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# Nuclear Issues Emanating from the War in Ukraine and their Relevance to Gulf Security



Robert Mason  
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## Introduction

The war in Ukraine, which began on 24 February 2022 with a full-scale Russian attack on multiple Ukrainian cities, labelled a “special operation” by the Kremlin, has so far led to Europe’s largest refugee crisis since the Second World War. By September 2022, Russia had declared the annexation of four formerly Ukrainian oblasts (regions): Donetsk, Luhansk, Zaporizhzhia and Kherson (Russian troops withdrew from Kherson city in mid-November 2022). The conflict is a continuation of hostilities which resulted in the annexation of Crimea in 2014, driven at least in part by Russian imperialism<sup>1</sup>, President Putin’s resentment at not being treated by the US as an equal partner, and what he sees as the strategically disastrous collapse of the Soviet Union for Russia.<sup>2</sup> Ongoing uncertainty surrounding NATO membership offered to Georgia and Ukraine during the Bucharest summit in 2008, against Putin’s adamant opposition to NATO’s eastward expansion, is also likely to be a factor.<sup>3</sup> Russia’s national security policy at present is therefore founded on the threat from the West and assumes a defensive posture, reliant on ‘defensive weapons’ to maintain deterrence.<sup>4</sup>

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1 Jack Wang, “How Putin’s Invasion of Ukraine Connects to 19<sup>th</sup>-Century Russian Imperialism,” March 7, 2022, <https://news.uchicago.edu/story/putin-invasion-ukraine-russian-empire-19th-century-imperialism-history>

2 Spiegel International, “‘There Is No Good Historical Example’ for War in Ukraine,” July 15, 2022, <https://www.spiegel.de/international/world/interview-with-henry-kissinger-for-war-in-ukraine-there-is-no-good-historical-example-a-64b77d41-5b60-497e-8d2f-9041a73b1892>

3 Luke Harding, Julian Borger and Angelique Chrisafis, “Bush – Putin Row Grows as Pact Pushes East,” *The Guardian*, April 2, 2008, <https://www.theguardian.com/world/2008/apr/02/nato.georgia>

4 Julia Balm, “Russian Hypersonic Boost Glide Vehicles: ‘Boosting’ Putin’s National Security Strategy,” in Luba Zatzepina-McCreadie and Tom Plant (eds.), *The 2020 UK PONI Papers*, RUSI, October 2020, pp. 7-12.

The Ukraine conflict draws attention to a number of issues related to Gulf, Middle Eastern and international security. For some states in the Middle East such as Egypt, Lebanon, Sudan, Tunisia, Turkey and the UAE, which are dependent on Russia and Ukraine for wheat supplies, interrupted exports have affected their food security and led to the inflation of related food prices. Given the disparity between these economies, however, some states are able to withstand the shock more effectively than others. The conflict has more generally compromised rapid post-Covid economic recovery and created an international energy crisis due to disrupted supplies and some western states seeking new energy suppliers to replace Russia. When coupled with China’s zero-Covid policy and its effect on scrambled supply chains, the conflict has led to rampant inflation across multiple sectors. In conjunction with a stronger US dollar, it has also driven currency depreciation in some cases.

The war in Ukraine has also played out in the cyber domain. Microsoft has reported on a series of malware and phishing attacks against the Ukrainian government, organizations and soldiers between January and April 2022.<sup>5</sup> Allies such as the UK have been boosting Ukrainian cyber defenses specifically to protect Ukraine’s critical national infrastructure and vital public services from cyber-attacks. The focus has been on preventing malicious access to vital information to the war effort, attempts to undermine sovereignty and strategic advantage, and includes forensic capabilities to fully understand breaches or attempted breaches. Whilst not specifically nuclear related, it reflects cyber-attacks as an important element in hybrid warfare, and a tool which has been allegedly utilized by the US and Israel when targeting the Iranian nuclear program in a sustained attempt to retard its progress.<sup>6</sup>

5 Microsoft Security Response Center, “Cyber Threat Activity in Ukraine: Analysis and Resources,” April 27, 2022, <https://msrc-blog.microsoft.com/2022/02/28/analysis-resources-cyber-threat-activity-ukraine/>

6 See for example, Ellen Nakashima and Joby Warrick, “Stuxnet Was Work of U.S. and Israeli Experts, Officials



For the sake of brevity, scale of the challenge and potential impact on Gulf security, this paper will concentrate on nuclear issues from the Ukraine conflict and their implications for Gulf security.

