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THE LOOMING NUCLEAR THREAT WITH IRAN

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Following the fallout of the Joint Comprehensive Plan of Action (JCPOA), which was once considered as the significant milestone in the initiative for non-proliferation, failed after lasting for two years. The then President of the United States, Donald J Trump abandoned the deal altogether in 2018 and went on to impose sanctions on Iran. The stakes have never been higher, and the Iranian situation has the chance to spiral out of control. The outcome of the Iranian nuclear crisis would determine the future of non-proliferation and prevent a tenth nation from securing nuclear weapons. If Iran emerges as a nuclear power, it will incite Saudi Arabia on the same trajectory. If the new talks with Iran fail, there will be massive consequences to world order and global justice.

Iran's Nuclear History

In the 1950s, the United States helped Iran to create its own nuclear programme under the 'United States Atoms for Peace Programme'. The sole purpose of the programme was to help developing nations to avail the use of nuclear power, but it was strictly limited for energy and other peaceful purposes. In 1967 the country received its first research reactor called the Tehran Research Reactor (TRR), and it had an output of 5 megawatts (MW) and was capable of producing 600 grams of plutonium a year.¹ Following the development of the first nuclear reactor Kraftwerk, a German company helped Iran to construct the Bushehr Nuclear Power Plant, a plant meant to hold two nuclear reactors. In 1979, the Shah of Iran ratified the Non-Proliferation Treaty, and while the first reactor was almost done constructing at the Bushehr Nuclear Power Plant, the Iranian Revolution resurrected. Upon the creation of the Islamic Republic in 1979, there was a significant change in the country's policies and agenda. The new leader Ayatollah Khomeini viewed Iran's nuclear policy as "un-Islamic".² The new leadership strained its relationship with the United States, and it no longer received any help from the US nor its allies. Iran turned towards countries like China

¹ "Tehran Research Reactor (TRR)." The Nuclear Threat Initiative, November 19, 2021. <https://www.nti.org/education-center/facilities/tehran-research-reactor-trr/>.

² Malus, Katherine. "From 'Atoms for Peace' to 'JCPOA': History of Iranian Nuclear Development." Center for Nuclear Studies, Columbia University, September 9, 2018. <https://k1project.columbia.edu/content/atoms-peace-jcpoa-history-iranian-nuclear-development>.

and Pakistan to complete its nuclear agenda, however most deals were blocked by the US which made Iran seek help from other countries like North Korea. Additionally, there is evidence suggesting that Iran has received nuclear plans and other critical components like centrifuges from Pakistani scientist's A.Q. Khan's underground nuclear network.³ In order to prevent such instances from occurring, certain negotiations were conducted, and most of the talks failed until the JCPOA. It began with the 2003 Additional Protocols, which granted the International Atomic Energy Agency (IAEA) access to Iran's nuclear programme.⁴ However, after three years Iran backed out of the agreement when IAEA found undisclosed parts of the nuclear program.⁵ Following its withdrawal from the Additional Protocol, Iran has announced the making of new nuclear facilities and were expected to hold 278 centrifuges and within four years the country has announced that it could produce highly enriched uranium (over 20%, which is the minimum for constructing a nuclear weapon) as opposed to the agreed 3 to 5% which could be used for generating electricity only.⁶

This development was a cause of concern for the international community and Iran was slapped with fresh sanctions. In 2010, there was a Stuxnet worm attack on the Iranian nuclear facilities which caused the centrifuges to break, and parties did not claim responsibility for such a cyberattack and many experts believe that it was a joint operation between the United States and Israel.⁷ Yet Iran's nuclear programme continued to grow, and with Hassan Rouhani being elected as the new President, things looked promising for a new deal. The talks initiated led to the JCPOA, to which Iran agreed to slow down its progress towards the construction of nuclear weapons and the centrifuge construction and in effect, it curtailed the nuclear activities of Iran.

³ Laufer, Michael. "A. Q. Khan Nuclear Chronology." Carnegie Endowment for International Peace, September 7, 2005. <https://carnegieendowment.org/2005/09/07/a.-q.-khan-nuclear-chronology-pub-17420>.

⁴ "Glossary." The Nuclear Threat Initiative, November 22, 2021. <https://www.nti.org/education-center/glossary/#additional-protocol>.

