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IMPORTANT

EDITORIAL HIGHLIGHTS

DELHI CENTRE:
636, Mukherjee Nagar
New Delhi-110009

PRAYAGRAJ CENTRE:
1/1/8A, Stanley Rd,
Maharana Pratap Chauraha,
Civil Lines, Prayagraj, UP - 211002

 **9555-124-124**

 **sanskritiias.com**

GS 3: SCIENCE AND TECHNOLOGY

INDIAN EXPRESS PAGE : 1

Shanti law in, US nuclear 'mission' on its way to tap new tie-ups

Series of meetings being lined up in New Delhi and Mumbai

Anil Sasi
New Delhi, May 2

A HIGH-POWERED US nuclear 'executive mission' is headed to India later this month with a two-pronged agenda: Taking stock of India's nuclear energy landscape less than six months after a landmark legislation opened up this critical sector and to communicate the American industry's interest, as well as coordinate US government messaging, on the emergent opportunities in this field.

Organised by the Washington DC-based Nuclear Energy Institute, a lobby group of America's commercial nuclear energy industry, and the US India Strategic Partnership Forum, the industry delegation's visit is expected to have meetings with External Affairs Minister S Jaishankar and Union Power Minister Manohar Lal, besides likely meetings with Andhra Pradesh Chief Minister N Chandrababu

E. EXPLAINED

Looking at future

The SHANTI law aims to transform the country's energy landscape. Private players will be allowed into operations and fuel management, accelerating capacity while breaking state monopoly. The focus on imported light water reactors and small modular reactors suggests a move towards next-generation technology that is simpler to finance and deploy.

Naidu, Maharashtra Chief Minister Devendra Fadnavis and Gujarat Chief Minister Bhupendra Patel.

Deliberations planned during the course of the delegation's five day schedule (May 17-21) include meetings with the

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US nuclear 'mission'

Department of Atomic Energy top brass, NITI Aayog, other energy ministries and representatives of state-owned Nuclear Power Corporation of India Ltd (NPCIL) and NTPC Ltd.

The delegation would likely land in New Delhi on May 17 and stay until May 19, before heading to Mumbai on May 20 for a series of meetings spanning two days. US Ambassador Sergio Gor and the US Embassy staff are likely to set the agenda for the delegation's series of formal meetings that get underway on the morning of May 18.

The Mumbai leg is likely to include meetings with India's private sector energy players including Reliance Industries Ltd, the Adani Group, Tata Power Company Ltd, JSW Energy, Vedanta, Larsen & Toubro Ltd, Tata Consulting Engineers and Hindalco Industries.

Last December, Parliament had passed the Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India (SHANTI) Act, 2025, marking a major shift in how India's tightly-controlled nuclear power sector will be governed in the coming years. For the first time, the Act enabled private players to enter the operations side of this critical sector as well as areas such as fuel management, which had remained under tight public-sector control for decades.

Alongside the increased role for the private sector in nuclear plant operations, the deployment of imported Light Water Reactor-based projects, aided by foreign funding, are two outcomes in the wake of the passage of the new legislation, which opens up the possibility of more imported LWR-based nuclear projects of the kind that are being set up by the Russians in Kudankulam, Tamil Nadu. India is also keen to look at the possibility of the deployment of small modular reactors or SMRs.

Although India's civil nuclear programme has expertise

in manufacturing pressurised heavy water reactors – from 220MWe PHWRs to the new 700MWe reactors – an impediment of sorts for the country's nuclear establishment is its reactor technology. Based on heavy water and natural uranium, the PHWRs are a technology that India's nuclear establishment has a mastery over, but one that is increasingly out of sync with the LWRs that are now the most dominant reactor type across the world. The Americans, the Russians and the French are among the leaders in LWR technology. Also, India's dominant nuclear technology – its mainstay PHWRs – has scalability issues.