### ***Nuclear Weapons Use and Proliferation***

The war in Ukraine represents an egregious breach of international law – an extension of what President Putin describes as a new playing field established by the ‘unconstitutional coup’ and a ‘military seizure of power’ following the election of pro-western President Viktor Yanukovich in Ukraine in 2014, who he says was aided by western powers, violating the sovereignty of Ukraine.<sup>7</sup> Russia’s latest encroachment is, however, contrary to President Putin’s previous rationale and interest in upholding the sovereignty norm. He had criticized the G. W. Bush administration’s decision to launch the 2003 war in Iraq<sup>8</sup> and urged the restoration of sovereignty to Iraqis<sup>9</sup> and used President Assad’s sovereign political legitimacy as its key rationale in defending its military

intervention in Syria from 2015.<sup>10</sup> Challenging global norms such as sovereignty could have serious consequences not only for territorial warfare, but also for Russia’s own regime security as a consolidated authoritarian state, as well as a knock on to other aspects of international law such as non-proliferation. Following Turkey’s closure of the Bosphorus and Dardanelles Straits under the Montreux Convention and the sinking of Russia’s Flagship “Moskva” in the Black Sea, Russia’s strategic corridor across the eastern Mediterranean has been compromised.<sup>11</sup> The lack of traction on a base in Sudan could also mean a doubling down in other spheres of influence across the Middle East, namely an increasing reliance on Iran, on clients seeking civilian nuclear power, and on relations within OPEC+. Whereas non-state actors such as the Wagner Group offered plausible deniability for a time in Ukraine and other theaters, Russia’s maximalist aims in Ukraine mean that full state commitment is needed to advance the prospects of success.

President Putin raised the specter of nuclear weapons use in the war with Ukraine in late September 2022 as Russian fortunes on the battlefield waned, sending a poor signal to Russian allies and arms purchasers in the Middle East. Following his comments on the subject, senior Russian military leaders are said to have discussed how and when they might use tactical nuclear weapons in Ukraine.<sup>12</sup> A tactical nuclear weapon has never been used in combat

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Say,” *The Washington Post*, June 2, 2012, [https://www.washingtonpost.com/world/national-security/stuxnet-work-of-us-and-israeli-experts-officials-say/2012/06/01/gJQAlnEy6U\\_story.html](https://www.washingtonpost.com/world/national-security/stuxnet-work-of-us-and-israeli-experts-officials-say/2012/06/01/gJQAlnEy6U_story.html); Martin Chulov, “Israel Appears to Confirm it Carried Out Cyberattack on Iran Nuclear Facility,” *The Guardian*, April 11, 2021, <https://www.theguardian.com/world/2021/apr/11/israel-appears-confirm-cyberattack-iran-nuclear-facility>

7 BBC News, “Putin on Ukraine crisis: ‘It is an unconstitutional coup’”, March 4, 2014, <https://www.bbc.com/news/av/world-europe-26436575>; Sergei Lavrov, Address to 69th Session of UN General Assembly, September 27, 2014, <http://www.mid.ru>

8 In a PLOS Medicine Survey, the Iraq war is said to have cost the lives of 460,000 between 2003 and 2011. Amy Hagopian et al, “Mortality in Iraq: Associated with the 2003-2011 War and Occupation: Findings from a National Cluster Sample Survey by the University Collaborative Iraq Mortality Study,” *PLOS Medicine*, October 15, 2013.

9 Steven Lee Myers, “Putin Says U.S. Faces Big Risks in Effort in Iraq,” *The New York Times*, October 6, 2003, <https://www.nytimes.com/2003/10/06/world/putin-says-us-faces-big-risks-in-effort-in-iraq.html>

10 Roy Allison, “Russia and Syria: Explaining Alignment with a Regime in Crisis,” *International Affairs*, 89 (4), July 2013:795-823.

