

Indian Army successfully carries out trials of third generation NAG missiles

The trials of the missiles, developed by the Defence Research and Development Organisation (DRDO), were conducted between July 7 to July 18, 2019

By Manjeet Singh Negi

The Indian Army has successfully carried out its summer user trials of third Generation Anti-Tank Guided Missile NAG at Pokhran Field Firing Ranges.

The trials of the missiles, developed by the Defence Research and Development Organisation (DRDO), were conducted between July 7 to July 18, 2019.

Defence Minister Rajnath Singh congratulated the user-evaluation teams and the DRDO for the successful completion of the user trials.

The NAG missile has been developed to engage highly fortified enemy tanks in all weather conditions with day and night capabilities and with a minimum range of 500m and maximum range of 4 km. It is a third-generation fire-and-forget-class missile and uses an imaging infrared seeker in lock-on-before-launch mode.

The missile is launched from the NAG missile carrier (NAMICA) which is capable of carrying up to six combat missiles.



The robust imaging algorithm has made the missile hit the target at a distance of 4 km even in severe summer desert conditions which is unique in its class.

As part of the NAG summer user trials, six missions were conducted under extreme temperature conditions of the Pokhran Ranges.

All the missiles have met the mission objectives including minimum range, maximum range, indirect attack as well as top attack modes and achieved a direct hit on the target.

The trials were conducted by the user team from the Indian Army, as per the user-defined trial directive.

The missile system has already cleared the winter user trials in February, 2019. The government has already issued the Acceptance of Necessity for induction of NAG missiles after user trials.

All the ten missiles, which were fired during winter and summer trails, successfully hit the targets.

The completion of the summer user trials will now pave the way for production and induction of the missile system into the Army.

The trials were witnessed by senior officials of the Indian Army and DRDO.

<https://www.indiatoday.in/india/story/indian-army-trials-third-generation-nag-missiles-1571425-2019-07-19>



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India to produce NAG third generation anti tank guided missiles - Defence Ministry

New Delhi: India's third-generation anti-tank guided missile NAG (Cobra) is set to enter the production stage with the formal announcement of a fortnight-long summer trial near Pakistan's border. NAG anti-tank guided missiles were developed by the state-funded DRDO to engage highly "fortified enemy tanks in all weather conditions".

India's Defence Minister Rajnath Singh on Friday said: "All missiles met the mission objectives including minimum and maximum ranges, direct attack as well as top attack modes and achieved a direct hit onto the target."

The defence minister has congratulated the user evaluation teams from the Indian Army and developer, state-funded Defence Research and Development Organisation (DRDO), on successful completion of user trials.

The winter missiles user trials were successfully completed in the Himalayan region last December. They were preceded by extensive validation trials of the fire-and-forget ATGM's imaging infrared (IIR) seeker head.

The 1900 mm long missile has a lock-on-before-launch capability to a range of 4 km, the longest for any anti-tank missile in the world. US' "Javelin" and Israel's "Spike" lock-on-before-launch capability are limited to 2.5 km.

The video released by the ministry shows that the missile with 'fire and forget' and 'top attack' capabilities, was fired from a specially modified Indian license-produced variant of the Soviet-era BMP-II armoured infantry fighting vehicle.

"NAG-fire & forget anti-tank missile uses infrared imaging seeker in lock-on-before-launch mode. The robust imaging algorithm allows missiles to hit targets even in severe summer desert conditions, which is unique in its class," DRDO said in a statement.

DRDO has also been developing the man-portable and helicopter-launched anti-tank guided missile the HeliNa for the air force.

The DRDO was tasked with developing man-portable, anti-tank, guided missiles at the earliest. Defence forces received reassurance that this task would be completed by the DRDO last year.

The Indian Defence Ministry had cancelled the planned \$500 million purchase of Spike anti-tank missiles from Israel's Rafael in favour of the DRDO's man-portable anti-tank guided missiles.

The Indian army says it requires at least 40,000 anti-tank guided missiles in the next two decades.