The government's move to look outwards for collaborations on nuclear is driven by two clear policy imperatives: the desperate need for base load alternatives to coal-fired capacity to tide over the limitations of renewables; and more importantly, the external outreach for nuclear collaborations is driven more by the need for capital than the need for technology, a top government official had indicated ahead of the passage of the nuclear amendments.

The SHANTI Act was passed amid Opposition's concern over allowing private players and changes in the liability regime, particularly the whittling down of provisions fixing responsibility on equipment suppliers in the event of a nuclear accident. This new Act replaced two earlier legislations – the Atomic Energy Act, 1962 (AE Act) and the Civil Liability for Nuclear Damage Act, 2010 (CLNDA) – and effectively redrew the rules that govern India's nuclear power sector. From who can build and operate plants and how accident liability is capped, to the role of the safety regulator and the mechanisms for dispute resolution and compensation, all of these have been tweaked or changed.

GS 3: DISASTER MANAGEMENT

INDIAN EXPRESS PAGE : 1



People receive alerts on their phones in Patna, Saturday. PTI

Govt tests new system for real-time alerts on disasters, emergencies

Unlike SMS, cell broadcast system uses one-to-many channel for alerts

Express News Service
New Delhi, May 2

THE GOVERNMENT on Saturday sent a test notification in the form of a text message with a sharp beep sound to almost all citizens around 11:42 am, demonstrating its indigenously developed Cell Broadcast system for instant communication during critical situations such as natural disasters and man-

made emergencies.

A pop-up message flashed on mobile screens in English, Hindi and other languages with the headline 'Extremely Severe Alerts'. "India, launches Cell Broadcast using indigenous technology, for instant disaster alerting service for its citizens. Alert citizens, safe nation. No action is required by the public upon receipt of this message. This is a test message. – Government of India," it read.

The Department of Telecommunications (DoT) said it is set to launch an advanced public alerting framework in coordination with key agencies including the National Disaster Management Authority. This is

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GS 3: DISASTER MANAGEMENT

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Alerts

aimed at enabling timely communication during critical situations. "This initiative reflects a continued commitment to building a more responsive and resilient communication ecosystem for citizens across the country," the DoT said in a post on social media platform X.

Currently, the government already issues disaster alerts through SMS by deploying the Integrated Alert System called SACHET, which is developed

by the Centre for Development of Telematics (C-DOT), the research and development centre of the DoT. This system, based on the Common Alerting Protocol recommended by the International Telecommunication Union, has been successfully operationalised by the National Disaster Management Authority.

But unlike SMS alerts (which is a one-to-one channel) which may be missed by many, the 'cell broadcast' technology used on Saturday is unmissable since its a one-to-many channel communication system. It mirrors

the technologies used in countries such as Japan (which issued tsunami alerts). It is a method where short messages with sound alerts can be sent to all mobile devices within a defined geographic area simultaneously almost in near real-time delivery.

The Cell Broadcast technology, also introduced by C-DOT, will further strengthen alert dissemination in time-critical situations, such as tsunamis, earthquakes, lightning strikes and man-made emergencies like gas leaks or chemical hazards, the government said.

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THE SYSTEM DOES NOT REQUIRE A DEDICATED ROOM, SPECIALISED POWER SET-UP, OR NEED TO MOVE PATIENTS

Portable MRI at AIIMS: India's first bedside brain imaging system launched

Ankita Upadhyay
New Delhi, May 2

IN A first, AIIMS New Delhi has introduced India's first portable bedside MRI system, marking a significant step in critical care and neurodiagnostics. The ultra-low-field device can be wheeled directly to a patient's bedside, enabling rapid brain imaging for critically ill patients in ICUs, emergency settings, and neurosurgical care.

Unlike conventional MRI machines that require dedicated sites and patient transport, this system eliminates the risks associated with moving unstable

patients and allows imaging to be performed within the safety of the ICU environment.

Across the world, portable bedside MRI systems are being used in hospitals in the US, Canada, Australia, the UK, New Zealand, and various EU countries.