11 For more on this see Roy Alison, “Russian Legal and Normative Claims for its Intervention in the Syrian Conflict Since 2015,” in Nikolay Kozhanov (ed.) *Russian Foreign Policy Towards the Middle East: New Trends, Old Traditions* (London: Hurst/OUP, 2022).

12 Paul Kirby, “Russian Commanders Discussed Using Nuclear Arms in Ukraine, Says US,” *BBC News*, November 2, 2022, <https://www.bbc.com/news/world-europe-63488547>

(although two atomic bombs were dropped by US forces on Hiroshima and Nagasaki in 1945 - which would now be considered low-yield nuclear weapons - with an explosive yield of about 15 kilotons of dynamite and 20 kilotons of dynamite respectively).<sup>13</sup> They killed an estimated 129,000 to 226,000 people<sup>14</sup>, most of them civilians. Russia has about 2,000 lower yield tactical nuclear weapons, which could be deployed by missile or artillery shell, capable of killing thousands and impacting the health of millions.<sup>15</sup> But Russian forces are noted as not being trained to adequately exploit nuclear weapons use on the battlefield and therefore their use is regarded as being mainly for deterrence purposes.<sup>16</sup> Nevertheless, the risk is serious enough (along with the issue of US prisoners being held by Russia) that it led to CIA Director William Burns and his Russian counterpart, Sergei Naryshkin, meeting for face-to-face discussions in Turkey in November 2022.<sup>17</sup>

Russian defense calls for the deployment of modern weaponry such as the Avanguard, a Hypersonic Boost-Glide Vehicle (HBGV) with speeds of up to Mach 20 (and therefore unable to be intercepted) which is launched into the upper atmosphere on a ballistic missile, has a range of 6,000km and is

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13 ICAN, "How Destructive are Today's Nuclear Weapons?," [https://www.icanw.org/how\\_destructive\\_are\\_today\\_s\\_nuclear\\_weapons](https://www.icanw.org/how_destructive_are_today_s_nuclear_weapons)

14 Mail Online, "Putin's Deranged Hiroshima Threat: Russian Leader Tells Macron the 1945 Atomic Bomb is Proof 'You Don't Have to Launch Nuclear Strike on a Major City to Win a War,'" November 5, 2022, <https://www.dailymail.co.uk/news/article-11394307/Putins-deranged-Hiroshima-threat-conversation-Macron.html>

15 Julian E. Barnes, Helene Cooper and Eric Schmitt, "The Reality Behind Russia's Talk About Nuclear Weapons," *The New York Times*, November 2, 2022, <https://www.nytimes.com/2022/11/02/us/politics/putin-russia-nuclear-weapons.html>

16 Ibid.

17 Guy Faulconbridge and Humeyra Pamuk, "CIA Boss Talks Nuclear Weapons and Prisoners with Putin's Spy Chief," *Reuters*, November 15, 2022, <https://www.reuters.com/world/russian-us-officials-holding-talks-turkey-kommersant-2022-11-14/>

highly maneuverable and versatile.<sup>18</sup> It is one of 18 operational missiles in the Russian stockpile, alongside almost 6,000 nuclear warheads which can be launched from such missiles or submarines or aircraft.<sup>19</sup> Russia is already reeling from unprecedented western sanctions that are targeting Russian individuals, energy companies and high-tech industries for the part they play in the war in Ukraine. In response to the potential Russian use of nuclear weapons in Ukraine, former British Prime Minister Boris Johnson noted that a likely response would include a "cryogenic economic freeze" against Russia's economy, and that Russia would "lose a lot of the middle ground of global tacit acquiescence that he's had" during the war in Ukraine.<sup>20</sup>

