

समाचार पत्रों से चयित अंश Newspapers Clippings

दैनिक सामयिक अभिज्ञता सेवा

A Daily Current Awareness Service



रक्षा विज्ञान पुस्तकालय
Defence Science Library
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केन्द्र
Defence Scientific Information & Documentation Centre
मेटकॉफ हाऊस, दिल्ली 110054
Metcalf House, Delhi-110054

INS Vikramaditya set for first overhaul in September

The 45,000-ton modified Kiev class warship, which was Admiral Gorshkov in Russian Navy, was commissioned into the Indian Navy in November 2013.

by Pranav Kulkarni

INS Vikramaditya, the Navy's largest and newest aircraft carrier, is set to have its first overhaul by September 2016. Highly-placed sources in the Defence Ministry said that in line with the government's Make In India initiative, the Navy has identified Reliance-owned Pipavav shipyards and state-owned Cochin Shipyards Limited for the first dry docking of INS Vikramaditya. "Dry docking of an aircraft carrier is a critical task and the Navy has asked the two shipyards to ready their existing infrastructure to meet the requirement. The Request for Proposal will be issued shortly and one of the contenders will carry out the first refit of the carrier," a source said. The 45,000-ton modified Kiev class warship, which was Admiral Gorshkov in Russian Navy, was commissioned into the Indian Navy in November 2013. As per the contract with Russia, the first refit of the aircraft carrier, expected to cost over Rs 200 crore, is mandatory within three years of it being commissioned. During the refit, crucial parameters of the ship such as damages if any to the hull, propellers, runway, health of the component aircraft - presently Mig 29K- will be checked and their operational capability will be enhanced. "As per the contract, subsequent dockings are supposed to take place once in five years," the source said. The Navy currently has two aircraft carriers-INS Viraat and INS Vikramaditya.



The Economic Times

08 December 2015

India to supply 4 MI 25 attack helicopters to Kabul this month

By Pranab Dhal Samanta

The decks have been cleared for India to deliver four MI 25 attack helicopters to Afghanistan this month, signaling a decisive shift in New Delhi's approach on supplying lethal offensive systems to Kabul. Until now, India had confined itself only to providing training and non-lethal supplies to Afghanistan, largely due to Pakistan's sensitivities that were of concern to the Western coalition. Also, New Delhi could never conclusively decide on the risks of such a decision attracting terror attacks against India. Senior government sources told ET that India has already obtained an in-principle approval to transfer these helicopters from Russia, which is the original manufacturer of the MI-25s. Russian deputy Prime Minister Dmitry Rogozin who is here on an official visit is expected to convey the formal approval during his official deliberations on Tuesday. Further, sources said, the government is also actively considering a high-level visit to Afghanistan this month, adding to the urgency of completing the delivery soon. Afghan president Ashraf Ghani has been quite keen on PM Narendra Modi visiting Afghanistan at the earliest. The configuration of the choppers will be that of an attack helicopter, added sources, indicating that the delivery may happen within the next couple of weeks. The decision to go ahead with the delivery comes when external affairs minister Sushma Swaraj is headed for Islamabad on Tuesday for the Heart of Asia conference cohosted by both Afghanistan and Pakistan. India's military relationship with Afghanistan has been a sore point with Pakistan, which has always made it a point to red flag such issues to the US. Washington has often sent out conflicting signals on this front. While it has wanted India to play an active role to help strengthen the Afghan National Army, it has on many occasions conveyed the need for India to be sensitive to Pakistan's concerns. But in 2011, India and Afghanistan entered into an umbrella strategic partnership agreement that gave room for weapons supplies in the future. Yet, India continued to restrict itself largely to cooperation on training military and police personnel. Indian assets in Afghanistan were being targeted quite often, which was always a worrying factor for New Delhi. One such attack took place at the Indian consulate in Herat just ahead of Modi's swearing-in ceremony.