⁵ *Ibid*

⁶ Malus, Katherine. "From 'Atoms for Peace' to 'JCPOA': History of Iranian Nuclear Development." Center for Nuclear Studies. Columbia University, September 9, 2018. <https://k1project.columbia.edu/content/atoms-peace-jcpoa-history-iranian-nuclear-development>.

⁷ Holloway, Michael. "Stuxnet Worm Attack on Iranian Nuclear Facilities." Stanford University, July 16, 2015. <http://large.stanford.edu/courses/2015/ph241/holloway1/>.

JCPOA and its aftermath

The JCPOA deal was criticised by many sections, which included Israel and Saudi Arabia as well as the US President Donald Trump and his administration who unilaterally withdrew from the agreement in May 2018, and later reimposed strict sanctions on Iran. According to President Trump, *“This was a horrible one-sided deal that should have never, ever been made.”* This decision was made upon the rationale that it does not question Iran’s ballistic missiles nor its hostile behaviour in the region and he believes that the expiration dates on the sunset clauses in the JCPOA would lead to an Iranian nuclear weapon in the near future. Despite the withdrawal of the United States, Iran was still committed to the JCPOA until 2019 when they intensified their nuclear program by increasing its uranium stockpile 12 times over the agreed limit.⁸ Moreover, the country has installed IR-6 centrifuges, which are way faster than the allowed IR-1 centrifuges. They have also increased the uranium enrichment from under 4% purity to around 60% purity. According to Rafael Grossi, the head of the International Atomic Energy Agency (IAEA), *“only countries making bombs are reaching this level.”*⁹

President Joe Biden has agreed that the United States would re-join the agreement, if Iran chooses to comply with the deal, but has also indicated to agree on a deal, provided that it would cover Iran’s ballistic missiles as well. JCPOA signatories began talks in April last year to reach a compromise between the United States and Iran. However, they were stalled upon the election of Ebrahim Raisi, Iran’s new and more hard-line president, and has stated that *“regional and missile issues are non-negotiable.”*¹⁰ The talks still continue with the hopes of getting an acceptable resolution to both sides; wherein Iran shall agree to stop constructing nuclear fuel using the latest centrifuges and consequently for the withdrawal of American sanctions on Iran.¹¹ After several attempts at restarting the talks between the United States and Iran, both parties have agreed to

⁸ “Iran’s Enriched Uranium Stockpile 12 Times Limit, Says IAEA.” BBC, November 12, 2020. <https://www.bbc.com/news/world-middle-east-54912402>.

⁹ Turak, Natasha. “Only Countries Making Bombs’ Are Enriching Uranium at Iran’s Level, IAEA Chief Says.” CNBC, May 26, 2021. <https://www.cnbc.com/2021/05/26/iaea-chief-on-iran-nuclear-program-only-countries-making-bombs-are-enriching-at-this-level.html>.

¹⁰ Robinson, Kali. “What Is the Iran Nuclear Deal?” Council on Foreign Relations, August 18, 2021. <https://www.cfr.org/backgroundunder/what-iran-nuclear-deal>.

¹¹ Sanger, David E., and Farnaz Fassihi. “Iran Accelerates Nuclear Program, but Offers Path Back from Confrontation.” The New York Times, November 18, 2020. <https://www.nytimes.com/2020/11/18/world/middleeast/trump-iran-nuclear.html>.

begin exchanging ideas about how to return to the JCPOA deal in Vienna. And the U.S. has shown its intention to join the talks alongside the European nations, and it would be the first shot at diplomatic talks between both the parties, since President Trump unilaterally withdrew from the accords. As a result, the signatories of the JCPOA decided to return to the table in Vienna and the talks are ongoing since April, 2021 with the aim of restoring compliance as well as an agreement on Iran's nuclear enrichment which would further lead to the lifting of sanctions.¹²

The talks are essentially aimed at creating a clear directive for a “synchronised return” of the United States and Iran back to the JCPOA. Meanwhile, there have been certain developments that have been hovering over the Iranian nuclear reactors. Iran's Natanz uranium enrichment site appears to have been plagued by a power failure. It seems like a sabotage which was orchestrated by the Israelis as stated by Iran. However, Iran did not disclose how the blackout occurred at the heavily fortified site, and Israel has publicly denied nor confirmed any sort of participation in such an attack. This was the third attack, and the second in a year at the Natanz nuclear station. However, American and Israeli intelligence do believe that there was an Israeli role behind the attack. The intelligence report also indicates that the damage has been caused by a *“a large explosion that completely destroyed the independent — and heavily protected — internal power system that supplies the underground centrifuges that enrich uranium.”*

