



## Iran Steps Up Uranium Enrichment

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### Why in News

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Recently, Iran has **resumed enriching uranium up to 20%** in violation of the **2015 nuclear deal** and also seized a **South Korean-flagged tanker** near the **crucial Strait of Hormuz**.

Meanwhile, the **USA** has decided to keep **nuclear powered aircraft carrier Nimitz** in the Gulf region in the wake of threats from Iran.

### Key Points

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- **Uranium Enrichment:**
  - **Natural uranium** consists of two different isotopes - nearly **99% U-238** and **only around 0.7% of U-235**.
    - **U-235 is a fissile material** that can sustain a chain reaction in a nuclear reactor.
  - **Enrichment process increases the proportion of U-235** through the **process of isotope separation** (U-238 is separated from U-235).
  - For **nuclear weapons**, enrichment is required upto **90% or more** which is known as **Highly Enriched Uranium**/weapons-grade uranium.
  - For **nuclear reactors**, enrichment is required upto **3-4%** which is known as **Low Enriched Uranium**/reactor-grade uranium.

- **2015 Nuclear Deal:**

- In **2015**, Iran with the **P5+1 group of world powers - the USA, UK, France, China, Russia, and Germany** agreed on a long-term deal on its nuclear programme.
  - The deal was named as **Joint Comprehensive Plan of Action (JCPOA)** and in common parlance as Iran Nuclear Deal.
  - Under the deal, **Iran agreed to curb its nuclear activity in return for the lifting of sanctions and access to global trade.**
  - The agreement **allowed** Iran to **accumulate small amounts of uranium for research** but it **banned the enrichment of uranium**, which is used to make reactor fuel and nuclear weapons.
  - Iran was also **required to redesign a heavy-water reactor** being built, whose spent fuel would contain plutonium suitable for a bomb and to allow international inspections.
- In **May 2018**, the **USA abandoned the deal** criticising it as flawed and reinstated and tightened its sanctions.
- Since sanctions were tightened, **Iran has been steadily breaking some of its commitments** to pressure the remaining signatories to find a way to provide sanctions relief.

- **Issues Involved:**

- The dual incidents come amid heightened **tensions between Iran and the USA.**
- Enrichment could shorten Iran's time it would take to develop a **nuclear bomb.**
- **Israel criticised Iran's** enrichment decision.
  - Iran's decision to begin enriching to 20% purity a decade ago nearly **triggered an Israeli strike targeting its nuclear facilities**, tensions that only abated with the **2015 nuclear deal.**
  - A resumption of 20% enrichment (at **fordow facility**) could see that **brinkmanship** return as that level of purity is **only a technical step away from weapons grade levels of 90%.**
    - Brinkmanship** is the art or practice of pursuing a dangerous policy to the limits of safety before stopping, especially in politics.
- Previously the **International Atomic Energy Agency (IAEA)** expressed serious concerns over Iran's blocking of **inspections of two suspect locations of Uranium enrichment for more than four months.**

## **Strait of Hormuz**

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- **Geographic Location:**

- It is the waterway **separating Iran and Oman**, linking the Persian Gulf to the Gulf of Oman and the Arabian Sea.
- On the north coast lies Iran, and on the south are the UAE and Musandam, an enclave of Oman.
- The Strait is **21 miles wide** at its narrowest point, but the **shipping lane is just two miles wide** in either direction.

- **Importance:**

- The Strait of Hormuz is **one of the world's most strategically important choke points**.
- **Two-thirds of the oil and half the Liquefied Natural Gas (LNG) Indian imports** come through the strait between Iran and Oman.
- As much as **18 million barrels of oil pass through the Strait of Hormuz every day**, accounting for one-third of the global oil trade.
- A **third of the world's LNG trade** also passes through the strait.

- **Issues in the Strait:**

- The strait of Hormuz plays a vital geopolitical role to the point where the **US Fifth Fleet guards this strait**.
- During the recent years, Iran has threatened the safe passage of oil tankers in this strait.

## Way Forward

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- All countries part of the 2015 deal should engage constructively and resolve all issues peacefully and through dialogue.
- Both the USA and Iran must act with strategic restraint as any crisis in West Asia will not only affect the region as a whole but will have a detrimental impact on global affairs as well.

**Source:TH**