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DRDO pools in all partners to manufacture equipment to battle pandemic

Hyderabad: With the country fighting the coronavirus pandemic, the Defence Research and Development Organisation (DRDO) has now joined the battle. The ordnance manufacturer has developed equipment medical professionals and others would require in the field. The production is being carried out with the help of industry partners in various parts of the country.

For instance, a personnel sanitisation enclosure (PSE) has been developed by the Vehicle Research Development Establishment (VRDE) in Maharashtra's Ahmednagar. On entering the PSE chamber, an electrically operated pump creates a disinfectant mist of hypo-sodium chloride for disinfecting. According to the DRDO, the mist spray is calibrated for an operation of 25 seconds and stops automatically indicating completion of operation.

Meanwhile, a full face mask (FFM) has been developed at the Research Centre Imarat (RCI) in Hyderabad and the Terminal Ballistics Research Laboratory (TBRL) in Chandigarh. "Its lightweight construction makes it convenient for comfortable wear for long duration," the DRDO said.

As many as 1,000 face shields are being produced daily at the TBRL and provided to Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh. Similarly, 100 masks are produced by RCI and handed over to Employees' State Insurance Corporation (ESIC), Hyderabad. According to DRDO, a demand of 10,000 shields has been received from PGIMER and ESIC based on successful user trials.

The Centre for Fire Explosive & Environment Safety (CFEES) in Delhi has developed two configurations of sanitising equipment. The portable system can be mounted as a backpack and can be carried by operations personnel. Meanwhile, another trolley mounted large area Sanitisation equipment can be used to disinfect an area of 3,000 square meter. Two of these systems have been provided to the Delhi Police for immediate use and will be made available to others.

DRDO has also developed a bio-suit to keep medical, paramedical and other personnel engaged in dealing with COVID-19 cases safe from the virus. The current production capacity is 7,000 suits per day. Another vendor, with experience in garment technology, is being brought in and efforts are on to ramp up the capacity to 15,000 suits per day.

As bio-suit production by DRDO industry partners and other industries was being hampered due to non-availability of seam sealing tapes, the ordnance body has prepared a special sealant as an alternative to seam sealing tape based on the sealant used in submarine applications. It has also developed a number of products and technologies for defence against Chemical, Biological, Radiological and Nuclear (CBRN) agents.

The Defence Research and Development Establishment (DRDE) Gwalior, a laboratory of DRDO, has developed Chemical, Biological, Radiological and Nuclear (CBRN) Permeable Suit Mk V with 53,000 suits already supplied to Army and National Disaster Response Force (NDRF) teams. For first responders attending to radiological emergencies, a reusable suit has been developed by Institute of Nuclear Medicine & Allied Sciences (INMAS) Delhi. Meanwhile, the Aerial Delivery Research and Development Establishment (ADRDE) Agra has developed various types of parachutes with fabrics similar to protective technical textiles.

<https://timesofindia.indiatimes.com/city/hyderabad/drdo-pools-in-all-partners-to-manufacture-equipment-to-battle-pandemic/articleshow/75018149.cms>

Covid-19 outbreak: DRDO nod to made in Punjab N99 and N95 masks

By Mohit Behl

Ludhiana: In a major breakthrough by Punjab's industry, two firms, Oxiclear Private Limited of Ludhiana and Surgeine Safety Products, Hoshiarpur have got approval from India's elite Defence Research and Development Establishment (DRDE) Gwalior for manufacturing N99 and N95 masks which currently are the most sought after masks around the world, particularly in the wake of outbreak of Covid-19. Both these manufacturers are now eligible for supply of these masks to any government or private concern. In another big development, owners of these firms claim that they will be able to supply these masks at almost 40 per cent cheaper rates than the existing masks available in the market.

According to Gagandeep Singh, owner of Oxiclear said, "We are happy that N99 masks being made by our company has been approved by DRDE which is a big achievement for us, it could not have been possible without the support from Punjab government. With this development now it has been certified that our masks meet all the requirements to combat the Covid-19. Since we are now eligible to supply these masks to government departments and hospitals we are going to scale up production and bring the costs down to such a level that



without any compromise on the quality, our products will be priced at almost 40 percent less than the presently available products of big brands. We are hopeful that together with the support of all stakeholders we will be able to contribute extensively in the battle against Covid-19"

Notably ever since the lockdown began, a team comprising of additional chief secretary Vini Mahajan , director of industries and commerce Sibin C and all the general managers (GM) of district industries centres, particularly Mahesh Khanna GM of Ludhiana is working round the clock to ensure development of various medical kinds of medical equipment including Personal Protective Equipment (PPE), Hazmat Suits, special fabrics, low cost ventilators and masks etc within Punjab in order to meet the high demand of these crucial items within India to battle Covid-19.

Meanwhile giving more information, IAS Sibin C, said, "This is a big breakthrough for Punjab's industry as both N99 and N95 masks which play a very crucial role in combating Covid-19 but are in very short supply around the globe. Today's development comes as another boost to Punjab government's initiative to cope up the shortage of personal protective equipment in the country and make Punjab as the new hub of medical and life saving equipment. Apart from N99 and N95 large scale production of three ply and normal masks is also going on on a huge scale in Punjab and we are confident that factory owners of our state will fulfil the shortage of the masks throughout the country. Punjab government is already doing its best to help them be it airlifting the samples for testing or requirement of permissions of any sort or even financing"

Meanwhile giving more information about the test reports, Mahesh Khanna GM of DIC Ludhiana said, "Few days ago the samples of N99 and N95 masks manufactured by both these companies were sent to Defence Research and Development Organisation's (DRDO) for testing at its DRDE facility located at Gwalior. The samples of both the companies have been approved for mass production after they passed extensive testing including filtration efficiency. Now the decks have been cleared for both the firms to supply these masks in bulk to any government or private concern."

