

# DRDO develops quick response mobile facility for nuclear incidents

By Sunderarajan Padmanabhan

A riot gear for women police personnel and paramilitary officers, taking into account their different bodily measurements have been designed by the Defence Research and Development Organisation (DRDO), the country's agency tasked with the military's research and development.

The suit, dubbed to be the "first of its kind", was displayed in Jalandhar at an exhibition organised on the sidelines of 106th Indian Science Congress, inaugurated by Prime Minister Narendra Modi in Jalandhar, Punjab, on Saturday.

With threat perception of terrorists using weapons of mass destruction increasing, the Defense Research and Development Organization (DRDO) has developed a mobile facility to help provide immediate relief in case of any attack involving radioactive material.

The key equipment in the facility includes a whole body radiation counter, storage system for containment of radioactive waste and provision for preliminary decontamination of the affected areas.

Whole body radiation counters are generally large and expensive devices consisting of massive high-density radiation shields and sophisticated instrumentation. The new facility helps to avoid the handicap and at the same time provide a quick assessment of the nature of the radiation contamination and its extent. The facility offers the possibility of containerized transportation by any mode while providing high-resolution analysis of the contaminants.

A truck-mounted prototype is on display at the 'Pride of India' expo set up as part of the 106th session of the Indian Science Congress, which is underway here at Lovely Professional University. It was one of the major attractions at the expo, with children and adults, who are attending the conference, making a beeline and clambering up a steel ladder put up at the rear of the truck to have a glimpse of the facility.

Speaking to India Science Wire, Director General (Life Sciences), DRDO, Dr. A.K.Singh,said it takes just about 15 minutes to measure the radioactivity concentration per person and is a field compatible standalone system.

The DRDO, he said, was also working, among other things, on developing low cost polyhouses to help improve crop quality and productivity in border and other remote areas as part of an exercise to provide for better supply of fresh vegetables, fruits and other food articles for army and other paramilitary forces deployed in those areas, besides improving the socio-economic condition of the local population,

"Presently, polyhouses cost about Rs. 2 lakhs to Rs. 3 lakhs and are based on aluminium and other materials. Our aim is to use bamboo and other locally available material and bring down the costs to about Rs.25,000 to Rs. 30,000. We are working to develop polyhouses of different sizes to cater to needs at individual, family and community levels".

Noting that the main agenda of the life sciences division of DRDO was to develop life support technologies to improve combat efficiency, he said DRDO scientists have designed a state-of-the-art backpack with a capacity of 90 kg with a facility to even stow away a rifle. "Indo-Tibetan Border Force has tried it out and they were happy with it".

Among other things, special types of gauzes and gels have been developed to handle bleeding injuries better and have been tested out by the All India Institute of Medical Sciences "Our goal is to enhance the health and well-being of the soldiers even in extremes of environmental and operational conditions, strengthen the man-machine interface through human factors engineering, and boost the moral and motivation of troops".

Asked about the problems that have been found with regards to the biodigesters that were developed by DRDO and were used by railways and other agencies, he said that corrective measures are being taken. "The

*problem was not with the technology. It had to do with their implementation. For instance, the working of the biodigesters depended upon the kind of bacterial cultures that were used and their quantity. The norms were not been followed properly. In many cases, there was overloading of the system. We are in touch with user agencies to ensure that correct procedures are followed”.*

<https://www.techexplorist.com/drdo-develops-quick-response-mobile-facility-for-nuclear-incidents/19909/>



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## **DRDO Laser Fence adds to the security of the LoC DRDO develops quick response mobile facility for nuclear incidents**

*By Kalyan Ray*

An invisible laser fence is the latest tool in the hands of Indian Army's Northern Command to secure the Line of Control in Jammu and Kashmir from intruders across the border.

Developed by scientists at the Laser Science and Technology Centre, Delhi i the invisible barrier would allow the border sentry sitting inside his post to find out whether anyone was walking or crawling into the Indian territory.

For better performance, the command post with a display unit would have to be located at distance of 400-500 mt from the fence. At a greater distance, the performance is compromised.

The moment someone – a human being or animals like a cattle – crosses the laser fence, an alarm is sounded inside the post. A visual of the intruder appears on the display unit too.

“The systems were evaluated in the Northern Command when Gen D S Hooda was the GOC. Subsequently, the Northern Command placed an order for 40 systems that we supplied,” one of the LASTEC oicials, who don't wish to be identified as he is not authorised to speak to the media, told DH on the sidelines of the Indian Science Congress here.

The laser fence that has day/night operability can also be used to check intrusion across the river. During the trial phase, one such system was tried in Tawi river in Jammu region. Near a river, the fence is installed on a cemented pedestal.

Following the laser fence system's success in Jammu and Kashmir, LASTEC – one of the laboratories under Defence Research and Development Organisation - received orders from Central Reserve Police Force for deployment of such fences in the Naxal-hit areas of Bijapur in Chhattisgarh. The CRPF ordered 20 such systems, out of five have been supplied.

Indian Navy too had placed orders for a couple of systems to check intrusion of animals in its airbase INS Hansa in Goa.

While the system comes with high reliability and low false alarm rate, one of the shortcomings is that it requires line of sight for work, preventing its deployment in mountains and forested areas. Each of the system along with necessary electronics cost about Rs 1.5 lakh.

Those deployed on the LoC is run on a battery which is being powered by the electricity being provided to the LoC fence. Along with the fence, the laser barrier forms a two-tier security system at India's disputed border with Pakistan.

“We transferred the technology last month to Bharat Electronics Limited and Central Electronics Limited for commercial manufacturing of the unit,” he said.

<https://www.deccanherald.com/national/indian-science-congress-drdo-711629.html>