<https://sputniknews.com/military/201907191076298423-india-to-produce-nag-third-generation-anti-tank-guided-missiles---defence-ministry-video/>

नाग मिसाइल का सफल परीक्षण

नई दिल्ली, (एजेंसी): भारतीय सेना ने तीसरी पीढ़ी की टैंक रोधी निर्देशित मिसाइल 'नाग' का पोखरण फायरिंग रेंज में सफल परीक्षण किया। इसके साथ ही इसके सेना में शामिल होने का रास्ता साफ हो गया है। सात से आठ जुलाई के बीच परीक्षण किए गए।

'नाग' मिसाइल सभी मौसम में दुश्मनों के पूरी तरह सुरक्षित टैंकों को न्यूनतम 500 मीटर और अधिकतर चार किलोमीटर की दूरी से भेदने की क्षमता के साथ विकसित की गयी है।

ग्रीष्मकालीन परीक्षण पूरा होने के साथ अब मिसाइल के उत्पादन और सेना में इसके शामिल होने का रास्ता साफ हो जाएगा।

रक्षा मंत्री राजनाथ सिंह ने परीक्षण सफल होने पर रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) तथा मूल्यांकन दलों को मुबारकबाद दी है। मिसाइल का प्रक्षेपण नाग मिसाइल कैरियर से किया गया जिसमें छह मिसाइल ले जाने की क्षमता है।

shethepeople
THE WOMEN'S CHANNEL

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Female troops to get 'gender specific' full body protectors

By Anushika Srivastava

Prime Minister Narendra Modi announced about providing the women police and paramilitary forces with customised armours in January. On Friday, CRPF in association with the DRDO unveiled the country's first full-body protector for women. This gender-specific body gear weighs six kilograms and is completely different in its design as compared to the regular body protectors worn by the police personnel. According to an official involved in the project, one such armour will cost around 9000 INR.

The customised full body protector was unveiled by the CRPF Director General R R Bhatnagar at the force's headquarters. "The confidence level of women who are deputed in law and order will go up. They would be able to move around with ease and thus would be able to do their duty in a much

better manner,” says an officer posted in Kashmir. The CRPF officials also said that there are around 8000 women police personnel and CRPF will issue guidelines to provide them with commercial quality body protectors.

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Female Troops No Longer Need To Carry ‘Male’ Specific Body Protectors

A DRDO official had previously said in a statement, “Female troops are frequently deployed for riot control and various law and other duties. At present, a full body protector is not available for female anthropometry. Initially, female troops wore the male FBP which is ill-fitting and also hindered their mobility. This was a glaring problem faced by the female troops. Defence Institute of Physiology and Allied Sciences (DIPAS) generated an anthropometric database of female troops with the aim to provide a well suited FBP. This was the first of its kind study specifically keeping in mind the lacunae that exist with regard to anthropometric data of female troops for the design and development of a new female full body protector.”

The scientists of DIPAS carried out a very careful study of women troopers of CRPF’s RAF to ergonomically design the body protector for women. This effort by DIPAS has paved the way for further development in the field of women-specific body armours and vests. The prototype for the full-body protectors has been developed after two years of research by the DRDO, while in collaboration with the Central Reserve Police Force and the Defence Institute of Physiology and Allied Sciences (DIPAS).

The FBP is designed keeping the ergonomic conditions in mind and also the body structure of female troops. The protective ensemble comes in three sizes, small, medium and large.

Designed Particularly To Suit Female Anthropology

The FBP is designed keeping the ergonomic conditions in mind and also the body structure of female troops. The protective ensemble comes in three sizes, small, medium and large. The anthropometric data of female troops have also been used to provide them with the best. The FBP is lightweight and is closely attached to the body, especially the vulnerable parts of the body. These vulnerable parts need protection in violent situations like riots, FBP will prove to be of great help to the women officers.

It also provides the option of wearing either the upper part or the lower part as per the condition. To add to the qualities, it also provides protection against puncture and shrapnel which makes it a very good protective covering. It is also a protective gear from something impactful in nature, like in case of sudden attacks by rods or knives. It also gives the user time to discard the ensemble in case of severe fire incidences and is also resistant towards acids.

<https://www.shethepeople.tv/news/female-troops-gender-specific-body-protectors>

CRPF women troopers will now have full body protectors

By Rakesh K Singh

New Delhi: Women troopers of the CRPF will now have full body protectors designed specifically for them for an effective role in various law and order duties with improved protection from riotous mobs and stone pelters.

The gear has been designed ergonomically by the Defence Institute of Physiology and Allied Sciences (DIPAS), an agency of the Defence Research and Development Organisation (DRDO). Earlier, gender neutral protector gears were not available for women troops of the paramilitary and they had to rely on the products available for men which were uncomfortable for their body contours and even restricted their physical manoeuvrability during operations.

With the availability of the gender-specific protective gear, women troopers will be assured of greater comfort while deployed in Law and Order duties. The development of the gear is expected to fuel further research and development in the field of women-specific body armours and vests, officials said.

The gear is designed for protection during law and order duties like managing riotous mobs or stone pelters but will not provide cover from bullets, officials said.