The attack was a severe blow on Iran's capability to enrich Uranium, and it could take at least nine months for Iran to repair and restore the uranium enrichment production at the Natanz Enrichment Facility. As a result, this has significantly compromised the Vienna talks, however, it is still not clear whether the Americans were involved in the sabotage attacks and how much in advance did the Biden administration know about such an attack. The head of Iran's Atomic Energy Organisation, Ali Akbar Salehi has called such actions as “nuclear terrorism” and he further stated that:

“The action this morning against the Natanz enrichment site shows the defeat of those who oppose our country's nuclear and political development and the significant gains of our nuclear

¹² Sanger, David E., Steven Erlanger, and Farnaz Fassihi. “U.S. and Iran Agree to Indirect Talks on Returning to Nuclear Deal.” The New York Times, April 2, 2021. <https://www.nytimes.com/2021/04/02/world/europe/us-iran-nuclear-deal.html?searchResultPosition=1>.

industry... The incident shows the failure of those who oppose Iran negotiating for sanctions relief.”¹³

This is not the first time that the Natanz was attacked. The same facility was attacked three times over the course time and the previous attack occurred in July 2021 wherein a bomb had exploded in premises where new set of centrifuges were being developed and it has delayed their goals by several months. Iran strongly believes that such an attack could be possible only via physical infiltration. The first attack on the same facility was more than a decade ago where Stuxnet was used to disable 1000 centrifuges and the attack has set back the country for about two years. Israel considers Iran as an adversary, has occasionally sabotaged Iran’s nuclear development in the past, via cyberattacks as well as assassinating key individuals. In 2020, Iran’s top nuclear scientist Mohsen Fakhrizadeh was shot and killed by a roadside ambush. According to American and Israeli intelligence, he was a leading individual behind Iran’s attempts to design an atomic weapon. It is widely believed that the Israelis are behind the attack on the scientist and Israel does not deny nor confirm these allegations.¹⁴

Back in June 2021, the Iranian authorities believe that they had foiled a ‘sabotage attack’ targeting a civilian nuclear facility near the country’s capital, Tehran based on reports published by Iran’s Nournews. It says that they have foiled an attack at a reactor in Karaj City, 25 miles away from the capital before causing any casualties nor any damage and further details remain scarce.¹⁵ Recently, Iran’s Russian-built Bushehr nuclear power plant has suffered a malfunction in its main generator, and it has gone under temporary emergency shutdown. The whole shutdown lasted around three to four days as stated by the Gholamali Rakhshanimehr, an official from the state electric company. This was the first time the plant has suffered from an emergency shutdown. The authorities have also stressed on the fact that the shutdown was not caused by the series of earthquakes that hit Iran in the past few weeks. Iranian Ambassador to Russia, Mahmoud Reza

¹³ Bergman, Ronen, Rick Gladstone, and Farnaz Fassihi. “Blackout Hits Iran Nuclear Site in What Appears to Be Israeli Sabotage.” The New York Times, April 11, 2021. <https://www.nytimes.com/2021/04/11/world/middleeast/iran-nuclear-natanz.html>.

¹⁴ Sanger, David E., Eric Schmitt, Farnaz Fassihi, and Ronen Bergman. “Gunmen Assassinate Iran’s Top Nuclear Scientist in Ambush, Provoking New Crisis.” The New York Times, November 28, 2020. <https://www.nytimes.com/2020/11/27/world/middleeast/iran-nuclear-scientist-killed.html?action=click&module=RelatedLinks&pgtype=Article>.

¹⁵ Associated Press. “Iran Reportedly Foils Sabotage Attack on Civilian Nuclear Facility.” The Guardian. Guardian News and Media, June 23, 2021. <https://www.theguardian.com/world/2021/jun/23/iran-reportedly-foils-sabotage-attack-civilian-nuclear-facility>.