According to GB Singh, Proprietor of Surgeine Safety Products, Hoshiarpur, "I am running my small Industrial unit in Hoshiarpur from last 6 years. We are manufacturers of ISI approved Industrial safety respirators. Punjab government gave us huge motivation and support to make N95 which we successfully did. Along with all state government officials we got huge support from Ministry of Textiles regarding arrangement of our samples to Delhi and further they sent to testing facility at DRDO, Gwalior. We will further start our production shortly and we have manufacturing capacity of N95 mask is about 4000-5000 masks per day."

<https://timesofindia.indiatimes.com/city/ludhiana/covid-19-outbreak-drdo-nod-to-made-in-punjab-n99-and-n95-masks/articleshow/75012624.cms>



Mon, 06 April 2020

कोरोनावायरस से संक्रमितों का इलाज कर रहे डॉक्टरों के लिए DRDO ने बनाया बायो सूट

भारत के प्रमुख रक्षा अनुसंधान संस्थान DRDO की अलग-अलग प्रयोगशालाओं में कार्यरत वैज्ञानिकों ने मिलकर इस बायो सूट को विकसित किया है जो कोरोनावायरस से संक्रमितों का इलाज कर रहे डॉक्टर और मेडिकल स्टाफ के लिए PPE (पर्सनल प्रोटेक्टिव इक्विपमेंट) की तरह काम करेगा।

भारत के प्रमुख रक्षा अनुसंधान संस्थान DRDO (डिफेंस रिसर्च एंड डेवलपमेंट ऑर्गनाइजेशन) ने कोरोनावायरस से संक्रमितों का इलाज कर रहे डॉक्टरों सहित चिकित्सा पेशेवरों की सुरक्षा के लिए "बायो सूट" विकसित किया है। डीआरडीओ की अलग-अलग प्रयोगशालाओं में कार्यरत वैज्ञानिकों ने मिलकर इस बायो सूट को विकसित किया है जो चिकित्सा पेशेवरों के लिए PPE (पर्सनल प्रोटेक्टिव इक्विपमेंट) की तरह काम करेगा।

कोरोनावायरस के संक्रमण फैलने के बाद पूरे देश में पीपीई की बढ़ती मांग को देखते हुए प्रतिदिन कम से कम 15,000 बायो सूट का उत्पादन करने का लक्ष्य रखा गया है। भारत कोरोना वायरस संक्रमितों का करने वाले डॉक्टरों और पैरामेडिक कर्मियों के लिए पीपीई की कमी का सामना कर रहा है। सरकार वैश्विक बाजार से पीपीई, वेंटिलेटर और एन-95 मास्क खरीदने पर भी विचार कर रही है।

रक्षा मंत्रालय ने बयान जारी कर बताया कि डीआरडीओ की विभिन्न प्रयोगशालाओं में कार्यरत वैज्ञानिकों ने वस्त्र, परत और नैनोटेक्नोलॉजी में अपनी विशेषज्ञता का इस्तेमाल कर पीपीई विकसित किया है जिसमें विशेष परत के साथ खास तरह के रेशों का इस्तेमाल किया गया है। मंत्रालय ने यह भी बताया कि इस बायो सूट को वस्त्र उद्योग की मदद से विभिन्न कसौटियों पर परखने के बाद तैयार किया गया है और इससे साथ ही कृत्रिम खून से रक्षा का परीक्षण भी किया गया है।

रक्षा मंत्रालय ने अपने बयान में कहा है कि डीआरडीओ बड़े पैमाने पर इसका उत्पादन शुरू करने की कोशिश कर रहा है ताकि कोरोना वायरस के संक्रमितों का इलाज कर रहे डॉक्टरों और पैरामेडिक कर्मियों की पीपीई के लिए भारी मांग के अनुपात में इसकी आपूर्ति की जा सके। मौजूदा समय में एक दिन में सात हजार बायो सूट बनाने की क्षमता है।

रक्षा मंत्रालय के अधिकारी ने बताया कि डीआरडीओ और अन्य उद्योगों की साझेदारी में बायो सूट बनाने का काम 'सीम सीलिंग टेप' (जो आद्र कण को अंदर आने से रोकने के लिए लगाया जाता है) की अनुपलब्धता की वजह से रुका हुआ है। इसके बाद डीआरडीओ ने पनडुब्बी को जलरोधी बनाने में इस्तेमाल होने वाले द्रव का इस्तेमाल इस बायो सूट में किया है।

इसके साथ ही डीआरडीओ में पांच परत वाले मास्क एन-99 नैनो टेक्नोलॉजी के आधार बनाये जा रहे हैं और युद्धस्तर पर इसका उत्पादन किया जा रहा है। 10 हजार मास्क पहले ही बनाये जा चुके हैं और जल्द ही रोजाना 20

हजार ऐसे मास्क का उत्पादन किया जाएगा। उन्होंने बताया कि डीआरडीओ प्रयोगशाला ने दिल्ली पुलिस को 40 हजार मास्क की आपूर्ति की है। इसके साथ ही अधिकारी ने बताया कि डीआरडीओ वेंटिलेटर में मामूली बदलाव कर रहा है ताकि एक ही वेंटिलेटर से एक बार में चार मरीजों के जीवन की रक्षा की जा सके।

<https://www.bgr.in/hi/news/drdo-develop-bio-suite-for-doctors-and-medical-staff-treating-coronavirus-infected-people-884434/>

WWW.ECONOMICTIMES.COM
THE ECONOMIC TIMES

Tue, 07 April 2020

Northern Railways' PPE samples clear DRDO test; 100 units a day to be produced soon

The Northern Railways said on Sunday the test at the Defence Research and Development Organisation's Gwalior lab was conducted to check the resistance of the bio-protective covering material (fabric/garment) to penetration of blood or body fluid

New Delhi: Two samples of Personal Protective Equipment (PPE) made at a Northern Railways workshop have been cleared by the DRDO for their ability to block blood or body fluid, paving the way for its production at railway units.