In the Middle East, concerns surrounding nuclear weapons is largely confined to the nuclear-armed state of Israel which operates an opaque declaration policy. Its program continues despite the "Resolution on the Middle East", calling for a Weapons of Mass Destruction (WMD) Free Zone which was an integral part of the package that led Arab states to support the indefinite extension of the Non-Proliferation Treaty (NPT) in 1995. Although Arab states shelved direct criticism of Israel during the first Conference on the Establishment of a Middle East Zone Free of Nuclear Weapons and Other Weapons of Mass Destruction in 2019, without its implementation by the NPT depository states (US, Russia and the UK), Arab state support of NPT review conferences could become increasingly hard to secure.<sup>21</sup> Another serious impediment to progress within the non-proliferation regime and

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18 Julia Balm, "Russian Hypersonic Boost Glide Vehicles: 'Boosting' Putin's National Security Strategy" in Luba Zatssepina-McCreadie and Tom Plant (eds.), *The 2020 UK PONI Papers*, op.cit.

19 ICAN, "Russia," <https://www.icanw.org/russia>

20 BBC News, "Boris Johnson Confirms he is Attending COP27 in Egypt," November 2, 2022, <https://www.bbc.com/news/uk-politics-63478120>

21 Tomisha Bino, "The Middle Eastern WMD-Free Zone and the NPT," Arms Control Association, July/August 2022, <https://www.armscontrol.org/act/2022-07/features/middle-eastern-wmd-free-zone-npt>



in other spheres will be the lack of US - Russian cooperation beyond the new START treaty on nuclear arms, extended to 2026.

Outside of Israel, Iran stands accused of harboring nuclear ambitions and building a nuclear program with questionable intent. The Joint Comprehensive Plan of Action (JCPOA) agreed on by the permanent five members of the UN Security Council, Germany and Iran in 2015, was compromised by President Trump in 2018 when he unilaterally withdrew the US from the agreement. Since then, Iran no longer sees compliance with the JCPOA to be in its interests. In August 2022, Kamal Kharrazi, an adviser to the Supreme Leader Ali Khamenei, said: “In a few days we were able to enrich uranium up to 60% and we can easily produce 90% enriched uranium . . . Iran has the technical means to produce a nuclear bomb but there has been no decision by Iran to build one.”<sup>22</sup> A new nuclear deal between the US and Iran is yet to be agreed upon and there are doubts that an agreement is achievable in the current climate of Iranian support for Russia in Ukraine and the protest movement building inside Iran.<sup>23</sup> Should Iran develop a nuclear weapon(s), it would fundamentally alter the regional balance of power in the Gulf by facilitating a new era of pre-emptive strikes and nuclear proliferation.

Israel which, like the UAE, lacks strategic depth, would probably respond first as it has done in the past against nascent suspected nuclear programs. Operation Opera/Babylon was conducted on June 7, 1981 and destroyed an unfinished Iraqi nuclear reactor located southeast of Baghdad. In Operation Outside the Box/Orchard, an Israeli strike hit a suspected Syrian nuclear reactor in the Deir ez-Zor region of Syria on September 6, 2007.

22 Jon Gambrell, “Analysis: Iran Now Speaking Openly on Nuclear Bomb Prospects,” *AP News*, August 4, 2022, <https://apnews.com/article/middle-east-iran-dubai-nuclear-d96093efcf1e6b8581138b9db48cbedc>

23 AFP, “Blinken Sees no ‘Near-Term Prospect’ for Iran Nuclear Deal,” October 26, 2022, <https://english.alarabiya.net/News/middle-east/2022/10/26/Blinken-sees-no-near-term-prospect-for-iran-nuclear-deal>

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Although Saudi Arabia would want to be seen to be a neutral actor in such a confrontation between Israel and Iran, should such an attack prove impossible or ineffective at halting Iran’s transition into a nuclear power, Riyadh would no doubt quickly follow Iran’s lead. Crown Prince Mohammed bin Salman stated publicly in March 2018 that “Saudi Arabia does not want to acquire any nuclear bomb, but without a doubt if Iran developed a nuclear bomb, we will follow suit as soon as possible.”<sup>24</sup> Given the kingdom has access to significant uranium deposits on its territory and has already begun extracting uranium yellowcake from uranium ore, with China’s help, as part of its civil nuclear program<sup>25</sup>, it could potentially catch up with Iran rapidly. There is an argument that the International Atomic Energy Agency (IAEA) should therefore extend its inspection regime to all

