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Sun, 10 Sep, 2017

Forces on Alert - Terrorists planning chemical attacks on planes, warns MHA

By Saurabh Sinha

Following intelligence inputs that terrorists may launch a chemical attack by releasing toxic gases in aircraft and other modes of public transport, the Union home ministry has issued an alert to all states and security agencies to step up frisking and baggage checks at airports, bus stands, and train and metro stations.

The security personnel have been asked to be on a lookout for any substance that could be used to release deadly toxic gases on aircraft.

The MHA on September 1 wrote to all states, aviation ministry and other agencies: “Central security agencies have intimated that terrorists are planning a range of attacks against commercial aviation targets.” The MHA alert follows a foiled bid last month in Australia to bring down a commercial aircraft. The Australian police had said that terrorists tried to place an improvised explosive device on a Gulf carrier's aircraft.

The MHA alert said the terrorists could adopt chemical warfare capabilities to conduct chemical attacks by creating toxic gases from materials available at hardware store or from easily produced materials including chemical powders, pesticides, acids and water, disguised as medication, food, beverages or household cleaners

“Toxic gases pose the greatest hazard when made in an enclosed space, underscoring the risk to aircraft, buses or trains,” says the MHA. Based on the alert, the Bureau of Civil Aviation Security has written to the top brass of CISF, Airports Authority of India and JV metro airports to step up security arrangements.



Sun, 10 Sep, 2017

Gripen or F-16? It's a dogfight

By Josy Joseph & Dinakar Per

While the Tatas have tied up with Lockheed, SAAB is aligning with the Adani group

After several dramatic twists and turns, as the Air Force looks at procuring a new single engine fighter, the Adani group is emerging as the dark horse that could end up manufacturing a large number of India's future fighters.

The IAF is now working on issuing Request for Information (RFI) to the two single-engine fighter manufacturers available in the global market — Lockheed Martin for its F-16 and SAAB for its Gripen. While the Tata group has tied up with Lockheed Martin for possible manufacture of F-16s in India, SAAB last week announced a tie-up with the Adani group.

“In the present scheme of things, Gripen enjoys a clear advantage because of its capabilities,” says an Air Force source. While the F-16 is 50 years old, the Gripen is a four-and-a-half generation fighter of very recent vintage.

The IAF had sent out an informal request asking the two manufacturers details of their products. Based on the input and other analysis, the RFI would be issued under the Strategic Partnership model in a couple of months, officers said. The target would be to acquire at least 100 fighters in the first stage, but the demand is expected to go up further now.

The government will select the preferred aircraft and its Indian partner based on submissions. Once selected, the manufacturing plant for the selected fighter is to be set up in India, with the Indian partner holding the majority stake in the venture.

MMRCA process in mess

“By not taking a quick decision and dragging its feet, the government has messed up the MMRCA [Medium Multi-Role Combat Aircraft] process,” says Air Marshal (retired) M Matheswaran, who played a crucial role in drawing up the requirements and conceptualising its original tender in the early 2000s.

“[The] original MMRCA was not only to get fighters but also to get technology here in India. All those objectives have been defeated,” he said.

The IAF in 2001 projected a requirement for 126 fighters, to fill the gap between its future indigenous light combat aircraft and the heavy-weight Sukhoi-30 fighters.

Though the initial move was to buy more Mirage 2000 fighters, it evolved into the MMRCA global tender.

In January 2012, the twin-engine Rafale fighter was declared the winner, and finally negotiations began with its French manufacturers.

Air Force sources point out that the only reason the government has now put out the present single-engine requirement is the cost.

The purchase of 36 Rafale fighters from France not only surprised most military sources but also upset the financial projects for the fleet modernisation, sources say.

Air Force sources point out that the requirement is now for over 200 fighters, and the Rafales are being limited to just 36.