India-based JV being considered for supply of Sukhoi-30 spares

Dinakar Peri

India and Russia are exploring the possibility of setting up a joint venture in India to improve supply of spares for the Sukhoi-30 frontline fighter aircraft. The two sides are also in advance negotiations for a long term agreement for spares for the fleet, of which just over 50 per cent are operational at any given point of time. "We recently got an inquiry from India for a long term spares agreement for five years. It will increase the serviceability of the aircraft. Spares contract will allow us to deliver spares faster once we get an indent from the Air Force," Valery V Chishchevoy, Marketing Director of Sukhoi told visiting Indian journalists who are in Moscow as part of a media tour organised by United Aircraft Corporation of Russia. The agreement will simplify the bureaucratic procedures for procuring spares and hence cut the time required to process any request from the Air Force by simplifying procedures like customs, bank guarantees, letter of credit and so on. The prices for spares and a method for price escalation will also be factored in, company officials said. The idea is to eventually increase serviceability to 75 per cent for the Air Force's Sukhoi fleet. Sukhois are the main stay of the Air Force but have poor availability due to spares and maintenance issues. Currently it takes 4-12 months from the time Air Force has a requirement to the time production begins in Russia after necessary approvals. The effort is to bring that down, Sukhoi officials said. Earlier this year Defence Minister Manohar Parrikar had informed Parliament that efforts were on to improve the serviceability rate of Sukhoi's to 75 per cent by this year end from the current level of 56-57 per cent. "We have been trying to improve the serviceability of Sukhois. It has improved by seven% in last 8-9 months to reach to 56-57 per cent," he told the Rajya Sabha, exuding hope that it would go up to 75 per cent by the year end. India and Russia started working on a long-term agreement in 2006 and eventually agreed on a technical assistance agreement in 2012 for aircraft maintenance and spares which brought down time of repairs of aircraft to be sent to Russia from 8-15 months to 60 days said Viacheslav Yu. Lozan, Director of After Sales Centre of Sukhoi. However both sides felt the need to further improve the availability of spares to increase the availability of the aircraft. As part the spares agreement Sukhoi is exploring possibility of setting up of a Joint Venture with an Indian partner in India to ensure quick availability of spares. Though the company is open for tie up with private players, Mr. Chishchevoy said that at the moment Indian private players are not ready to take up such complex technological work and added that they have had good experience working with Hindustan Aeronautics Limited (HAL). India has contracted for 272 Su-30 MKI aircraft and the Air Force has already inducted over 200 of them with Hindustan Aeronautics Limited licensing manufacturing the aircraft in India.

SUPPLY LINE FOR SPARES

India and Russia may set up a joint venture in India to improve supply of spares for Sukhoi-30 fighter aircraft

➤ The multirole Russia-made jet is a twin-engine, two-seat super-manoeuvrable fighter jet

➤ The two countries are also in negotiations for a long-term deal for spares for the fleet

➤ The agreement will simplify bureaucratic procedures for procuring spares

The prices for spares and a method for price escalation will also be factored in



GRSE launches fifth ship of Indian Navy's LCU MK IV project

The fifth ship of Indian Navy's LCU MK IV project, was launched on Monday at Garden Reach Shipbuilders and Engineers Ltd (GRSE) in Kolkata. The chief guest, Vice Admiral AV Subhedar, AVSM, VSM, Chief of Material, Chairman & Managing Director GRSE were present on the occasion. Vice Admiral AV Subhedar asserted that the Indian Navy has been supporting the drive for indigenous construction of warships leading to advancement of our shipbuilding industry and acknowledged the role of GRSE as a reliable partner in pursuing the national goal of 'Make in India'. He further stated that Indian Navy is eagerly looking forward towards induction of LCU-MKIV class of ships, which would be based at Port Blair. The ship can be deployed for multirole activities like beaching operations, humanitarian and disaster relief operations and evacuation from distant islands.

