the 2019 PrepCom.\(^{240}\) In 2017 UK said that its nuclear modernisation was not an upgrade in capabilities.\(^{241}\)
The statements summarised in this briefing show there is significant concern about nuclear modernisation within the NPT. In NPT meetings from 2015 onwards, the states behind statements expressing concerns about modernisation programmes number more than 130 at each meeting.\(^2\) The 162 NNWS at the 2015 RevCon dropped to 134 at the 2017 PrepCom and 133 in 2018, then rose to 145 in 2019. The group statements of the Non-Aligned Movement (NAM), which includes 117 NPT member states, accounts for a significant proportion of these totals. The number of individual NNWS raising the issue has been rising over the three recent PrepComs. Having dropped from 22 at the 2015 RevCon to 18 in 2017, the number of individual interventions rose to 27 in 2018 and 31 in 2019.

Iran is the state which has most consistently objected to modernisation during this time period, no doubt in part in response to the level of scrutiny given to its own nuclear activities. However Iran’s record of both written reports and verbal contributions at all four of the NPT fora covered by this briefing is matched by both the NAM and the New Agenda Coalition (NAC).

The numbers of states raising the issue during the OEWG and the TPNW negotiations was smaller than in the NPT meetings, but the two are not directly comparable due to the different scope and purpose of those events. The references to modernisation in the OEWG outcome document and concerns raised by the TPNW core states\(^3\) both suggest that modernisation was one of the motivating factors in the push for the TPNW.

Concerns about nuclear modernisation are nearly universal. In total 172 UN member states, out of a total of 193, were party to statements that treated the issue as a problem during the four year period covered by this briefing. These included NWS and many of their allies.

The scale of concern about modernisation programmes voiced in the NPT RevCon and PrepComs indicates that this issue is likely to be a cause of friction at the postponed 2020 RevCon. There is no indication so far that NWS are willing to alter their modernisation plans in light of the concerns of NNWS, but it does not seem likely that they will be able to ignore the clamour indefinitely if faith in the global arms control regime is to be sustained.

“Concerns about nuclear modernisation are nearly universal. In total 172 UN member states, out of a total of 193, were party to statements that treated the issue as a problem during the four year period covered by this briefing.”
Endnotes


3. A number of these statements are still hosted on the UN website, but are no longer linked to from the web pages for the NPT fora. See: https://papersmart.unmeetings.org/secretariat/unoda/npt/2019-third-session-of-the-preparatory-committee/statements/

4. RCW is the disarmament programme of the Women's International League for Peace and Freedom (WILPF). https://www.reachingcriticalwill.org/about-us/who-we-are

5. These were: the Marshall Islands, and Costa Rica at the 2015 Revcon, see notes 83 and 99; the Philippines, Bulgaria, Kazakhstan, Cuba, South Africa, the NAM, Malaysia, Nicaragua, the NAC, Ireland, and Mexico at the 2017 PrepCom, see notes 109, 110, 111, 113, 117, 118, 121, 122, 126, 127, and 131; Thailand, the Philippines, Nigeria, the NAM, Ukraine, Mexico, Iran, Ireland, Belgium, Egypt, and Malaysia at the 2018 PrepCom, see notes, 145, 146, 147, 151, 152, 155, 161, 165, 173, 174, and 175; and Costa Rica, Kazakhstan, Belgium, the NAM, the NAC, Canada, Malaysia, Ireland, Finland, the sponsors of resolution 73/48, Peru, Chile, South Africa, and Equatorial Guinea at the 2019 PrepCom, see notes 191, 196, 197, 201, 202, 203, 204, 210, 211, 213, 216, 217, 219 and 222. Statements that were published in languages other than English were reviewed using the Google Translate tool in March 2021. Statements by the USA and UK in 2017 and 2018 that mention modernisation are also not included in the summary record for those years, see notes 39, 41, 50 and 43. For the sake of brevity, additional discrepancies between the summary record and written versions of statements have been omitted from this list when the state in question raised the issue of modernisation elsewhere in the summary record.

6. Due to the coronavirus crisis the 2020 RevCon was postponed and at the time of writing it is scheduled for January 2022.


The group consisted of Australia, Belgium, Bulgaria, Canada, Croatia, the Czech Republic, Estonia, Finland, Georgia, Germany, Greece, Hungary, Iceland, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Turkey.


76. Summary record of the 3rd meeting, 2015. Op. Cit. p.10. The members of Caricom are: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Greneda, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, Suriname, and Trinidad and Tobago. See: Member States and Associate Members. CARICOM. Accessed 19 May 2021. https://caricom.org/member-states-and-associate-members/


91. Strengthening accountability through enhanced transparency and measurability of the implementation of nuclear disarmament obligations and commitments under the Non-Proliferation Treaty; Working paper submitted by Ireland on behalf of Brazil, Egypt, Mexico, New Zealand and South Africa as members of the New Agenda Coalition – Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. NPT/CONF.2020/PC.I/WP.13 http://undocs.org/NPT/CONF.2020/PC.I/WP.13


107. Ibid. p.5.


112. Ibid. p.7.


There are 54 members of the Group of African States: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cape Verde, Cameroon, the Central African Republic, Chad, Comoros, Congo, Côte d’Ivoire, the Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, the Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia, and Zimbabwe. Of these 54 only South Sudan is not currently a member of the NPT. See: Regional Groups of Member States. Department for General Assembly and Conference Management. Accessed 20 May 2021. https://www.un.org/dgacm/en/content/regional-groups.


See note 86 for group membership.


208. Ibid. p6.


242. Figures in the briefing findings discussion include Palestine and the Holy See within the total number of states where applicable. Although both entities have non-member observer status at the UN General Assembly, both are members of the NPT and other international fora. The figure for UN member states does not include Palestine and the Holy See.

243. These were Ireland, Austria, Brazil, Mexico, Nigeria, and South Africa. See: Ciarán Cannon, 2019. Statement by Minister of State for the Diaspora and International Development. https://www.dfa.ie/our-role-policies/international-priorities/peace-and-security/disarmament/prohibition-of-nuclear-weapons-bill-2019-statement/ All these states have raised concerns about modernisation in at least one NPT meeting.
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Whilst every effort has been made to ensure the accuracy of the report contents, NIS welcomes corrections and critical feedback on our work. Comments on this study are invited and should be sent to David Cullen, Director at david@nuclearinfo.org.

A webinar discussing the findings can be found on our YouTube channel (www.youtube.com/c/Nuclearinfo) and we are grateful to Alicia Sanders-Zakre from the International Campaign to Abolish Nuclear Weapons (ICAN) and Dr Gry Thomasen from the British American Security Information Council (BASIC) for their contributions to the discussion.

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