Sun, 10 Sep, 2017

Airfields in Tibet Lack Military Infra for Any Offensive: Air Chief

After the recent Doklam stand-off with China, which ended after both countries agreed to disengagement of troops, Air chief Marshal BS Dhanoa said the airfields in Tibet across India's border with China lacks requisite military infrastructure to carry out offensive operations. He also said it is difficult to sustain air operations from where they are located on the Indo-Tibetan border. “In case the relationship deteriorates or something happens the build-up on infrastructure is going to be the first step anybody would take before envisaging any offensive operation in this sector”, he added.

He was in Bengaluru on Saturday to deliver a lecture and stressed the need for India to concentrate in northern and eastern sector to build infrastructure for operational efficiency, from western border along Pakistan as threat to our internal security remains a challenge. “China maintains a continuous air presence in Tibet, they exercise their aircraft, the strength increases and decreases as per the prevailing exercise,” Dhanoa said.

He said the satellite images of airfields in Tibet are not optimised for offensive operations. He said, “if you look at other airfields that are optimised for offensive operations, you will see that there is difference in airfields in which they mean business and the airfields in Tibet.” “The airfields in Tibet are more optimised towards ensuring regional connectivity, and they lack military infrastructure,” he added.

The Chief of the Air Staff was delivering the Air Chief Marshal LM Katre Memorial Lecture organised by the Air Force Association, Karnataka in association with HAL and Aeronautical Society of India.

Pointing out that other air fields across the border are in depth more than 400 kms away, Dhanoa said lot of us are counting those airfields and are saying that they will pose a significant threat for us.

However, he said “there were no transgressions (in air)” and during his last meeting with Chinese officials both sides had shared the need for continue to meet on ground so as to stay away from each other in the air”. Speaking on the western border without naming Pakistan, Dhanoa said in most countries State has an army; there the army has the state.

The Air Chief said biggest challenger is that of internal security on a 24/7 and 365 days a year. “Post Pathankot Indian Air force has carried out series of measures to enhance our ability to detect and to strengthening the base defence through training to neutralise fidayeen type attacks”.

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THE TIMES OF INDIA

Sun, 10 Sep, 2017

India speeds up border road work to avoid future Doklams

By Rajeev Deshpande

India's capacity to counter challenges like Doklam is likely to get a significant boost in the next couple of years with stepped up pace of work on India-China border roads likely to result in several critical high altitude links being completed well before the 2020-21 deadline.

Though the completion time-frame for most of the 61 roads --barring two or three--the Border Roads Organisation has been entrusted with, is around 2021, many will be ready earlier as enhanced financial powers given to the organisation recently begin to show results on the ground.

The construction of IndiaChina roads has already seen a marked improvement in the past two-three years with formation cutting increasing from 107km in 2014-15 to 147 km in 2016-17. Similarly , progress on surfacing has increased from 174 km to 233 km in 2016-17 despite the heights and hard rock stretches.

ROAD TO PROGRESS

➤ BRO targets completion of 61 crucial India-China roads by 2020-21

➤ Pace of construction has gone up in 2014-15 and 2016-17, cutting and surfacing progressing faster

➤ Concern over reports of local population migrating due to isolation, threat of incursions spurring govt to act swiftly

➤ Enhanced financial powers will improve results in the next two-three years

➤ Forest clearances and land acquisitions are quicker



The final stretch of a road to Doklam from the Indian side in Sikkim

but still remain a concern

➤ Progress on air fields has been good but rail links are still lagging considerably

The improved pace, given a limited working season of four to six months, is particularly noticeable on roads where the government accorded special dispensation considering the hostile work environment. As of now, against 3,400 km of 61 India-China roads under the BRO's charge, just 270km of formation cutting remains to achieve 100% connectivity -meaning road laying can begin from both ends of the project.

“The cumulative effect of BRO executives being able to technically and administratively sanction works up to Rs 100 crore will manifest in a year or two as time and cost curtailment are achieved,” said a wellplaced source. Of the 61 roads, 27 have been completed and of the remaining 34 connectivity to 21 has been established.