Indra Navy-2015: Russia, India Naval Exercise

The Indian Navy and the Russian Federation Navy (RFN) will indulge in bilateral maritime exercise for the eighth edition of Indra Navy - 2015 commencing Monday. The exercise is scheduled to be conducted in the Bay of Bengal till December 12, and was taken up with an aim to increase interoperability between the two navies and develop a common understanding of procedures for maritime security operations. The Indian Navy will be represented by its indigenous frigate INS Sahyadri, a guided missile destroyer INS Ranvijay and a fleet support ship INS Shakti in addition to a submarine INS Sindhuvir, P8I long-range maritime patrol aircraft, Dornier short-range maritime patrol aircraft and other integral rotary wing helicopters during the maritime exercise. Representing the RFN, its Pacific Fleet Deputy Commander Vice Admiral Ryabukhin Andrey will lead RFN ships Varyag (cruiser), Bystry (destroyer), Alatau (rescue ocean going tug) and Boris Butoma (fleet tanker) which have arrived in Visakhapatnam Sunday. The exercise will be organised in two phases - the Harbour Phase during December 7-9 at Visakhapatnam and the Sea Phase during December 10-12, off the coast of Visakhapatnam. The Harbour Phase would encompass table-top exercises and planning conferences ashore, prior progressing to sea, while the Sea Phase would include various facets of fleet operations. Senior navy authorities stated that the Indra Navy-15 would be another milestone in strengthening the maritime security cooperation between the two navies and also serve to reinforce the long standing friendship between the two nations. The scope of Indra Navy - 2015 also includes wideranging professional interactions during the Harbour phase and a diverse canvas of operational activities at sea across a spectrum of maritime operations.

The Pioneer

08 December 2015

Growing nuclear trade

India gets first shipment of Canadian uranium

The arrival of the first shipment of uranium from Canada last week is a reminder of how this country's position in the global nuclear trade sector has come a full circle as well as how important this turnaround is if the fight against climate change has to be taken to its logical conclusion. On Thursday, India received 250 tonnes of uranium, mined and milled at Cameco's McArthur River and Key Lake operations in the Canadian Province of Saskatchewan. The delivery comes eight months after India signed a uranium supply contract with Cameco, one of the world's largest publicly traded uranium companies, following the operationalisation of the nuclear deal with Canada, the world's largest world's supplier of uranium. The bilateral agreement had been signed in September 2013 but required two years of negotiations on technical and commercial details before it could be brought into force in April this year - during Prime Minister Narendra Modi's visit to Canada. Notably, Canada was one of the first countries to supply India with nuclear technology but, like much of the Western world, ended its cooperation after India's first nuclear test in 1974. For the next three decades, India was shut out of the global nuclear trade regime, and it was not until the India-US nuclear deal was signed in 2005 that the situation began to change, slowly but steadily. As a pre-requisite for the India-US deal, the Nuclear Suppliers Group made an exception for India, allowing it to engage in nuclear commerce even though it was not a signatory to the non-proliferation treaty. Today, India has nuclear trade agreements with several countries including Russia, France, Australia, the UK, Japan, South Korea, Argentina, Namibia and Mongolia. This is, of course, a testimony to India's impeccable non-proliferation records, if not a tacit acknowledgement of India's principled position of the NPT as an unjust instrument. Equally importantly, it is also the result of some quiet pressure from seller in the nuclear market that sees huge business opportunities in a big buyer like India coming into the fray. It is not for nothing that Saskatchewan premier Brad Wall has described the delivery of the first shipment of uranium to India as an "economic milestone for our uranium mining industry and our Province". That the first delivery comes at a time when world leaders are trying hard to put together a global effort to fight climate change, and India itself is playing a lead role in this, maybe coincidental, but it is still of immense symbolic value. As a developing economy, India desperately needs more energy to fuel its economic growth but it can no longer rely heavily on coal for this purpose. Renewable sources have been brought into the energy basket and they are progressively making for a larger percentage of the country's energy mix but cost and scale-ability are still major issues. This is where nuclear energy, a clean and powerful source, can help bridge the gap.