24 Reuters, “Saudi Crown Prince Says Will Develop Nuclear Bomb if Iran Does: CBS TV,” March 15, 2018, <https://www.reuters.com/article/us-saudi-iran-nuclear-idUSKCN1GR1MN>

25 Jennifer Gnana, “Saudi Arabia to Develop ‘Huge’ Uranium Resources in Energy Diversity Push: Minister,” *S&P Global*, January 12, 2022, <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/electric-power/011222-saudi-arabia-to-develop-huge-uranium-resources-in-energy-diversity-push-minister>

states, closely monitoring states with ambiguous nuclear policies and those able to acquire nuclear weapons from third party states.

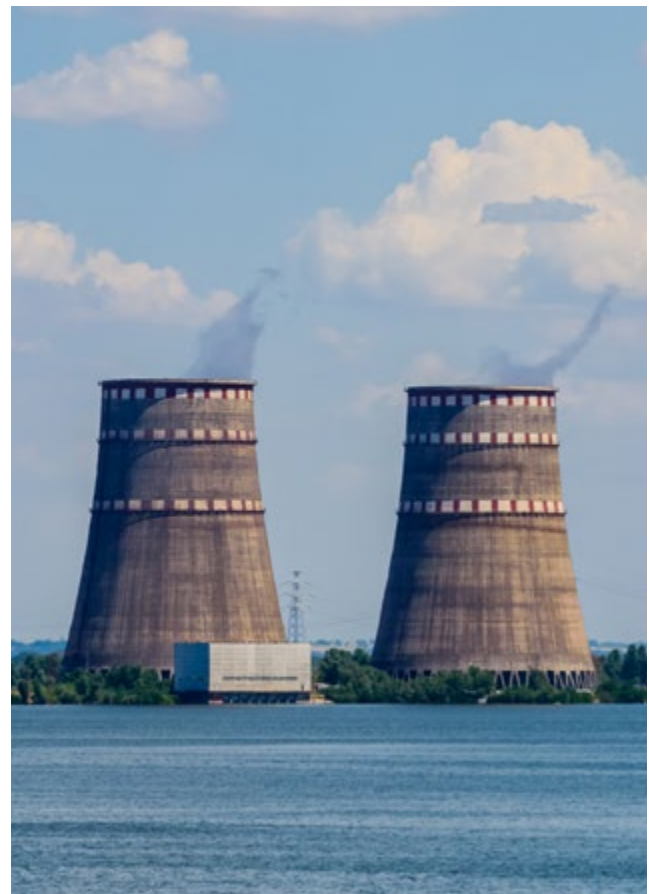
### *Civil Nuclear Power Plants*

There are multidimensional threats to nuclear power plants, including from terrorism, conflict, earthquakes, civil unrest or accidents. It is the unexpected nature of these factors or combination thereof, which makes them dangerous and difficult to mitigate against, as the Fukushima nuclear disaster in Japan in 2011 shows. The attack on, and capture of, the Zaporizhzhia Nuclear Power Station in southeast Ukraine has been alarming. Zaporizhzhia is the largest nuclear power plant in Europe and has been occupied by Russian forces since March 12, 2022. The Chernobyl nuclear accident in 1986 and the Fukushima incident, two of the most severe in history, coupled with an attempted intrusion by *Right Sector*, a Ukrainian far-right group, to the Zaporizhzhia site in 2014, have focused the international community on stabilizing the situation. When the IAEA visited Zaporizhzhia in September 2022, they reported damage caused by external shelling and the potential threat to plant security from the presence of occupying troops in the plant.<sup>26</sup> The use of the site as a Russian army base, alleged repulsion of Ukrainian attempts to retake the facility in October 2022, and as a shield against strikes and bombardment, should make site security and the independent operation of nuclear related sites during periods of conflict an IAEA priority. Concerns must be heightened by reports of the facility as potential cover for a false flag operation (committed with the intent of disguising the actual source of responsibility) involving a “dirty bomb” (a device which combines radioactive material with explosives).<sup>27</sup>