The Northern Railways said on Sunday the test at the Defence Research and Development Organisation's Gwalior lab was conducted to check the resistance of the bio-protective covering material (fabric/garment) to penetration of blood or body fluid.

“Now these coveralls will be manufactured by Indian Railways and will be worn by doctors in railway hospitals while treating COVID-19 patients,” the Northern Railways said.

Its General Manager Rajiv Chaudhary said, “This is a huge achievement for Northern Railways as well as for the Indian Railways. We will continue to supplement the efforts of the government in the fight against coronavirus.”

There is an acute shortage of PPEs for medical professionals in the country who are treating coronavirus patients.

Technical specifications of these PPEs are now ready, and material suppliers are in place, the Northern Railways said.

We are now making 20 per day, but in a week's time we will be able to make 100 per day,” a Northern Railways spokesperson said.

The Railway Board has issued necessary instructions to Zonal Railways for production of the PPEs.

The Northern Railways' Jagadhari Workshop which developed these sample will share the technical details including specifications of the approved samples and quantities of materials required with other zonal workshops and production units of the Railways, it said.

The Indian Railway Stores Department has been designated to procure the material for the production of the PPEs.

This internal effort of the Railways is over and above a centralised request projected to the government and also indicated to HLL through Indent, the railways said.

According to the Health Ministry, the number of confirmed novel coronavirus cases in the country climbed to 3,374 on Sunday while the death toll rose to 77.

Of them, the number of active COVID-19 cases stood at 3,030 and as many as 266 people have been either cured of the disease and discharged, and one had migrated, it said.

<https://economictimes.indiatimes.com/news/defence/northern-railways-ppe-samples-clear-drdo-test-100-units-a-day-to-be-produced-soon/articleshow/75004596.cms>

Haryana railway unit too gets nod for PPE kits

By Jaskaran Singh

Yamunanagar: The Jagadhri workshop of the Northern Railways got approval to manufacture personnel protection equipment (PPE) kits after three of its samples were found to be compliant with required specifications. Deputy Chief personnel officer of the workshop, Rajiv Bajaj said their samples met the ISO 16603:2004 Class 3 or above requirements.

"Up till Sunday, our workshop manufactured around 200 PPEs. It has now started to prepare more for frontline medical and para-medical staff working tirelessly to fight the Covid-19 pandemic," Rajiv said.

He said the Jagadhri workshop prepared three samples of PPE kits for frontline medical staff, which were sent to Defence Research and Development Establishment (DRDE) and Defence Research and Development Organization (DRDO) through the headquarters of Northern Railways for testing PPEs to be used by doctors in hospitals and Indian Railways.

Bajaj said the workshop started manufacturing the PPE kits but were waiting for approval from DRDE and DRDO.

<https://timesofindia.indiatimes.com/city/gurgaon/haryana-railway-unit-too-gets-nod-for-ppe-kits/articleshow/75018536.cms>



DRDO to mass produce bio suits for medical professionals fighting Coronavirus

The bio suits produced by DRDO will replace sealing tapes with a special sealant used in submarine applications

The Defence Research and Development Organisation (DRDO) will be assisting Indian medical professionals battling the Coronavirus outbreak in the country. The DRDO recently said it would be providing doctors with bio suits, made from the same technology used in submarine applications.

These bio suits use a special sealant as an alternative to seam sealing tape. The same sealant is used in submarine applications. The use of the sealant will help since the usually used sealing tapes are not widely available in the country right now. The lack of tapes has hampered the production of bio suits in India, confirmed the DRDO.



The DRDO also mentioned that the bio suits using the special sealant have already passed the required tests. Further, the suits are soon expected to hit mass production. "Presently, bio suits prepared using this glue for seam sealing by an industry partner has cleared the test at Southern India Textile Research Association (SITRA) Coimbatore. This can be a game-changer for the textile industry. The DRDO can mass produce this glue through the industry to support the seam sealing activity by suit manufacturers," said the DRDO in a press statement.

The organization has also made the suit effective against the Coronavirus. Moreover, the suit also exceeds the criteria defined for suits, by providing protection against synthetic blood. “The current production capacity is 7,000 suits per day. Another vendor is being brought in with experience in garment technology and efforts are on to ramp up the capacity to 15,000 suits per day,” added DRDO in the statement.

Elsewhere, a Bengaluru startup started donating 3D printed Face shields to medical staff. Acting as a primary defense against contaminated droplets in the air, the face shields enhance the effectiveness of masks greatly. The startup has been donating the shields to various tier 2 and tier 3 regions. Moreover, the group has now started receiving government orders for about 1,00,000 units of the shields.

<https://www.bgr.in/news/drdo-to-mass-produce-bio-suits-for-medical-professionals-fighting-coronavirus-884420/>

The Tribune

Tue, 07 April 2020

6 Ludhiana units to supply PPE kits

Chandigarh: Six industrial units from Ludhiana on Monday got approval for supplying the much-needed personal protection equipment (PPEs) for health workers engaged in fighting Covid. The equipment will be ready for supply this week.

Of the six units, four — Evershine, Shivatex, Swamitex and Shingora — will be providing the complete PPE suits. The other two — Navyug Laminates and GuruKripa Tex Fab — will be providing the fabric needed to make the masks.