A sense of urgency has been injected into BRO projects as the need to close, or at least narrow the logistics gap, between Indian and Chinese forces along the border has been brought home by the serious threat

posed by incidents like Doklam to India's strategic interests. The proactive action of Indian troops in moving into territory disputed by China and Bhutan needed a strong and reliable supply line.

Another factor that worried the government and spurred construction of roads was reports of local populations migrating to the Chinese side in search of better economic activities. "This was the fallout of earlier policies of not building roads out of concern that they may end up aiding Chinese forces," said the source.

The construction of IndiaChina border roads came in for scathing criticism by the comptroller and auditor general of India in a report that noted that only 27 roads were ready . BRO hopes to change this picture with improved project execution capacity and better pace of construction in the past couple of years.The BRO's task has been made easier with the latest decision to empower states to take a call on forest clearances within a certain threshold. Still, number of forest clearance cases and land acquisition cases are pending and non-allotment of stone quarries is also hurting the implementation of road projects critical to safeguarding India's interests.



Sun, 10 Sep, 2017

Stand-off with China may have ended but there could be more Doklams

By Shyam Saran

The stand-off between India and China over the Doklam plateau near the India-Bhutan-China trijunction has eased. Both sides have issued statements announcing that they have come to an understanding. What these mean and how its implications will play out will be speculated for some time. What is clear, however, is that the limited objective which Bhutan and India had -restoring the status quo which China had attempted to alter through its road building activities -has been achieved. At least, for the time being.

Why did China agree to restore the status quo after having insisted, repeatedly and threateningly, that it was the Indian side which should withdraw its forces before there could be any talks at all? Obviously, the fact that an understanding was eventually reached points to a continuing dialogue, perhaps behind the scenes despite the public posture adopted by China.

There may have been two factors which led China to alter its position. One, the continuing stand-off would have disrupted the BRICS summit at Xiamen. If India's Prime Minister absented himself because of the unresolved crisis, then the summit would have been a failure and this would have embarrassed China and its top leadership.

Furthermore, the very important 19th China Communist Party Congress is to be held in October where key leadership positions and policies will be decided. President Xi Jinping's ability to consolidate his position may have been impacted adversely if he were unable to resolve the Doklam crisis.

Where do we go from here? It is encouraging that Prime Minister Modi and President Xi Jinping met on the sidelines of the BRICS summit and judging from the optics, the atmosphere was generally positive and cordial. The two leaders decided to strengthen mechanisms to manage issues which may arise at the border. The foreign secretary claimed that the two leaders adopted a forwardlooking approach to developing bilateral relations. These are good signs.

Perhaps China may also wish to keep its western flank with India relatively peaceful while it confronts what could become a much more dangerous situation on the Korean peninsula, the latest being North Korea's test of a hydrogen bomb. China's preoccupation on its east may relieve the pressure on India in the west and that would be welcome.

The BRICS summit declaration carries a strong condemnation of terrorism and names several terrorist groups operating in our region, including Pakistan-based groups such as the Lashkar-e-Taiba and Jaish-e-Mohammad. These statements were included in the context of the Afghan situation but are nevertheless to be welcomed. Pakistan has already reacted strongly .

What lessons may be drawn from recent events from the Indian perspective? One, while the Doklam issue has been defused, this does not mean that similar issues will not arise in the future. There is greater likelihood of more frequent encounters between Indian and Chinese forces at the border simply because both sides are improving border infrastructure and communication links, making it possible to undertake patrols in hitherto remote areas with greater frequency . This new situation needs to be acknowledged and existing mechanisms to ensure peace and tranquillity on the borders strengthened. It may be necessary to establish new mechanisms as well.

Two, despite the rhetoric at the BRICS summit, it is unlikely that China's support to Pakistan and involvement in its economy as well as security will diminish. Pakistan will likely continue to treat cross-border terrorism as an important part of state policy and if US pressure against it increases, it will hide behind the Chinese shield. We will have to deal with the challenge of cross-border terrorism mainly on our own.