26 IAEA, “Nuclear Safety, Security and Safeguards in Ukraine,” 2<sup>nd</sup> Summary Report by the Director General, 28 April – 5 September 2022, [https://www.iaea.org/sites/default/files/22/09/ukraine-2ndsummaryreport\\_sept2022.pdf](https://www.iaea.org/sites/default/files/22/09/ukraine-2ndsummaryreport_sept2022.pdf)

27 Euronews and AP, “Ukraine War: Russia’s Secret Work at Nuclear Plant”; “‘Dirty Bomb’, Refugees

During a de-escalatory phase in the Gulf following the election of President Biden and a return to nuclear negotiations with Iran, sparking some regional dialogues, many of the main security challenges continue to come from either state miscalculation or from non-state actors acting independently or offering plausible deniability to a state sponsor. The rise of Islamic State, especially suicide attacks in Syria and Iraq, have led to fears that nuclear sites such as Bushehr (which began functioning in Iran in 2011) might be attacked. The Gulf is a relatively small region,



and what happens on the shores of one side of the Gulf in the nuclear sphere is bound to affect the other. Al Qaeda’s use of commercial airlines on September 11, 2001 were used for dramatic effect.

Urged to Stay Away,” *Euronews*, October 26, 2022, <https://www.euronews.com/2022/10/26/ukraine-war-russia-doing-secret-work-at-zaporizhzhia-nuclear-plant-amid-dirty-bomb-claims>



Its use of WMD, involving chemical, biological, radioactive or nuclear materials would no doubt be calculated to cause maximum loss, destruction and psychological trauma to the confidence of a nation. However, as Dr. Richard A. Meserve, then Chairman of the Nuclear Regulatory Commission in Washington D.C., observed in 2002, the impact of a so-called “dirty bomb” would probably be lower than assumed. Tens of people, rather than thousands, could be killed. The number reflects the sophistication of protection required to produce a more potent radioactive weapon, the safeguards in place, dispersal of material taking place at the point of explosion, and the mitigating effect of evacuation.<sup>28</sup> Although the impact is bound to vary depending on these factors in different locations, the potential for chaos is perhaps going to be the greatest common threat.

The Iranian backed Houthis alleged that they managed to hit the Barakah nuclear site located in the UAE with a missile during its construction phase in 2017, although such an allegation has been dismissed by the UAE government.<sup>29</sup> Should such an attack occur, especially after Barakah began operating in 2021, it would show the difficulty of defending nuclear sites from aerial threats and highlight a lack of strategic depth in the UAE from regional threats. Nuclear power is currently at a nascent stage in the Middle East, but it will become more commonplace due to rising electricity demand (in part to power rising demand for cooling and desalination plants), climate change policies favoring decarbonization, and measures aimed at implementing economic diversification alongside the diversification of the energy mix.

Many countries in the MENA region are pursuing civil nuclear power: Egypt, Iran, Jordan, Kuwait, Qatar, UAE and Saudi Arabia. In Turkey, the Akkuyu plant is under construction, built, owned and operated by Rosatom. Egypt plans four nuclear reactors, and construction has already begun on El Dabaa nuclear power plant in July 2022. Saudi Arabia plans sixteen reactors by 2040.

Despite strong economic, environmental and energy incentives, a multitude of nuclear proliferation risks and safety concerns are evident.<sup>30</sup> These extend beyond nuclear power plants to include nuclear reactors used for research, testing and training; nuclear materials used in medical, industrial and academic environments; nuclear fuel fabrication facilities; decommissioning reactors; and transportation, storage, and disposal of nuclear material and waste.<sup>31</sup> Licensing, control and better engagement with third parties is therefore paramount.

### *State-Based Measures to Enhance Nuclear Safety and Security*

At the 2016 Nuclear Security Summit, 102 nations adopted the Amendment to the Convention on Physical Protection of Nuclear Material (CPPNM), requiring ratifying states to take steps to safeguard their nuclear material and facilities against threats such as terrorism. According to the National Threat Initiative Nuclear Security Index, many Middle Eastern states still have some way to go in boosting their support for global efforts, protecting facilities and preventing a dirty bomb.