All six units got the approval from the South India Textile Research Association (SITRA). JCT Mills in Phagwara is also ready to supply the suits to the state. It has assured the state of supplying 10,000 PPE suits every day starting on April 20.

So far, a majority of health workers, including doctors and paramedics who are treating patients and collecting their samples, have been working without the PPE suits. Also, there is a shortage of masks. All over the country, there are a handful of units that have received approval to supply PPE suits and masks. As per the protocol, the PPE suit has to be discarded after use.

Hindustan Latex Limited (HLL) will procure the PPE suits from the units and supply them to other states.

Vini Mahajan, Additional Chief Secretary, Industries, said two units – Surgeine in Hoshiarpur and Oxiclear Private Limited in Zirakpur — have received approval from the Defence Research and Development Organisation (DRDO) for supplying N-95 and N-99 masks to the state government. The combined per day production capacity of the two units is 5,000.

“The government hopes to receive the much-needed supplies for the frontline warriors this week. We will also start getting imported protective gear that HLL has procured on behalf of the Centre,” Mahajan said. At present, Punjab has placed an order for two lakh PPE suits. The order will be scaled up in case of any eventuality.

<https://www.tribuneindia.com/news/punjab/6-ludhiana-units-to-supply-ppe-kits-66672>

Coronavirus in India: New weapons to combat Covid-19

Two critical defence ministry stakeholders -- the Defence Research and Development Organisation (DRDO) and the Ordnance Factory Board (OFB) -- have been tasked with meeting shortfalls--from ventilators to emergency care facilities and basic personal protection equipment like masks, clothing and gloves

By Sandeep Unnithan

New Delhi: With the Coronavirus pandemic slowly increasing its footprint in India, the government is scrambling to meet the massive shortfalls in health infrastructure. Two critical defence ministry stakeholders -the Defence Research and Development Organisation (DRDO) and the Ordnance Factory Board (OFB) - have joined the war against the Coronavirus.

These organisations have been tasked with meeting shortfalls--from ventilators to emergency care facilities and basic personal protection equipment like masks, clothing and gloves. The DRDO has a network of 46 laboratories while the OFB has 40 weapons and ammunition making factories. The DRDO - the nodal agency to protect soldiers from a biological weapons attack- has reoriented itself to fighting a pandemic.

Chairman DRDO Dr V Satheesh Reddy says eight laboratories have been earmarked to producing personal protective equipment, masks and ventilator parts. "We have given the government a list of our technologies and our scientists are continuously rolling out new applications over the next few days," he says. One of its labs in Delhi has developed portable backpack area sanitisation equipment.

The DRDO is working with industry to ramp up production capacity to 15,000 bio suits per day.

The Bhopal-based Defence Research and Development Establishment (DRDE), the nodal agency for protection from biological weapons, has been asked to test for Covid-19 cases.

The Kolkata-based Ordnance Factory Board has temporarily halted the production of arms, ammunition and equipment in nearly 40 factories across the country in keeping with the government rules during the 21-day lockdown. It is now producing PPE masks coveralls and hand sanitisers.

Three factories Aruvankadu, Bhandara and Itarsi - which usually produce explosives have produced 50,000 litres of hand sanitisers - equivalent to 5 lakh bottles - in less than a week. The board has given emergency powers to 10 of its factories to procure raw materials to manufacture protective equipment. OFB Chairman Hari Mohan puts his organisation's role in perspective.

"OFB is meant to support the country in war - and today the country is at war with coronavirus, our medical fraternity are our soldiers now - it is our duty to support our soldiers, our health workers and our police forces."

<https://www.indiatoday.in/mail-today/story/coronavirus-in-india-new-weapons-to-combat-covid-19-1664115-2020-04-07>



Fighting Covid-19: Armed forces and defence agencies use India-made medical items to control the pandemic

Ordnance Clothing Factory Avadi has until last evening handed over 5000 face masks to the Tamil Nadu Police, and have now received order for more than 1,10,000 non surgical masks from the state police as well as DRDO

By Huma Siddiqui

In the fight against COVID-19, Defence Research and Development Organisation (DRDO), and Ordnance Factory Board (OFB) and the Indian Armed forces are working round the clock to help the civil authorities to control the spread of the virus.

Ordnance Factory Board

Ordnance Clothing Factory Avadi has until last evening handed over 5000 face masks to the Tamil Nadu Police, and have now received order for more than 1,10,000 non surgical masks from the state police as well as DRDO. According to OFB officials, “Disposable bed linen set made by Ordnance Clothing Factory Shahjahanpur has been handed over to chief medical officer in charge Dr GP Gupta.”



Update from DRDO

Spinoffs from technologies which were developed for fire suppression application has now been successfully used by Delhi based Centre for Fire Explosive and Environment Safety (CFEES), for configuring sanitizing equipment.

With the help of its industry partner the company has developed portable sanitization equipment. This equipment will be used for spraying decontamination solution on a suspected area which consists of one per cent Hypochlorite (HYPO) solution.

The new system which uses low pressure twin fluid, air and disinfectant liquid, technology to generate very fine mist can be carried as a backpack and also on a trolley.

How can it help?

It has the capability to disinfect up to 3,000 square metre area.

And can be used in areas including the reception space of the hospitals, in the doctors chambers, office spaces where there is dealing with the general public, bus stations, metro and railway stations etc.

According to the DRDO, the Delhi Police has been provided with two systems and these can be made available to other agencies with the cooperation of industry partners.

Efforts by the Armed Forces

Thanks to the Indian Air Force (IAF), for helping the state governments across the country, all the medical supplies on its transport aircraft.

According to the official spokesperson of the IAF, in the last couple of days it has airlifted medical supplies and commodities from nodal points including Guwahati, Dibrugarh and Mohanbari in North Eastern region; Prayagraj, Gorakhpur, Bareilly and Agra in the Central region; and the Union Territories of J&K and Ladakh.