Sadjadi has stated that, *“in close cooperation, our and Russian specialists are undertaking efforts to fix the malfunction,”* and the fault, *“was linked to the work of the generator.”* However, this happened at the same time when Iran was supposed to return the nuclear fuel rods back to Russia as part of its non-proliferation activities. Another case of a mystery blast has been reported at the Bushehr nuclear power plant in Iran. However, the authorities have confirmed that the blast was part of an incident related to an air defence drill. Bushehr’s deputy governor Mohammadtaqi Irani said, *“this exercise took place with full preparation and coordination with the armed forces”*. This particular incident was very similar to another air defences drill that fired a missile after reports of a large explosion above the central town of Natanz, which houses Iran’s main nuclear research facility.¹⁶

Meanwhile, the talks in Vienna to bring both parties back to JCPOA have made little progress since they resumed the talks for the first time since Iran’s new President Ebrahim Raisi was elected. The meeting takes place at the Palais Coborg hotel in Vienna; however, the talks have been hampered as the Iranian delegations were reluctant to meet their American counterparts thus slowing the talks. As a result, the discussions were carried out by the European, Chinese and Russian delegations. The United States has its hopes to reach an agreement as soon as possible and a mutual return to JCPOA as indicated by the State Department spokesperson Ned Price. The new Raisi administration undertakes a “maximalist” approach, where Iran is resorting to such an approach as it was the United States who unilaterally withdrew from the deal, and even then, Iran did not withdraw from the agreement for a year, however, Iran did breach the agreement.

The first step towards compliance back to JCPOA would be the dial down of the sanctions that the United States has imposed on Iran. Even the 2015 sanctions did not provide enough relief for the Iranians as stated by Alex Varanka who is the director of the Middle East Institute’s Iran programme. *“What they discovered in reality was that the threat of American penalty still loomed large and was hanging over their heads. On paper, they could trade with the world,”* but *“in reality, companies and many countries still kept a distance from Iran.”*¹⁷ In other words, Iran wants

¹⁶ Reuters. “Mystery of Blast at Iran Nuclear Power Plant.” Arab News, December 20, 2021. <https://www.arabnews.com/node/1989926/middle-east>.

¹⁷ “Iran Nuclear Talks Deadlock Risks Dangerous Vacuum.” The Guardian. Guardian News and Media, January 17, 2022. <https://www.theguardian.com/world/2022/jan/17/iran-nuclear-talks-deadlock-risks-dangerous-vacuum>.

its sanctions lifted on paper as well as in practice. Secondly, they need a guarantee that the deal could withstand American domestic politics. However, this is beyond President Biden's power, as ratification lies in the hands of the American Senate. Ned Price has stated that *"There is no such thing as a guarantee in diplomacy and international affairs. We can speak for this administration, but this administration has been very clear that we are prepared to return to full compliance with the JCPOA and to stay in full compliance with the JCPOA as long as Iran does the same."*¹⁸ However, Iran could be contempt with a UN Security Council resolution, but a UNSC resolution isn't legally binding as well.¹⁹

Whereas on the other hand the United States wants a much broader deal. They want to look into Iran's missile technology especially the country's ballistic missile programmes, it's actions within the region which delves much deeper into supporting regional proxies. Both sides have provided some demands which are difficult to overcome given the current circumstances. Just two days before the talks resumed last November, the European Union mediator Enrique Mora had warned the country that the time was of utmost importance, following the state of avoidance from Iran for around five months. He stated, *"there is a sense of urgency in all delegations that this negotiation has to be finished in a relatively reasonable period of time. Again, I wouldn't put limits, but we are talking about weeks, not about months."* However, it's been over eight weeks since such a message has been conveyed, yet no agreements have been reached. The U.S. Secretary of State Anthony Blinken has quoted, *"There is real urgency, and it's really now a matter of weeks where we determine whether or not we can return to mutual compliance with the agreement."*²⁰ Such a sense of urgency was due to the fact that Iran has surpassed the 60% uranium enrichment levels as opposed to the previously agreed 3.67% as part of the JCPOA. The nation has been stockpiling uranium beyond what the JCPOA allows in recent years.

On the 1st of December, two days prior to the resumption of the Vienna talks, Iran announced that the country has begun enriching uranium with IR-6 centrifuges. It was clear that Iran has no

¹⁷ Harkov, Lahav. "How Much Longer Will Iran Talks Be 'Weeks from Ending?' - Analysis." The Jerusalem Post , January 23, 2022. <https://www.jpost.com/middle-east/iran-news/article-694316>.