Three, China will continue to benchmark itself with the US and pursue policies which reflect its hierarchical way of approaching inter-state relations. It believes that it is rightfully the dominant power in Asia and that other countries should acknowledge this, including India.

What is the essence of this dominance? China would like to be in a position to have a veto over decisions which other countries take on security or economic issues and which it considers important to its own perceived interests. To some extent, it has already achieved this in Southeast Asia and will try to use this template in South Asia as well. Doklam should be seen in this larger context.

Therefore, while welcoming the resolution of the Doklam issue, India must be clear that China will continue to pose a significant challenge to India and handling this challenge will only become more complex.

But at least one thing is clear after the Xiamen summit. Regular engagement at the leadership level plays an important role in keeping India-China relations on an even keel.

Saran is a former foreign secretary. His book, *How India Sees the World*, has just been released



Sun, 10 Sep, 2017

For China, '64 n-test was meant as a 'head-on blow' to India

By Amit Baruah

K. R. Narayanan, as China Division head, warned that the test, coming after 1962 war, would further weaken India's position on border claims

Beijing believed that it had delivered a “head-on blow” and sent shock waves through India after its first-ever nuclear test conducted on October 16, 1964 — two years after the border war fought by the two countries.

A cable sent from the Chinese Embassy in New Delhi to Beijing at the end of October 1964 said the “success” of its nuclear test had led Prime Minister Minister Lal Bahadur Shastri to get various countries to “censure” China, but they refused to go along with him.

India, the cable said, was engaged in an internal debate on how to respond to China’s nuclear test.

“The current issue for India is not whether it should produce nuclear weapons but whether it can do so,” the communication said, concluding that Delhi would actively strive to do this to enhance its international status. The cable is available at the Wilson Centre’s Digital Archive.

Countering U.S. presence

The Chinese also believed that the United States was engaged in exerting its influence on a weak India after the 1962 war.

“But now the United States wants to control India and manage its relationship with Pakistan at the same time, thus it is unwilling to help India manufacture atomic bombs.”

The Embassy also believed that China’s newly acquired nuclear status would also enhance the chances of regaining its permanent seat on the United Nations Security Council from Taiwan, clearly linking the two. “As we [China] now had a bigger chance of regaining our place in the United Nations, India is hoping to become a permanent member of the United Nations Security Council with Soviet support,” the cable added.

In the Indian assessment, the Chinese nuclear explosion would “alter the political balance in Asia and disturb profoundly the status quo in the world”.

As Director of the China Division in the Ministry of External Affairs, K.R. Narayanan, who went on to become President of India, linked the Chinese nuclear test with India’s options relating to the border dispute.

“But even in the immediate future India cannot ignore the bomb...as one of the factors affecting the power balance between China and India and the rest of Asia. Peking’s bomb is not a tactical weapon, but a strategic instrument,” Mr. Narayanan’s secret memo, circulated after internal discussions in the Ministry, said.

“If the recovery of Aksai Chin and the settlement of the border question through resort to arms was inconceivable hitherto it would be more so in the future,” Mr. Narayanan believed, adding that India would also have fewer military and diplomatic options after the Chinese nuclear test.

Arguing that China had now secured the breakthrough to “big power” status, the memo felt the real question for India was a long-term one —how India and China would be in 25-50 years if they followed different policies with regard to the use of nuclear energy.

Mr. Narayanan felt the Chinese had attacked in 1962 because they wanted to damage India’s influence in the Asian-African world and “expedite the process of polarisation” in India’s domestic politics. “The ideological bitterness which the Chinese evinced against Jawaharlal Nehru sprang from a realisation that it was his policies of non-alignment and socialism which stood as a border against the Communist dream of a violent revolution in India.”