It has also created quarantine facilities at its bases which are in a state of readiness.

On its part the Indian Navy's Goa Naval Area has been distributing food and other essential items to the people in distress. In coordination with the civil authorities have been distributing

critical supplies to families of daily wagers, migrant labourers and low income families at Gandhinagar.

So far around 1000 kg of essential provisions to 200 families has been distributed, additionally, 600 kgs of provisions were handed over to Milind Naik, Minister for Urban Development and Social Welfare, for distribution to families in need.

<https://www.financialexpress.com/defence/fighting-covid-19-armed-forces-and-defence-agencies-use-india-made-medical-items-to-control-the-pandemic/1919915/>

Business Standard

Tue, 07 April 2020

New defence procurement policy gets mixed reaction from industry

The MoD has invited suggestions and recommendations by April 17. After that, DPP-2020 will be promulgated and will govern all acquisitions initiated thereafter

By Ajai Shukla

The defence industry has expressed mixed reactions to the proposed Defence Procurement Procedure of 2020 (DPP-2020), which the Ministry of Defence (MoD) released in draft form on February 20.

The MoD has invited suggestions and recommendations by April 17. After that, DPP-2020 will be promulgated and will govern all acquisitions initiated thereafter. It will supersede DPP-2016 as the MoD's handbook for purchasing of weapons, warships and equipment from the defence capital budget.

A Business Standard survey of small, medium and large defence firms reveals broad agreement that DPP-2020 has been hurriedly finalised and uploaded. Important annexures and appendices have been left out and even page numbering has not been done.

Like successive DPPs since the first in 2002, the draft DPP-2020 is longer and more complex than any other that preceded it. This despite the MoD's stated aim of simplifying acquisition procedures to speed up the military's modernisation. A 719-page long, the draft DPP-2020 is far wordier than its predecessor — the 430-page DPP-2016, which has, over the past four years, been amended 47 times for business process reengineering.

This is so, even though the draft DPP-2020 excludes an entire chapter on the Strategic Partnership Model of procurement since no changes are being recommended to the version in DPP-2016.

Abhishek Jain of software firm Zeus Numerix sees a change of soul in DPP-2020. Unlike previous DPPs, which he says primarily laid out guidelines on procuring foreign equipment, this time around there is a full chapter on indigenous innovation, including how single vendor purchase is acceptable for an innovative product developed by an Indian company, which has 50 per cent indigenous content.

However, Rahul Chaudhry, former chief of Tata Power (Strategic Electronics Division), believes the 2020 draft scatters its focus on various government policies at the cost of practicality. DPP-2020 aims to implement Make in India, Start Up India and support to micro, small and medium enterprises. These policies should be left to other government agencies such as the Department of Industrial Policy and Promotion, Securities and Exchange Board of India, and the Technology Development Board. These agencies, with their specialised capabilities, must be allowed to implement these national policies without MoD interference. This will make the DPP simpler and implementable, says Chaudhry.

There is appreciation across the industry for DPP-2020's proposed enhancement of indigenous content requirements in foreign procurements, most of which have been raised by 10 per cent. This

increase will boost self-reliance, allow a greater role for the indigenous defence manufacturing ecosystem and reduce the life cycle cost of the foreign equipment we buy, said Jayant Patil, who oversees L&T's defence vertical and heavy engineering division.

While there is appreciation for some of the proposed measures to expedite equipment procurement — such as simplifying the procedure for accord of necessity (AoN) for procurements — there is broad dismay that DPP-2020 does not reduce procurement time frames. The target for completing the acquisition of an equipment remains 70-126 weeks, in addition to the time required for the military to frame the requirement and obtain AoN from the MoD.

The current 92 week deadline for a Make-1 category prototype development contract is too high. If we cut procurement time the vendors would be able to reduce prices by 10-20 per cent, says Jain of Zeus.

Ashok Atluri of Zen Technologies believes procurement could be speeded up by building transparency into the process, through measures like publicly posting the movement of the procurement file. He suggests the laying down of stringent penalties for vendors who are found to have overstated indigenisation levels.

Atluri also points to positives in DPP-2020, such as a new clause that allows the MoD to fall back on the second-lowest cost vendor (L-2), if the lowest cost (L-1) vendor backs out during cost negotiations.

Rajesh Dhingra, who heads RNaval, applauds the newly introduced option to lease equipment, where purchase would be too expensive and cost-ineffective. Leasing will spare funds for capital acquisition. But DPP-2020 should identify the role of local industry in leasing cases, specifying responsibility for maintaining, operating and training, he said.

Others believe leasing should be approached with caution, being a potential debt trap. Increased liabilities from leasing, including embedded interest pay out, could cut the capital funds available for fresh contracts, says L&T's Patil.

“Increased liabilities from leasing, including embedded interest pay out, could cut the capital funds available for fresh procurement contracts,” says L&T's Patil.

The new offset rules remain an area of concern for industry, with DPP-2020 proposing to exempt government-to-government (G2G) purchases from offsets. “With the lion's share of the capital budget going on G2G procurements, this will cut down offsets significantly,” said Dhingra.

There is also concern that the DPP-2020 reduces government funding for “Make-I” category procurements, in which indigenous firms develop complex platforms and systems, with financial support from the MoD. Till 2016, the government's share of funding for “Make I” projects was 80 per cent and DPP-2016 increased that to 90 per cent. DPP-2020, however, proposes to slash government funding to just 70 per cent. “This would dissuade our defence industry from participating in large platform development programmes, where the prototype development cost exceeds a few hundred crore,” says Patil.

https://www.business-standard.com/article/economy-policy/new-defence-procurement-policy-gets-mixed-reaction-from-industry-120040600068_1.html

CAPFs asked to suspend non-essential movement of troops till April 15

"In order to cut down travel risk to prevent the possibility of spread of the disease during travel, the competent authority has directed that all personnel who are already on leave and likely to join duty before April 5 may be asked to extend leave till April 15," the order accessed by PTI said

New Delhi: The Armed Police Forces (APFs) have suspended all non-essential movement of its troops and staffers as they have extended their leaves by another 10 days, till April 15, in the wake of the coronavirus outbreak, officials said on Monday.