The system is already in use at the Center for Neurological Conditions under Dr Shailesh Gaikwad, and is expected to aid in the diagnosis and monitoring of stroke, trauma, pediatric neurological conditions, and post-operative neurosurgical cases. Clinicians say the technology will improve response

times in emergencies where conventional imaging may be delayed or unsafe.

Supported by Radiosurgery Global Ltd and introduced following regulatory approval in India, the development is also expected to expand access to brain imaging and strengthen research in point-of-care neurodiagnostics.

Explaining the technology, Dr Gaikwad emphasized that the portable MRI is not designed to replace conventional systems but to complement them in critical scenarios. It is an ultra-low-field system with lower resolution compared to



The portable bedside MRI system. EXPRESS

regular MRI machines," he said. "But it serves an important purpose, we can see the brain well enough to make bed-

side decisions when time is critical." He added that while stable patients will continue to be taken to full-scale MRI machines, the portable unit is particularly useful when moving a patient could pose risks.

Highlighting its clinical importance, Dr Gaikwad noted, "This is meant for critically ill patients in the ICU. If a patient is unstable, there is no need to take them out of that environment, we can bring the MRI to them." He stressed that the focus should remain on its practical value rather than overstating its capabilities. "The idea is simple: for very

sick patients, bedside imaging is safer and faster," he said.

Dr Gaikwad said in cases such as stroke, traumatic brain injury, or other neurological emergencies, delays in obtaining imaging can slow diagnosis and treatment, directly affecting patient outcomes. Traditional high-field MRI machines depend on complex infrastructure, including shielded rooms and specialised setups, and typically require patients to be transported to the imaging suite. For those who are critically ill, such as patients in ICUs, emergency units, neonatal care, or neurosurgical wards,

this movement can be difficult, risky, or sometimes not possible at all. As a result, essential imaging is often postponed, limiting the speed and effectiveness of medical intervention.

Portable bedside MRI addresses this gap by taking imaging directly to the patient. It does not require a dedicated room, specialised power setup, or the need to move patients. Instead, clinicians can wheel the system to the bedside, whether in the ICU, trauma center, stroke unit, or neonatal ward, and capture brain images precisely when and where they are needed most.

GS 2: INTERNATIONAL RELATIONS

THE HINDU PAGE : 1

U.S. not committed to pacts, 'renewed conflict likely': Iran

**Agence France-Presse
Associated Press**
TEHRAN

A senior Iranian military officer said on Saturday that renewed fighting with the U.S. was "likely", hours after President Donald Trump said he was not satisfied with an Iranian negotiating proposal. In a letter to U.S. Congressional leaders, Mr. Trump said hostilities with Iran "have terminated" as the cease-fire was holding.

Iran delivered the new draft to mediator Pakistan on Thursday evening, state media reported, without detailing its contents. The war, launched by the U.S. and Israel, has been on hold since April 8, with one failed round of peace talks having taken place in Pakistan since then.

'No promises'
Mohammad Jafar Asadi, a senior figure in the Iranian military's central command, said "a renewed conflict between Iran and the U.S. is likely", in quotes published by Iran's Fars news agency. "Evidence has shown that the U.S. is not committed to any promises or agreements," he said.

The U.S. has warned shipping firms that they could face sanctions for making payments to Iran to safely pass through the Strait of Hormuz.



U.S. warns shipping firms against paying Iran for safe passage through Strait. REUTERS

Iran's judiciary chief Gholamhossein Mohseni Ejei said on Friday that his country had "never shied away from negotiations", but would not accept an "imposition" of peace terms.

The White House has declined to provide details on the latest Iranian proposal, but news site Axios reported that U.S. envoy Steve Witkoff had submitted amendments to a previous one putting Tehran's nuclear programme back on the negotiating table.

The changes reportedly include demands that Iran not move enriched uranium from bombed sites or resume activity there during talks.