Navy's new stealth destroyer begins sea trials

The Navy's new stealth destroyer began a week of sea trials Monday to try and prove that after years of setbacks, the next-generation warship was worth the wait. The USS Zumwalt (DDG-1000) is the first in a class of futuristic destroyers that will have an angular but low external profile to maximize stealth on the outside, and next-generation power systems to enable the ship to run energy-demanding future weapons and sensor systems on the inside. The ship sailed Monday from its port in Bath, Maine for a weeklong test of its onboard systems, according to the Navy. "Over the next several days, the Navy will demonstrate many of the ship's key systems and technologies," said Capt. Thurraya Kent, a Navy spokeswoman. "The Navy and the shipbuilder are executing the test program of this first of class ship with extreme rigor and this initial at-sea period will allow for earlier issue identification and risk mitigation." The Zumwalt was designed to replace the Navy's current fleet of Arleigh-Burke destroyers but cost overruns and program delays led the Navy to cap the ship's production to three. The procurement costs of the three Zumwalt ships is estimated to top \$12.3 billion, about 37 percent more than their initial \$8.9 billion program estimate. The program as a whole, including research and development costs, is estimated to reach \$22 billion. Critics have questioned whether the ship is the right fit for future warfare, and its escalating price tag hasn't helped, said Peter Singer, a senior fellow at the New America Foundation and co-author of "Ghost Fleet: A Novel of the Next World War." "No ship is more interesting in the way that it links the past with the questions that surround the future of naval war," he said. "It is both a throwback and a breakthrough. It is the size of a World War I battleship, originally designed for gunfire shore bombardment, a role many are not sure we even need anymore, but utterly revolutionary in other ways." Singer said the Zumwalt's focus won't be fighting the Islamic State group, but deterring China in the Pacific Ocean. "Given the re-entry of the great power rivalry to 21st century politics, that is a good thing," he said. While the ship has experienced setbacks, the Zumwalt offers technological improvements that will be required in the Navy's future fleet whether it is the future platform of choice, said naval expert Ron O'Rourke of the Congressional Research Service. Unlike the current fleet of destroyers and cruisers, an integrated electric drive powers the Zumwalt's stealth and weapons systems such as lasers and an electromagnetic rail gun developed to compete with emerging Chinese and Russian technology, O'Rourke said. "If you don't do that through integrated electric drives, you have to do that with other power structure - batteries and capacitors and such," said O'Rourke, who was speaking at a U.S. Navy Institute conference in Washington on future U.S. sea power challenges. "Right now we don't have ships on the books on the shipbuilding plan beyond the three Zumwalts that will do that. So now the question becomes, Are you going to do that in some other way? We need to address that."



Iran tested missile, breaching U.N. council resolutions: officials

Iran tested a new medium-range ballistic missile last month in a breach of two U.N. Security Council resolutions, two U.S. officials said on Monday. The officials, both speaking on condition of anonymity, said the test was held on Nov. 21. One of them said the missile traveled within Iranian territory. Fox News earlier on Monday on its website cited Western intelligence sources as saying the test was held near Chabahar, a port city near Iran's border with Pakistan. All ballistic missile tests by Iran are banned under a 2010 Security Council resolution that remains valid until a nuclear deal between Iran and six world powers is implemented. Under that deal, reached on July 14, most sanctions on Iran will be lifted in exchange for curbs on its nuclear program. According to a July 20 resolution endorsing that deal, Iran is still "called upon" to refrain from work on ballistic missiles designed to deliver nuclear weapons for up to eight years. In October, the United States, Britain, France and Germany called for the Security Council's Iran sanctions committee to take action over a missile test by Tehran that month that they said violated U.N. sanctions. So far, no action has been taken by the committee. Several Security Council diplomats said on Monday that they had received no official notification of a new alleged violation of the U.N. missile sanctions against Iran since the October notification. The diplomats spoke on condition of anonymity.

The Statesman

08 December 2015

Iran mocks Obama deal with another ballistic missile test

Weapon capable of carrying nuke payload, U.N. resolutions violated

Iran has once again used President Obama's "very good" nuclear deal as an opportunity to test a ballistic missile capable of carrying nuclear warheads. A senior U.S. official told Fox News on Monday that Iran tested its Ghadr-110 missile, which has a range of 1200 miles, on Nov. 21 near the port city of Chabahar. The move is in violation of resolution 2231 passed after this summer's nuclear deal was agreed to with six world powers, and UNSCR 1929, which was passed in 2010. Iran launched a similar missile on Oct. 10, even though Obama's deal requires the nation to halt ballistic missile tests for eight years. Samantha Power, U.S. ambassador to the U.N., said the U.S. was "deeply concerned" after Iran's October violation. Obama had assured Americans two months earlier of "powerful incentives" discouraging Iran from risking sanctions relief. "If Iran violates the agreement over the next decade, all of the sanctions can snap back into place. We won't need the support of other members of the U.N. Security Council; America can trigger 'snapback' on our own," Obama told an audience at American University in Washington, D.C., Aug. 5. "We built a coalition and held it together through sanctions and negotiations, and now we have before us a solution that prevents Iran from obtaining a nuclear weapon, without resorting to war. As Americans, we should be proud of this achievement." News of Iran's latest violation of U.N. regulations comes less than three weeks after the State Department confirmed Obama's deal is a "political" commitment only, WND reported. Julie Frifield, an assistant secretary for legislative affairs in the State Department, told Rep. Mike Pompeo, R-Kan., in a letter dated Nov. 19 that Obama's agreement "is not a treaty or an executive agreement, and is not a signed document." "The Obama administration has taken this position at least in part to avoid rendering the deal unconstitutional. If it were a legally binding international agreement, it would require ratification by the Senate, or at least some form of congressional approval, which it currently does not have and is unlikely to get in the future," George Mason University law professor Ilya Somin wrote for the Washington Post Dec. 1. Fox's source said it was unclear if Iran's missile test would result in new sanctions.