The earlier orders were in the mid March asking jawans and officers of APFs to "be where they are" till April 5.

"Fresh orders have been issued and all non-essential and routine movements, transfers and postings have been put on hold. No such travel will take place in these forces till April 15 now," a senior official said.

"In order to cut down travel risk to prevent the possibility of spread of the disease during travel, the competent authority has directed that all personnel who are already on leave and likely to join duty before April 5 may be asked to extend leave till April 15," the order accessed by PTI said.

"This may also be ensured by intimating affected personnel over phone by respective leave sanctioning authorities till further order," it added.

The order said the decision has also been taken "in view of the prevailing situation arising out of COVID-19 and the lockdown imposed by the government in the country".

The APFs have a combined strength of about 10 lakh personnel. These forces comprise the Central Reserve Police Force (CRPF), Border Security Force (BSF), Central Industrial Security Force (CISF), Indo-Tibetan Border Police (ITBP) and the Sashastra Seema Bal (SSB).

Counter-terror force National Security Guard (NSG) has also been included in the order.

"This order was first issued to ensure prevention of mass outbreak of the pandemic in these forces that are the backbone of the country's internal security and deployed for vital duties, including border guarding and counter-terrorist operations," a senior APF official had said.

The troops live very closely in demarcated camp areas and even one COVID-19 positive case among them can lead to infecting hundreds of colleagues in a short time, he had said.

A senior CRPF officer said movement of officers and troops on leave or training will only be allowed in case of a "strict emergency" and that will be cleared after approval by senior commanders who will review and decide each case on its individual merit.

The Union Home Ministry had last month directed these forces that all non-emergency leaves of personnel living in units or on-duty should be "cancelled" in order to minimise the risk of contracting coronavirus during travel and they should get into "battle mode" to combat the pandemic by ensuring personal and public safety.

There have been over a dozen positive cases of infection in these forces till now and all are in the second or third stage of sample collection and testing.

CRPF Director General (DG) A P Maheshwari and senior security advisor in the Home Ministry K Vijay Kumar, along with 70 others, have gone into self-quarantine after they came in direct or indirect contact with a CRPF doctor who was tested positive recently.

Maheshwari's COVID-19 test came negative on Sunday.

In another case, 11 CISF personnel were similarly tested positive and after this development their camp in Navi Mumbai, that housed 145 personnel, was vacated and sanitised.

The first CISF jawan, who was confirmed with the COVID-19 infection, has subsequently tested negative in three more tests and his fourth such diagnosis is awaited.

A BSF officer posted in Tekanpur in Gwalior has also tested positive and is currently in isolation.

<https://economictimes.indiatimes.com/news/defence/capfs-asked-to-suspend-non-essential-movement-of-troops-till-april-15/articleshow/75008926.cms>

millenniumpost
NO HALF TRUTHS

Tue, 07 April 2020

A different war but same army – How Indian armed forces are fighting COVID-19 battle

By Col Anil Bhat, VSM (Retd)

New Delhi: Since the outbreak of the deadly Corona virus in Wuhan, China, Indian Air Force, Army, Navy and Ministry of Defence have proactively worked to evacuate Indian people from the Covid-19 affected countries China, Iran, Italy and Japan and quarantined them at their facilities to release after mandatory isolation. From February 1 - March 20, the Air Force has evacuated well over 1000 people (including five foreigners) and quarantined them at their facilities/bases in Manesar, Hindon, Ghatkopar, Mumbai and Jaisalmer.

Besides, the Indian Navy has set up a quarantine camp at INS Vishwakarma in Vishakhapatnam - fully equipped to hold nearly 200 personnel. The Naval base, Kochi under Southern Naval Command (SNC), is gearing up to provide quarantine facilities for Indian nationals. The SNC is also actively coordinating with the Kerala state health officials and Ernakulam district administration to explore the feasibility of provisioning civil hotels/resorts for quarantining. Besides, all Army Hospitals have been kept on alert to meet any eventuality.



On March 26, the SNC took a slew of measures in consultation with the state Government and Naval Headquarters, including setting up 10 teams of Battle Field Nursing Assistants (BFNA) in Kochi, comprising of non-medical personnel to help medical staff should the situation arise. Such BFNA teams are being readied at all other stations under SNC as well. Separate Corona Care Centre facilities for another 200 service personnel and families has been created for any eventuality affecting service personnel. The CCC will be administered by a dedicated group of officers and personnel and a separate Medical Care Centre of Indian Navy doctors and nursing staff.

In addition to the active quarantine centres built and run by the Armed Forces, more facilities readied to be made operational within 48-72 hours - if needed, are at Kolkata, Visakhapatnam, Kochi, Dundigal, Bengaluru, Kanpur, Jaisalmer, Jorhat and Gorakhpur.

The Director-General, Armed Forces Medical Services (AFMS) Lt Gen Anup Banerji said 28 Service Hospitals had been earmarked as COVID-19 hospitals, which will include Armed Forces as well as civilian patients transferred from state health authorities, in case they are overwhelmed. He added that as of now, there are five hospitals across Army, Navy and Air Force which can carry out COVID-19 tests and six more are being readied. The DG AFMS added that isolation wards at peripheral hospitals have been activated at Army formations along Line of Control and Line of Actual Control.