In 2016, the National Conference for Women in police mooted the idea of gender-specific protective gears. Subsequently, the issue was flagged in Lok Sabha by then MP Anupriya Patel while discussing the problems faced by women in Police and Armed Forces.

Following this, the Union Home Ministry constituted a committee under Inspector General (Provisioning), CRPF, Anupam Kulshreshtha to work out on the issue of making available the protective gear for women which was unavailable at that time.

When contacted, Kulshreshtha told The Pioneer, "The development of the women-specific full body protectors is a pioneering step undertaken by the CRPF in collaboration with DIPAS that will help women to operate with ease during law and order situations. It is a welcome move."

"It took tireless and concerted efforts of CRPF in close association with DIPAS (Defence Institute of Physiology and Allied Sciences), DRDO, over two years to design such a gear. The scientists of DIPAS carried out a very careful study of women troopers of CRPF's Rapid Action Force to ergonomically design the body protector for women,' a senior CRPF official said.

After two years of extensive study on the requirements of the protective equipment, the product was unveiled by CRPF DG Rajiv Rai Bhatnagar in the presence of DG Life Sciences A. K. Singh and Director of DIPAS Bhuvnesh Kumar besides a host of scientists of the DRDO agency and officials of the paramilitary.

"Today, by dint of sheer determination, hard work and professionalism, women in police forces, have made their presence felt pretty emphatically. This glory doesn't come easy to women troopers. The challenging duties prove to be even more daunting in the absence of gender specific protective gears. Surprisingly, till date, such women specific protective gears were conspicuous by their unavailability in the market," the CRPF said in a statement.

Officials said the prototype of the product is available and mass production will be undertaken soon.

The CRPF has 10 Mahila Battalions (10,000 personnel) and two Rapid Action Force (RAF) Battalions (2000 personnel). Once the equipment is procured in full measure, as many as 12,000 women troops in the CRPF will be benefited.

<https://www.dailypioneer.com/2019/india/crpf-women-troopers-will-now-have-full-body-protectors.html>



Sat, 20 July 2019

Women in CRPF will soon get specially designed body gear

Idea first mooted in 2016; till now they used gear that was used by men

By Vijaita Singh

New Delhi: In a first, women personnel of the Central Reserve Police Force (CRPF) who have to face riotous mobs will soon get a body gear that fits them.

Since Independence, the women personnel had to compromise with bulky, oversized body protectors designed for men. Around 300 women CRPF personnel posted in Srinagar to control the stone-pelting incidents are to benefit from these gears, a CRPF official said.

The full body protector has been designed by a team of scientists of the Defence Institute of Physiology and Allied Sciences (DIPAS), a unit of the Defence Research and Development Organisation (DRDO).

Dr. Bhuvnesh Kumar, Director, DIPAS said, "The gear covers all soft parts of human body such as rib-cage, back of the arm, inner calf, thigh and groin area of females deployed in riot control"

Scientist Dr. Shweta Rawat, who led the designing team, said anthropometric data was used to design the the gears which ensure protection of vital organs of women.

"The gear is anti-stab, anti-acid. The prototype has been tested and soon we will go for mass production. It will increase the efficiency of women as the protectors being used earlier were designed for men and the ease of operation was lacking," said Anupam Kulshreshtha, IG, CRPF.

Ms. Kulshreshtha added that the idea for gender- specific protective gears was first mooted at the National Conference for Women in 2016.

"It will be available in all sizes and the material used is the same as that used in male body protectors. It will ensure better mobility. It has also paved the path for further research and development in the field of women-specific body armours and vests," said Moses Dhinakaran, DIG and spokesperson, CRPF.

Another official said once the mass production starts, the gears will be available for other central armed police forces and State police forces also. It will weigh around 6 kg.

Around 8,000 women deployed in the anti-riot Rapid Action Force (RAF) will get the body protectors. The CRPF is likely to place an order for 9,000 such pieces.

<https://www.thehindu.com/news/national/women-in-crpf-will-soon-get-specially-designed-body-gear/article28598240.ece>



These 7 Indian missiles can create havoc in Pakistan. Third one is lethal

India has a series of deadly missiles including Prithvi, Agni, Surya, Brahmos, Dhanush, Prahaar and K series that can destroy Pakistan within a few minutes

The whole world knows that Pakistan provides safe haven for terrorists. Pakistan is a kingpin of harbouring terrorism in other countries including India. By harbouring terrorists and ceasefire violations, Pakistan has been waging a proxy war against India. Indian security forces eliminated 733 terrorists in Jammu and Kashmir since 2016. Pakistan is actively involved in shedding the blood of innocents and several times there were demands that we should go for a war with Pakistan. Many of you would agree with this. Aren't you? You would further agree to the fact that India is one of the most rapidly growing militaries in the world. The country has evolved from a regional force with tactical capabilities to a growing strategic force with a global reach now. India has a series of deadly missiles including Prithvi, Agni, Surya, Brahmos, Dhanush, Prahaar and K missile family that can destroy Pakistan within a few minutes.