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28 United States Senate Committee on Foreign Relations, “Dirty Bombs and Basement Nukes: The Terrorist Threat,” Senate Hearing 107-575, March 6, 2002, <https://www.govinfo.gov/content/pkg/CHRG-107shrg80848/html/CHRG-107shrg80848.htm>

29 Shuaib Almosawa and Thomas Erdbrink, “U.A.E. Denies Yemen Rebels Fired Missile at Abu Dhabi Nuclear Plant,” *The New York Times*, December 3, 2017, <https://www.nytimes.com/2017/12/03/world/middleeast/yemen-houthi-missile-abu-dhabi.html>

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30 Robert Mason and Gawdat Bahgat, “Civil Nuclear Energy in the Middle East: Demand, Parity and Risk,” The Arab Gulf States Institute in Washington, April 11, 2019, [https://agsiw.org/wp-content/uploads/2019/04/Mason\\_Bahgat\\_Civil-Nuclear\\_ONLINE-1.pdf](https://agsiw.org/wp-content/uploads/2019/04/Mason_Bahgat_Civil-Nuclear_ONLINE-1.pdf)

31 US Department of Homeland Security, “National Infrastructure Protection Plan: Nuclear Reactors, Materials and Waste Sector,” [https://www.dhs.gov/xlibrary/assets/nipp\\_nuclear.pdf](https://www.dhs.gov/xlibrary/assets/nipp_nuclear.pdf)

Iran, which ranks 21 out of 22 states for securing weapons grade nuclear materials, and 46 out of 47 states in protecting facilities (such as nuclear power reactors or research reactors), could strengthen insider threat prevention, strengthen cybersecurity, strengthen security culture, ratify treaties to bolster global architecture (such as the CPPNM), support global norms through voluntary actions (such as becoming a member of the Global Initiative to combat Nuclear Terrorism and opening a Center of Excellence to offer nuclear security training). Iran does participate in IAEA initiatives such as conferences and incident and trafficking databases. It could build confidence in nuclear security (beyond public declarations and reports about nuclear material stocks) and subscribe to nuclear security information circulars.<sup>32</sup>

Kuwait, which ranks 69 out of 154 states in supporting global efforts, could improve its ranking beyond adopting indicators such as ratifying the CPPNM and IAEA safeguards agreement, by taking additional voluntary actions such as becoming a member of the Global Initiative to Combat Terrorism, and subscribing to nuclear security information circulars.<sup>33</sup> While Qatar, which ranks 56 out of 154 states, has ratified most treaties to bolster the global security architecture, except the IAEA safeguards agreement,<sup>34</sup> it could equally further support global norms through the same voluntary actions of membership in the Global Initiative to Combat Nuclear Terrorism and subscribing to nuclear security information circulars.<sup>35</sup>

The UAE ranks 12 out of 154 states on supporting global efforts and 18 out of 47 states on protecting facilities.<sup>36</sup> It has ratified treaties to support

the global architecture and taken a number of voluntary measures through voluntary actions such as becoming a member of the Global Initiative to Combat Nuclear Terrorism.<sup>37</sup> Its ‘123 Agreement’ with the US is the “gold standard” of non-proliferation by not permitting a country to enrich or reprocess nuclear material acquired from the US.

Saudi Arabia currently ranks 66 out of 154 states in supporting global nuclear security efforts.<sup>38</sup> It has ratified most related treaties, except the IAEA nuclear safeguards agreement, is a member of the Global Initiative to Combat Nuclear Terrorism and it is involved in bilateral nuclear security cooperation.<sup>39</sup> Saudi Arabia is currently in discussions with the US over a so-called ‘123 Agreement’. However, with China’s growing civil nuclear credentials, inclusion of nuclear power in its Belt and Road Initiative, and positive but uncertain relationship with Russia (given its territorial revisionism, nuclear saber-rattling and relative isolation in the G20), China could be better placed than the US to influence the rollout of civil nuclear programs across the Middle East in the future.<sup>40</sup>

## Conclusion

There are a series of commonalities and fluidities between Ukraine and the Gulf concerning the impact of alliances, diplomacy, coercion, and the mismatch between sanctions and hard power objectives, especially when set against the more immediate constraint from diplomacy leading to an implemented agreement. The JCPOA could have functioned as a building block towards greater arms control and regional security.