Science equipment and groceries on way to ISS

Carrying over 3,000 kg pounds of research material that will directly support over dozens of key investigations on the orbiting laboratory, a cargo-laden Orbital ATK Cygnus spacecraft soared towards the International Space Station (ISS). A burst of smoke and a column of flame on Sunday trailed a United Launch Alliance Atlas V rocket as it powered the cargo mission from the Cape Canaveral Air Force Station in Florida onto an orbital path to rendezvous with the ISS in three days. The mission will deliver experiments, equipment and supplies to the orbiting laboratory and its six-member crew of astronauts and cosmonauts, the US space agency, NASA, said in a statement.

Boost to research - "We are looking forward to getting more science facilities and numerous research investigations. There are 324 investigations during this increment pair. It's important to have a regular cadence of resupply flights, and we are looking forward to regular resupply to use the station as intended," said Kirk Shireman, NASA's programme manager of the ISS. This is the first flight in a series that will include a crew change in addition to a Russian progress cargo craft leaving and another one coming to the station. In the near future, Boeing and United Launch Alliance plan to use the Atlas V to launch astronauts to the station in the CST-100 Starliner for NASA's Commercial Crew Programme. SpaceX is preparing its own spacecraft combination - Falcon 9 and Crew Dragon - to carry astronauts to the station in the near future. "The crew members need these critical supplies from the Earth to do their important work and we intend to do everything possible to enable their mission to continue," said Frank Culbertson, president of Orbital ATK's Space Systems Group and a former astronaut. Cygnus will be grappled on December 9 by NASA astronaut Kjell Lindgren, using the space station's robotic arm to take hold of the spacecraft. The spacecraft will spend more than a month attached to the space station before its destructive re-entry into the Earth's atmosphere, disposing of 1,360 kg of trash. Much of the scientific cargo will be used in research by the station astronauts. With the new supplies aboard the station, the crew will install the laboratory equipment including a new life science facility that will allow studies on cell cultures, bacteria and other micro-organisms. The astronauts will conduct experiments to survey the behaviour of gases and liquids and clarify the properties of molten steel in weightlessness. The station's current crew, known as Expeditions 45 and 46, will conduct more than 250 science and research efforts during its mission. Cargo carried to space on this mission includes payloads that were lost on two previous failed cargo missions. Private companies were exploring the opportunities of launching versatile but simple spacecraft that could be used in groups for everything from establishing rapid communication links to weather forecasting.

Deccan Herald

08 December 2015

World's first biologically powered chip created

In a major breakthrough, researchers at Columbia Engineering have harnessed the molecular machinery of living systems to power an integrated circuit. They achieved this by integrating a conventional solid-state complementary metal-oxide-semiconductor (CMOS) integrated circuit with an artificial lipid bilayer membrane containing adenosine triphosphate (ATP)-powered ion pumps. In living systems, ATP is used to transport energy from where it is generated to where it is consumed in the cell. The advance has opened the door to creating new artificial systems that contain both biological and solid-state components. "In combining a biological electronic device with CMOS, we will be able to create new systems not possible with either technology alone," said study leader professor Ken Shepard. While other groups have harvested energy from living systems, Shepard and his team are exploring how to do this at the molecular level, isolating just the desired function and interfacing this with electronics. "We don't need the whole cell. We just grab the component of the cell that's doing what we want. For this project, we isolated the ATPases because they were the proteins that allowed us to extract energy from ATP," Shepard said.