News of the Iranian proposal briefly pushed oil prices down nearly 5%, though they remain about 50% above pre-war levels amid the ongoing closure of the Strait of Hormuz.

GS 2: POLITY

THE HINDU PAGE : 1

SC backs EC circular on counting staff

Dismissing Trinamool's plea, it questions need for proportionate representation: Trinamool had said that EC was skewing playing field in favour of BJP by appointing more Central officers at counting centres; court says poll body is not required to consult political parties in such decisions

Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Saturday called it a "fallacy" nursed by the Trinamool Congress that West Bengal Government services' employees owe allegiance to it and Central employees were loyal to or controlled by the party ruling the Centre.

They are employees of the government and are part of the Election Commission in the exercise of their electoral duties during the poll time, it said.

The oral observations were made while disposing of a petition filed by the Trinamool, which alleged that the EC was deliberately skewing the playing field in favour of the rival Bharatiya Janata Party by appointing more Central officers, disregarding State employees, at counting centres across West Bengal.

Justice P.S. Narasimha, heading a Special Bench,

questioned the Trinamool's perceived need to have a "proportionate representation" of officers drawn from both Centre and State services at counting centres on May 4. "This is yet another fallacy, that is those belonging to State government services have a different allegiance... These are but employees of the government. Give them some credit," Justice Narasimha said.

Control of EC
Justice Joymalya Bagchi, the associate judge on the Division Bench, said that once these officers were deployed for poll duties, they belonged to the EC. "All these persons, whether Central or State employees, are in the control of the EC in the discharge of electoral duties," Justice Bagchi said.

The special sitting, merely 48 hours before counting started in West Bengal, was convened on a petition filed by the Trinamool challenging an April



This is yet another fallacy, that is those belonging to State government services have a different allegiance... These are but employees of the government. Give them some credit

JUSTICE P.S. NARASIMHA
Supreme Court Judge

13 circular issued by the State's Additional Chief Electoral Officer directing that at least one counting supervisor and assistant at each counting table would be a Central government or Central Public Sector Unit employee.

The party, represented by advocates Kapil Sibal and Sanchit Garga, said the circular was a "textbook example of an unjust executive action".

"The Trinamool is the main opponent to the BJP, which admittedly runs and controls the Central government. It is obvious and well known that the Cen-

tral government employees would be directly under the control of the Centre and likely to be susceptible to the control of persons in the BJP. Such direct control of the BJP over them gives rise to an apparent risk of bias, influence, and partisan conduct during the process of counting of votes," the Trinamool submitted.

'Cannot be a wild horse'
Mr. Sibal said the EC's powers under Article 324 (power to conduct, superintend and control elections) cannot be a "wild horse", giving them "freedom to do

what they like and anytime they like".

He read out from the April 13 circular, which said that in view of the "apprehensions expressed from various quarters regarding possible irregularities during the process of counting of votes". He asked the court about the source of the EC's "so-called apprehensions" that the counting process would be marred by irregularities.

"Such 'apprehensions' raise a finger at the State government... There must be some data to back these 'apprehensions'," Mr. Sibal said.

Mr. Sibal said the Trinamool was informed of the April 13 circular only on April 29. He said the Central government already had its employees in the role of 'micro-observers' at counting booths.

Justice Bagchi observed that the EC could take decisions on the ground based on its subjective satisfaction, and there was no question of conferring with

political parties on calls that had to be taken.

The senior advocate pointed out that the April 13 circular itself required the "random selection" of both State and Central governments' employees for counting duty through a dedicated module containing personnel databases incorporated in the ECINet. He said the circular should be complied with strictly. "You want 'strict compliance' of the challenged circular? You came here challenging the circular, and now you are saying 'follow the circular,'" he asked.

Senior advocate Dama Seshadiri Naidu, for the EC, said the poll body was studiously following the circular.

He said the Returning Officer, drawn from the State government services, had the overarching power to make a random selection of counting supervisors and counting agents from pools of Central and State employees.