32 NTI Nuclear Security Index 2020, “Iran,” <https://www.ntiindex.org/country/iran/>

33 NTI Nuclear Security Index 2020, “Kuwait,” <https://www.ntiindex.org/country/kuwait/>

34 NTI Nuclear Security Index 2020, “Qatar,” <https://www.ntiindex.org/country/qatar/>

35 Ibid.

36 NTI Nuclear Security Index 2020, “United Arab

Emirates,” <https://www.ntiindex.org/country/united-arab-emirates/>

37 Ibid.

38 NTI Nuclear Security Index 2020, “Saudi Arabia,” <https://www.ntiindex.org/country/saudi-arabia/>

39 Ibid.

40 Mark Hibbs, “Conclusions and Outlook,” *The Future of Nuclear Power in China*. Washington D.C.: Carnegie Endowment for International Peace, 2018. p. 110





It might even have led to a new dialogue on a Gulf security architecture in which US, GCC state and Iranian security interests could eventually have been reconciled. There is no apparent alternative should the JCPOA fail, beyond a military option or highly destabilizing nuclear proliferation. Hybrid warfare is increasingly apparent in Russian, US and regional strategies, incorporating the cyber domain, and yet there is often evidence of only modest gains. This is especially the case when stacked against nuclear agreements such as the JCPOA that include verifiable checks that enable both sides to monitor compliance with a treaty. Indeed, prior to the unilateral withdrawal of the US and even up to July 2019, Iran was found to be in compliance with the JCPOA's provisions by the United Nations, European Union, the IAEA and non-US participating governments.<sup>41</sup>

President Putin's invasion of Ukraine showcases the impact of a perceived strategic disaster in the decline of its empire on the mindset of leadership, translating into the increased likelihood of greater foreign policy assertiveness and persistent or refreshed territorial claims. This is still relevant in Iranian attitudes towards Bahrain, Abu Musa and the Tunb islands after British withdrawal from the Gulf. The NATO–Russian relationship underscores the risks associated with leaving contentions to fester, the importance of explicit and precise communication in avoiding foreign policy blunders, the centrality of alliances and international unity, and the role that creative bilateral diplomacy and regional forums could potentially play in creating opportunities for dialogue and in de-escalation. The paper elucidates and contextualizes the various threats from conflict and instability that affect nuclear security, including from internal threats, from cyber warfare, and evolutions in conventional and strategic warfare whose effects can be equally devastating. It finds that some vital aspects of nuclear security are yet to be fully addressed by

many states, including site security, enhanced nuclear safeguards, and additional voluntary actions. There is a recognition that nuclear safety is a process requiring a sustained investment in technology, the development of regulatory frameworks, and building educational capacity.

Russia is integral to global governance but deadlock in the UN Security Council and the inability of multilateral organizations such as the Organization for Security and Cooperation in Europe (OSCE) to influence the outcome in Ukraine echoes the inability of the UN Security Council to stop the Iraq War and potential weakness in addressing further escalation in the Gulf. Russian identity, role conception, and decision making, coupled with NATO enlargement and influence, directly affect regional and international security. This could have serious consequences for the international non-proliferation regime.

The impact of conflict on the mindset of leaders in (emerging) nuclear powers is an area ripe for further inquiry. Russia and China could come to dominate civil nuclear power in the Middle East, pending their policies and respective positions in the Middle East and international system relative to the US. The Ukraine war has drawn attention to a series of nuclear issues, but not to the extent that Middle Eastern states have yet reconsidered their contracts with Rosatom, the Russian state, or the rollout of nuclear power plants more broadly. Given the growing potential for international competition and conflict affecting the Gulf and Middle East, new entrants to civil nuclear energy might choose to follow a path of least resistance and best practice already outlined by the UAE.

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41 Congressional Research Service, "Iran's Nuclear Program: Tehran's Compliance with International Obligations," CRS Report for Congress, September 23, 2022, p. 4, <https://sgp.fas.org/crs/nuke/R40094.pdf>



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