Mount Everest getting warmer, glaciers shrinking: research

Mount Everest is getting warmer for the past 50 years with the glaciers around the world's highest peak shrinking "remarkably", according to a Chinese research. The glaciers in 8,844-metre-high Mt Everest, known as Mt Qomolangma in Tibet, have been shrinking "remarkably" which leads to swelling glacial lakes and rivers downstream, Chinese Academy of Sciences, Hunan University of Science and Technology and Mount Qomolangma Snow Leopard Conservation Centre said in a report. At the same time, the ecological environment in the area is getting better with increased forest coverage around the Everest. Last month a report released by Institute of Tibetan Plateau Research said Tibet regarded as the roof of the world faced grim scenario as its glaciers were retreating and natural disasters were on the rise due to rising temperatures and increasing human activity. The glacier on the Tibetan plateau has been backing off since the 20th century due to rising temperature and at a faster speed since 1990s, a scientific evaluation report published by the Institute said. Glacier loss in the Tibetan plateau is most prominent in the Himalayan Mountains and the southeastern Tibet, whereas glacier stays relevantly stable, even progressing, in the Karakoram and Western Kunlun region due to increasing precipitation, the report said. Natural disasters are on the rise on the Tibetan plateau as the region due to global warming and increased human activity. Disasters including snow disasters, landslides and torrential floods are expected to increase and fires will be more difficult to prevent and extinguish, it said. On the positive side, the number and area of lakes on the Tibetan plateau increased notably. The number of lakes exceeding one square kilometre climbed from 1,081 in the 1970s to 1,236 in 2010, and 80 per cent of lakes in the region have been expanding. The report also noted that the area and growing stock of forest on the plateau have increased significantly since 1998, from 7.29 million hectares in 1997 to 14.72 million hectares in 2013 and 2.09 billion cubic meters in 1997 to 2.26 billion cubic meters in 2013, respectively. The increase is mainly attributed to efforts of forestry conservation and restoration, the report said. With an average altitude of over 4,500 meters, the Tibetan plateau, known as the core of "The Third Pole," is located within southwest China's Tibet Autonomous Region.

The Indian Express

08 December 2015

Dr APJ Abdul Kalam an inspiration for many at IIT science fest

The fest, which began Friday, is being held at IIT-Delhi till December 8.

Dr APJ Abdul Kalam is the inspiration behind many of the projects nominated for the Innovation in Science Pursuit for Inspired Research (INSPIRE) awards, which are being showcased at the ongoing India International Science Festival (IISF). The fest, which began Friday, is being held at IIT-Delhi till December 8. Pramodh K R, a Class X student from Kolar, Karnataka, draws the attention of people who stop at his booth to the image of the late president on his wall, before he plunges into an explanation of his model. Called 'Vision 2020 Bangarpet', it is a model of a scientifically developed nation and advocates the use of alternate resources such as solar energy and wind power to solve problems of water scarcity, pollution, electricity, and traffic. Based on Kalam's India 2020, the project hopes to make his dream a reality. A few stalls down, Kalam's picture appears once again, this time at A Ganesh's booth. The Class X student says the "great scientist" was the inspiration behind his saltwater battery. A resident of Andaman and Nicobar, Ganesh belongs to a fishermen community in Diglipur zone, where the problem of electricity is very common.



IIT attempts world's largest science lesson

Kritika Sharma Sebastian

Aiming to script a new Guinness World Record in conducting the "largest practical science lesson", around 2,000 school students from Delhi and National Capital Region (NCR) came together at the Indian Institute of Technology Delhi (IIT-D) on Monday. The existing world record is held by a group of 1,339 Irish school students. Dressed in white lab-coats, students streamed into a giant tent that was pitched by the administrative block of IIT-Delhi. The students took a shot at creating the world record of highest number of students conducting an experiment at the same venue. The event was organised by Vijnana Bharati (VIBHA), the country's largest science movement, as part of the India International Science Festival (IISF) 2015, which concluded on Monday ahead of its schedule. The participating students were addressed by Union Minister for Science & Technology and Earth Sciences Harsh Vardhan and Union Human Resources Minister Smriti Irani ahead of the lesson. "Two thousand bright young students are going to participate in the record-breaking science experiment and it has already set a lot of tongue wagging," Ms. Irani said. Expressing happiness over the IISF event, Ms. Irani said that efforts need to be made to hold similar festivals in all the States.

DESIDDOC