1. Prithvi Missile:

Prithvi Missile is a tactical surface-to-surface short-range ballistic missile (SRBM) developed by DRDO. Prithvi I class is a single-stage liquid-fuelled surface-to-surface ballistic missile having a maximum warhead mounting capability of 1,000 kg, with a range of 150 km. Prithvi II class is also a single-stage liquid-fuelled missile having a maximum warhead mounting capability of 500 kg, but with an extended range of 250 km. On the other hand, Prithvi III can carry a 1,000 kg warhead to a distance of 350 km. These missiles are capable of hitting major Pakistani cities, such as Lahore, Sialkot, the capital Islamabad, and Rawalpindi.

2. Agni Missile:

Developed by DRDO, Agni missile is a family of medium to intercontinental-range ballistic missiles. Agni-I is capable of carrying a conventional payload of 1,000 kg, with a range of 700 km. Agni-II with a range of 2,000–2,500 km is 20 metres long, has a diameter of one metre and weighs around 18 tonnes. Agni-III is the third in the Agni series of missiles has a range of 3,500 km and can take a warhead of 1.5 tonnes. Agni-V is a solid fuelled intercontinental ballistic missile (ICBM) which can strike targets more than 5,500 km away. These missiles are capable of covering almost all Pakistani cities, including Lahore, Islamabad, Rawalpindi, Multan, Peshawar, Karachi, Quetta and Gwadar.

3. Surya Missile:

India is reportedly developing the Intercontinental ballistic missile named 'Surya'. The DRDO is believed to have begun the project in 1994. According to the report, Surya is speculated to have a range between 12,000 to 16,000 Km. It is also reported that the Surya is an intercontinental-range, surface-based, solid and liquid propellant ballistic missile.

4. BrahMos Missile:

Developed jointly by DRDO and Russian Federation's NPO Mashinostroyeniya, BrahMos is the world's fastest anti-ship cruise missile. The missile travels at speeds of Mach 2.8 to 3.0, which is now being upgraded to Mach 5.0. BrahMos claims it has the capability of attacking surface targets by flying as low as five metres in altitude and the maximum altitude it can fly is 14,000 metres. The ship-

launched and land-based missiles can carry a 200 kg warhead, whereas the aircraft-launched variant (BrahMos A) can carry a 300 kg warhead. The range of BrahMos has been limited to 290 km.

5. Dhanush Missile:

India also possesses an estimated two ship-launched 350-km range Dhanush SRBMs, which could be fitted with nuclear warheads. It has been developed for the Indian Navy. Dhanush is capable of carrying both conventional as well as nuclear warheads with a payload capacity of 500 kg-1000 kg and can strike targets in the range of 350 km.

6. Prahaar Missile:

Prahaar is a solid-fuel road-mobile tactical ballistic missile developed by the DRDO. Prahaar is expected to replace the Prithvi-I short-range ballistic missile in Indian service. This solid-fuelled missile can be launched within 2–3 minutes without any preparation, providing significantly better reaction time than liquid-fuelled Prithvi ballistic missiles and act as a gap filler in the 150 km range.

7. K missile family

Named after Indian scientist and former president A P J Abdul Kalam, the K family of missiles is a series of submarine-launched ballistic missiles (SLBM). The Sagarika/K-15 missile is the SLBM version of the land-based Shaurya missile. Medium range K-15 ballistic missile has a range between 700km to 1,500 km with varying payload. K-4 is an intermediate-range submarine-launched ballistic missile under development by DRDO. It is a 10 m long missile weighing 20 tonnes, capable of carrying a 1 tonne payload up to a range of 3,500 km. K-5 missile is reportedly will arm the future variants of Arihant class submarines of the Indian Navy. It has a maximum range of 5,000 kilometres and a payload of one tonne. K-6 missile with a length of 12m, width of 2m, a payload of 2-3 tonne warhead and a maximum range of 6,000 km.

<https://www.newsnation.in/science-news/these-7-indian-missiles-can-create-havoc-in-pakistan-third-one-is-lethal-article-231237.html>