On the availability of Personal Protective Equipment (PPE), the DG AFMS said, it is a challenge at a national as well as global level, adding that advisories for rational usage of PPE kits had been issued to the Services. "The AFMS is presently geared up with adequate PPEs for use in our hospitals. Additional procurement is also being planned to tide over crisis foreseen during the coming weeks and months since the Armed Forces have been directed to augment medical resources for the civil health set up also," he added.

A 14-member team of medical officers and paramedical staff of Army Medical Corps was sent to the Maldives for capacity building measures and assist in setting up their own testing, treatment and quarantine capacities. He added that other assistance for other countries will be provided as and when required. Also, on March 27, a shipment of 60,000 face masks ordered by Indian Medical Association, Goa to offset the shortfall there was stuck in Delhi as trucks could not proceed further in view of the lockdown. An Ilyushin 38SD (IL-38), a Long-Range Maritime Reconnaissance Aircraft of the Indian Navy, was promptly readied to depart INS Hansa for Palam Airport on March 27, which delivered the masks to Goa authorities the same day.

Further, the Border Roads Organisation (BRO) has been working relentlessly to completely replace the Daporijo bridge, the only lifeline of Upper Subansiri district in Arunachal Pradesh, to restore lines of communication for all 451 villages and security forces located along the China border. 23 BRTF (Border Roads Task Force) of Project Arunank, are working in full swing despite the dilapidated state of the existing bridge. Meanwhile, in Northern India, BRO is engaged in snow clearance operations on the Manali - Leh axis day and night to provide relief to Lahaul valley and Ladakh. The Rohtang Pass and Baralachala Pass are currently being tackled by four snow clearance teams.

Meanwhile, the Cadet Corps has issued guidelines for temporary employment of its cadets to augment relief efforts and functioning of various agencies involved in battling the pandemic. The tasks envisaged for NCC cadets include, manning of helpline/call centres; distribution of relief materials/medicines/ food/essential commodities; community assistance; data management and queue and traffic management. Only Senior Division volunteer cadets above 18 years of age will be employed in small cohesive groups of eight to 20 under the supervision of a Permanent Instructor Staff or/and an Associate NCC Officer.

Moreover, in Punjab, an organisation called 'Guardians of Governance', comprising 4,200 ESM, are assisting in data collection from all the villages. Chhattisgarh government has employed some ESM to assist the police. Similarly, in Andhra Pradesh all the District Collectors have asked for ESM volunteers. In UP, all Zila Sainik Kalyan Adhikaris are in touch with District Control Rooms and retired Army Medical Corps personnel have been identified and kept ready.

As of April 3, the IAF has airlifted approximately 60 tonnes of medical equipment and essentials to various parts of the country. 28 fixed wing and 21 helicopters are on standby at various locations across the country. Six naval ships are kept ready for assistance to neighbouring countries. Five medical teams are also on standby for deployment in Maldives, Sri Lanka, Bangladesh, Nepal, Bhutan and Afghanistan.

<http://www.millenniumpost.in/nation/a-different-war-but-same-army-how-indian-armed-forces-are-fighting-covid-19-battle-406931?infinitemscroll=1>

Business Standard

Tue, 07 April 2020

Indian Army to increase strength of medical team stationed at Narela quarantine camp

The Army medical team has been deployed to assist the local administration here. This is the first time Army doctors have been deployed to help civil administration within the country to help tackle coronavirus, Army sources said.

Earlier on Sunday, Chief of Defence Staff General Bipin Rawat had visited the COVID-camp at Narela and interacted with the doctors, volunteers and the military medical team.

He expressed satisfaction over the excellent synergy between the civil and military team and assured all assistance to them.

(This story has not been edited by Business Standard staff and is auto-generated from a syndicated feed.)

https://www.business-standard.com/article/news-ani/indian-army-to-increase-strength-of-medical-team-stationed-at-narela-quarantine-camp-120040700002_1.html

Business Standard

Tue, 07 April 2020

L&T Construction receives order from Indian Army

To manage and operate countrywide Armed Forces Network under the Network for Spectrum The Smart World & Communication Business of L&T Construction has secured a large order from the Indian Army to establish a first-of-its-kind, state-of-the-art Unified Network Management System to Manage, Support and Operate the countrywide Armed Forces Network under the Network for Spectrum (NFS).

The project involves the creation of a resilient Cloud based IT infrastructure on Infrastructure as a service (IAAS) model. The scope also includes Next Generation Operations System and Software (NGOSS) based Unified Network Management System, Eight Network Operations Centers (NOCs) consisting of National NOCs, Disaster Recovery NOCs, Regional NOCs, Security Operation Centers, Tier III Data Centres and Training Infrastructure. The facilities under this project will allow real time monitoring of the complete IT network backbone of the Indian army and provide complete visibility of deployed Network assets, leading to optimal utilization of resources.

The project is to be implemented in 18 months followed by 3 years of warranty and 7 years of AMC during which L&T will provide Managed Maintenance Services including SLA monitoring, service impact analysis and root cause analysis for the countrywide Armed Force Next Generation Network.

(This story has not been edited by Business Standard staff and is auto-generated from a syndicated feed.)

https://www.business-standard.com/article/news-cm/l-t-construction-receives-order-from-indian-army-120040700294_1.html



Tue, 07 April 2020

India to hand over Soviet-built Kilo-class submarine to Myanmar Navy, says source

According to the source, the terms of the handover of the Myanmar's first ever submarine is unclear

Moscow: India has prepared the INS Sindhuvir, a Soviet-built Project 877 (Kilo-class) submarine for handover to the Myanmar Navy, a military-diplomatic source told TASS.