Build the bomb

In Mr. Narayanan’s view, diplomacy could only embroider on the fact of power but not act as a substitute for it. “Therefore, whatever policy we may choose to follow, it seems that without a nuclear bomb of our own, India cannot answer the challenge posed by China.”

He argued that India acquiring the bomb might make Chinese leaders sit up and reconcile with Delhi just like the U.S. and other nuclear powers were coming to grips with the reality of China. According to the memo, China’s ultimate aim was to drive the U.S. out of Asia and “establish herself” as a nuclear power equal to the U.S. and the USSR. A second nuclear test conducted by the Chinese in May 1965 drew great praise from over 100 Pakistani officials gathered for a reception hosted by the Chinese embassy in Karachi.

उत्तर कोरिया को अधिक परमाणु हथियार बनाने के लिए उकसाने का प्रयास

सोल, (एएफपी): उत्तर कोरिया की सरकारी मीडिया ने बढ़ते अंतर्राष्ट्रीय प्रतिबंधों को नजरंदाज करते हुए देश के स्थापना दिवस पर और परमाणु हथियारों का निर्माण करने की आज अपील की। दक्षिण कोरियाई सेना ने कहा कि वह उत्तर कोरिया पर करीबी नजर बनाए हुए है। उसका यह बयान ऐसे समय में आया है जब अटकलें लगाई जा रही हैं कि उत्तर कोरिया अपने स्थापना दिवस पर एक और मिसाइल प्रक्षेपण या एक अन्य परमाणु परीक्षण कर सकता है। उत्तर कोरिया की स्थापना 1948 में हुई थी। उत्तर कोरिया ने पिछले साल नौ सितंबर को ही पांचवां परमाणु परीक्षण किया था। उसने एक सप्ताह पहले ही छठा परीक्षण किया और दावा किया कि यह एक हाइड्रोजन बम था जो मिसाइल पर लगाया जा सकता है। इस कदम की वैश्विक स्तर पर निंदा हुई और उत्तर कोरिया के खिलाफ प्रतिबंध और कड़े करने

● उत्तर कोरिया अपने स्थापना दिवस पर एक और मिसाइल प्रक्षेपण या एक अन्य परमाणु परीक्षण कर सकता है

की अपील की गई।

उत्तर कोरिया ने जुलाई में भी दो अंतरमहाद्वीपीय बैलिस्टिक मिसाइलों का परीक्षण किया था।

समाचार पत्र 'रोदोंग सिनमन' ने 'जूचे' या आत्मनिर्भरता के राष्ट्रीय दर्शन का जिक्र करते हुए एक संपादकीय में कहा- रक्षा तंत्र को पार्टी की ब्युंगजिन नीति (एक ही समय में अर्थव्यवस्था एवं परमाणु हथियार विकसित करना) के साथ जूचे हथियारों का भी बड़ी संख्या में निर्माण करना चाहिए।

उत्तर कोरिया की सत्तधारी पार्टी के मुखपत्र ने अमेरिका को रोके रखने

के लिए दो आईसीबीएम परीक्षणों जैसी और 'चमत्कारी घटनाओं' की मांग भी की।

रोदोंग सिनमन ने कहा कि अमेरिका जब तक उत्तर कोरिया के खिलाफ शत्रुतापूर्ण नीति पर टिका रहता है, वह 'विभिन्न बनावटों एवं आकारों के तोहफे' प्राप्त करता रहेगा।

देश के नेता किम जोंग-उन ने खुद भी आईसीबीएम परीक्षणों को उत्तर कोरिया की ओर से अमेरिका को दिया 'तोहफा' बताया था।

बहरहाल दक्षिण कोरिया के रक्षा मंत्रालय के एक प्रवक्ता ने कहा कि उत्तर कोरिया द्वारा शनिवार को मिसाइल प्रक्षेपण या परमाणु परीक्षण किए जाने के कोई संकेत नहीं मिले हैं, लेकिन उसने साथ ही चेताया कि उत्तर कोरिया किसी भी समय ऐसे मोबाइल लॉन्चर से बैलिस्टिक मिसाइल दाग सकता है जिन्हें आसानी से छुपाया जा सकता है।

THE HINDU

IIT Madras: New eco-friendly cement being tested for use in industry

By Shubashree Desikan

The material and process of manufacturing contribute to reduced CO2 emissions

A research collaboration between India and Switzerland on a new cement material that can reduce carbon dioxide emissions in the manufacturing process is set to take off into implementation.