¹⁸ Ibid

¹⁹ Ibid

²⁰ Harkov, Lahav. "How Much Longer Will Iran Talks Be 'Weeks from Ending?' - Analysis." The Jerusalem Post , January 23, 2022. <https://www.jpost.com/middle-east/iran-news/article-694316>.

intention in backing down on its developments and that it will continue to advance its nuclear ambitions to its abilities. The Iranian Foreign Minister Hossein, Amir-Abdollahian said that an agreement could be reached if all sanctions were lifted, as the eighth round of negotiations began in Vienna and lifting these sanctions would speed up the agreement on the JCPOA.²¹

A senior European Union official offered a similar assessment recently, saying that negotiators are “on the right track for a final agreement” but moving too slowly. Amirabdollahian also stated that Iran was willing to negotiate and revive the JCPOA by direct talks with the American delegation: *“However, if we get to a stage where reaching a good deal with strong guarantees necessitates direct talks with the US, we will consider it.”* Even the American side has delegated the same message wherein a spokesperson from the Department of State has agreed that direct talks would be an efficient mode of communication and would help in closing the agreement.²²

Conclusion

Even if there is a breakthrough between both the parties and they reach a compromise, there are serious concerns attached to it, wherein Iran could still reverse their technological advances that they have made over the course of time, but the knowledge they have gained is irreversible. The Director for Non-proliferation Policy at the Arms Control Association Kelsey Davenport stated that, *“Iran’s nuclear program hit new milestones over the past year.. As it masters these new capabilities, it will change our understanding about how the country may pursue nuclear weapons down the road.”* And even if President Joe Biden agrees to a compromise and brings the country back to the JCPOA, the Republicans wouldn’t allow it. The Senator of Texas, Ted Cruz has stated in a tweet that: *“Nope. Joe Biden has ZERO constitutional authority to make that commitment. Unless any deal w/ Iran is ratified by the Senate as a treaty—which Biden knows will NOT happen—it is a 100% certainty that any future Republican president will tear it up. Again.”*²³

²¹ Al Jazeera. “Iran Says Nuclear Agreement Can Be Reached If US Sanctions Lifted.” News | Al Jazeera. Al Jazeera, January 6, 2022. <https://www.aljazeera.com/news/2022/1/6/iran-fm-says-vienna-deal-can-be-reached-if-us-sanctions-lifted>.

²² Al Jazeera. “Iran ‘Will Consider’ Direct Talks with Us, Says Foreign Minister.” Nuclear Energy News | Al Jazeera. Al Jazeera, January 24, 2022. <https://www.aljazeera.com/news/2022/1/24/iran-will-consider-direct-talks-with-us-says-foreign-minister>.

²³ Cruz, Ted. Twitter post. November 1, 2021 <https://twitter.com/tedcruz/status/1454897019055710209>

Over the past few years, Iran has allocated much of its resources in developing missiles with better accuracy, longer reach and today the country is one of the world's top missile producers. It has a very diverse arsenal and the largest inventory in the Middle East. It has reached new heights wherein she could fire more missiles than her adversaries in the region could shoot or destroy and that includes both the United States and Israel. Kenneth McKenzie, the general who heads the U.S. military operations across the Middle East and South Asia stated that Iran has reached the “overmatch” level; which means that the country has enormous firepower and weaponry and it is next to impossible to attack or defeat. Moreover, Iran has the largest underground complexes in the Middle East with nuclear and missile programs. Additionally, U.S. Intelligence reports suggest that Iran has over thousands of ballistic missiles with a range of 1300 miles in any direction. The nation also has its own cruise missiles that has the capability to fly at a very low altitude and are harder to track via radar nor the satellites. This has severely affected the balance of power in the region.

If diplomacy fails, President Biden has the option to use military action, however, it may not be effective in the long-run and it may invite more adverse reactions in the region. Even if a deal is agreed on the JCPOA, it is likely that problems will arise within the region like destabilisation. Moreover, Iran has shown no intention to roll back on its missile programmes and it's only natural for countries to not, as they have spent a considerable amount of their resources, manpower and their whole military units were built around such missiles. In order for Iran to accept a new deal, the United States should be willing to offer far more than they are ready to give. If diplomacy fails, and Iran proceeds as it is with their nuclear programme, the United States should be ready to face a nuclear crisis within the first quarter of 2022.

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