

Natanz Nuclear Facility

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In News: Recently, A huge explosion struck Iran's nuclear centre at Natanz, Tehran has held Israel responsible for the act and called it an act of "nuclear terrorism".

About Natanz Nuclear Facility

- Iran's nuclear centre at Natanz was one of the country's most important nuclear facilities because that is where it has the largest number of the most modern centrifuges.
- These centrifuges run at supersonic plus speed and are used to enrich uranium.
- The International Atomic Energy Agency (IAEA) said Iran had said it will activate 1,024 more IR-1 centrifuges, its older first generation of the machines at the Natanz nuclear plant.
- Natanz is a hardened Fuel Enrichment Plant (FEP) covering 100,000 square meters that is built 8 meters underground and protected by a concrete wall 2.5 meters thick, itself protected by another concrete wall.
- It is located near Natanz, the capital city of Natanz County, Isfahan Province, Iran.
- In 2004, the roof was hardened with reinforced concrete and covered with 22 meters of earth.
- The complex consists of two 25,000 square meter halls and a number of administrative buildings.
- This once secret site was one of the two exposed by Alireza Jafarzadeh in August, 2002.
- IAEA Director General Mohamed ElBaradei visited the site on 21 February 2003 and reported that 160 centrifuges were complete and ready for operation, with 1,000 more under construction at the site.
- In accordance with Code 3.1 of the Subsidiary

Arrangements to Iran's safeguards agreement that were in force up to that time, Iran was not obligated to declare the Natanz enrichment facility until six months before nuclear material was introduced into the facility.

- According to the IAEA, in 2009 there were approximately 7,000 centrifuges installed at Natanz, of which 5,000 were producing low enriched uranium.
- In July 2020, explosion damage to the facility was caused by an explosive device.
- Iran has blamed Israel for the explosion at its key nuclear site, which came as Tehran was continuing talks with world powers in Vienna over restoring the 2015 nuclear accord, formally known as the Joint Comprehensive Plan of Action (JCPOA).

Iran Response to Attack

- Iran will begin enriching uranium up to 60 percent purity after an attack on its Natanz nuclear facility, pushing its program to higher levels than ever before though still remaining short of weapons-grade.

Grave concern

- France, Germany and the United Kingdom, all parties to the nuclear deal, issued a joint statement expressing their "grave concern" over Iran's decision to increase enrichment.
- This is a serious development since the production of highly enriched uranium constitutes an important step in the production of a nuclear weapon.
- Iran has no credible civilian need for enrichment at this level.
- Saudi Arabia, a regional rival to Iran said enriching at that level could not be considered a programme intended for peaceful purposes.
- US Secretary of State Antony Blinken called Iran's announcement "provocative," saying the step raised

questions about the seriousness of Tehran over the nuclear talks in Vienna.

- Meanwhile, Iran's supreme leader dismissed initial offers at talks in Vienna as "not worth looking at."

Joint Comprehensive Plan of Action (JCPOA)

- Iran nuclear deal or Iran deal, is an agreement on the Iranian nuclear program reached in Vienna on July 14, 2015, between Iran and the P5+1 together with the European Union.
- **P5+1:** Five permanent members of the United Nations Security Council—China, France, Russia, United Kingdom, United States—plus Germany.
- Under JCPOA, Iran agreed to eliminate its stockpile of medium-enriched uranium, cut its stockpile of low-enriched uranium by 98%, and reduce by about two-thirds the number of its gas centrifuges for 13 years. For the next 15 years Iran will only enrich uranium up to 3.67%.
- Uranium-enrichment activities will be limited to a single facility using first-generation centrifuges for 10 years.
- To monitor and verify Iran's compliance with the agreement, the International Atomic Energy Agency (IAEA) will have regular access to all Iranian nuclear facilities.
- The agreement provides Iran will receive relief from the U.S., European Union, and UNSC nuclear-related sanctions.