The construction sector is a major contributor to global carbon dioxide emissions. Though this is known, it appears difficult to reduce the scale of construction, especially as it is a route to establishing more equitable conditions in developing countries like India. One way of mitigating the emissions factor is the use of Limestone Calcined Clay Cement or the LC3 technology.

Traditional processes that manufacture cement from clinker-limestone or clinker-calcined clay combinations are well known. LC3 effects a synergy between these processes. The combination of the new method and the material properties effectively reduces carbon dioxide emissions by 30% as compared to the traditional way of manufacturing cement. Research on this evolved over ten years in Karen Scrivener's lab at the Swiss Federal Institute of Technology (EPFL) at Lausanne, in Switzerland. Partners in this research are IIT Delhi, IIT Madras and TARA (Technology and Action for Rural Development).

Emissions and substitution

In manufacturing portland cement, limestone and materials like clay are heated together in huge kilns to high temperatures (approximately 1,450 degrees C), so that they fuse without melting to give clinker. "This is the most CO₂-intensive part of the whole process. The carbon dioxide comes both from the burning of the fuel needed to create that temperature and due to the breakdown of limestone into calcium oxide and carbon dioxide. The latter part accounts for 60% of the CO₂ emissions in manufacture of cement," says Prof. Scrivener. The best thing to do would be to substitute CO₂-intensive clinker with a different material.

In India, fly ash – a waste produced in the burning of coal for producing energy – is used in the manufacture of blended cement. However this is used in a lower proportions and only where available; therefore, for effectively reducing emissions, more clinker is to be substituted with calcined clay and limestone. This reduces emissions by 30% with respect to portland cement.

Lab to commerce

To take this product from the lab to commercial use requires that the cement be certified by reputed research and testing centres, and for this purpose, Prof. Scrivener's team has collaborated with Indian and Cuban agencies. The results of the Indian tests were published in *The Indian Concrete Journal*, special issue on cements. Nearly ten tonnes each of four blends of LC3 (50% clinker, 30% calcined clay, 15% crushed limestone and 5% gypsum) were produced in India. To obtain a variation, clays and limestones of two different qualities were used. The LC3 obtained was used to manufacture solid and hollow concrete blocks, door and window frames, low duty paving blocks and roofing tiles, and to make roads. "Good results were obtained from the blends despite the sub-optimal conditions of production of the cement, demonstrating the viability and robustness of the technology," Shashank Bishnoi of IIT Delhi and other authors write in the paper. The authors compared the strength of the various LC3 samples with Ordinary Portland Cement (OPC, a popular type of cement) and Portland Pozzolanic Cement (PPC, a variation of OPC in which locally available fly ash was added). They found that the strength of the LC3 made with low quality clay was comparable to the OPC and the samples of LC3 containing superior quality clay was higher than the OPC.

In fact, there is an added advantage to the new material when used in coastal areas where reinforced concrete can be damaged by chloride diffusing through the material. "The new cement has less porosity and it is more difficult for the chloride to get in and damage the steel rods," says Prof. Scrivener. This gives the new cement a longer service life.

"From the beginning we have been in talks with the industry and the stakeholders," says Ravindra Gettu, Professor, Department of Civil Engineering, IIT Madras. "In India, the first company [J K Lakshmi Cements] has made the industrial trials at its own expense, and we're working to set up the second set with a different company in a few months," adds Prof. Scrivener.

Though there is an initial cost, the payback times are of the order of five years, adds Prof. Scrivener.