"The submarine's repair was finalized this February in India. It is only a matter of time and crew training before it will be handed over to the Myanmar Navy," the source said.

According to the source, the terms of the handover of the Myanmar's first ever submarine is unclear - Naypyidaw may either buy or lease the ship.

Russia's arms exporter company, Rosoboronexport, did not comment on the deal.

The Sindhuvir joined the Indian Navy in 1988. Recently, it underwent medium repairs in Russia's Severodvinsk. After the Sindhuvir's handover, India will have eight more Kilo-class submarines.

Earlier, a source in the military-industrial complex told TASS that Russia proposed New Delhi to repair three Indian Kilo-class submarines and to buy three more submarines of the same class from the Russian Navy, after all required repairs.

<https://tass.com/defense/1140823>



INTERNATIONAL POLICY DIGEST

Tue, 07 April 2020

Understanding Djibouti's Significance for China's Naval Strategy

By Yacqub Ismail

A rising China is coming. Economically, Beijing is currently the second-largest economy by nominal gross domestic product (GDP) and the largest by purchasing power parity. Such economic growth has been a base for military modernization, with a significant focus on developing maritime capabilities. With long land borders, China has been a land-based power, but recently, it is shifting its attention to developing its navy since the 18th party congress in 2012, when then-President Hu Jintao called China to become a "maritime power" – both because a significant portion of trade travels through the sea, but also to be able to project power abroad in the future.

Island building in the disputed South China Sea has been on the headlines. Since then, both the fleet size and capabilities have rapidly grown both in quantity and quality, including its shipbuilding industry. In terms of power projection in the far seas, China's People's Liberation Army (PLA) had set up its first overseas military base in Djibouti, a tiny country in the Horn of Africa in a break of Beijing's longstanding policy of not establishing overseas military bases.

The 2019 Defense White Paper from China has called for the country to "build a strong and modernized" navy that is able to carry missions "on the far seas," and the U.S. Defense Intelligence Agency's China's Military Power report in 2019 concluded that China's focus on maritime power reflects a "consensus in China that maritime power is essential to advancing China's interests." Despite the significance of China's military build-up overseas, in particular its base in Djibouti and how it reflects on China's maritime strategy, there have been few studies on why China's Navy has

postured to Djibouti for its first overseas base, as well as how China's military and commercial operations intersect in Djibouti.

A new report published by the U.S. Naval War College's China Maritime Studies Institute called "Djibouti: China's First Overseas Strategic Strongpoint" provides an excellent overview of Djibouti's strategic geography and how China views it, the functions and capabilities of the military base in Djibouti along with other important details on the characteristics of the China operated port and free trade zone and the transport infrastructure that is built to "service the port and expand its economic and strategic impact."

The authors of the report, Peter A. Dutton, Isaac B. Kardon, and Conor Kennedy, who are all affiliated with the U.S. Naval War College have thoroughly examined "the development of this overseas support system" by tracking China's efforts to establish a "robust overseas commercial, diplomatic and military presence" in Djibouti. The report is a major breakthrough as it highlights the significant link between the military base and China's commercial interest in Djibouti by indicating that the military base "cannot be understood without examining the role of the Chinese firms that preceded it." These firms had built and operated the physical infrastructure, which played a significant role in establishing China's military presence in the Horn of Africa and deepened the bilateral ties between China and Djibouti.

The Sino-Djibouti partnership has been upgraded to a "comprehensive strategic partnership" in 2017 when President Guelleh of Djibouti paid a visit to Beijing, but the two countries have been developing close economic and commercial ties since the early 2000s. China played a significant role in building Djibouti's infrastructure development, industrial parks, free trade zone, and pipelines, while Djiboutian policymakers, anxious to attract foreign direct investments to position the country as a "logistics and commercial hub" to offer trans-shipment services to landlocked Ethiopia welcomed this arrangement. There is a concern on the debt-distress created by the Chinese investments in Djibouti as Beijing is currently both the largest creditor and debtor of Djibouti, but policymakers in Djibouti, which viewed China as the only country that is willing to fund these projects, downplayed the debt-stress concerns.

For China, Beijing is testing an "emerging strategy of using its economic influence to advance its security interests." While the current military base in Djibouti does not offer "a significant wartime capability" for China in its current form, it does serve largely as a "logistics, supply and intelligence" hub for Chinese operations in the Indian Ocean in peacetime. China does not seek any raw material from Djibouti, but its geographic position is what attracted Beijing's strategists to set up a base.

For the military base, which China calls it a "support facility" in order to downplay its military significance, the report founded that the base is capable of "supporting a wide range of PLA operations" beyond logistical support and has the potential to station as many as 10,000 personnel. The base also can make longer duration deployments for the PLA Navy possible and also it offers a more secure environment for the forces that are operating in theater. The report concluded that the military base in Djibouti combined with Beijing's growing partnership with Djibouti is part of a Chinese strategy to "establish a strategic position" in both the western Indian Ocean and the Horn of Africa and it ensures that Beijing is capable of projecting power while the report suggests that the military base in Djibouti is "probably not the model for how Chinese strategic strongpoint will develop" in the future.

<https://intpolicydigest.org/2020/04/06/understanding-djibouti-s-significance-for-china-s-naval-strategy/>

Training of Gaganyaan astronauts in Russia put on hold amid lockdown: Report

The four test pilots of the Indian Air Force, chosen for India's manned mission to space, have been undergoing training at the Yu.A. Gagarin Research and Test Cosmonaut Training Centre near Moscow since February

New Delhi: The training of Gaganyaan's four prospective astronauts in Russia has been put on hold as the facility where the exercise is being undertaken has been temporarily shut in the wake of coronavirus outbreak, sources said on Monday.

The four test pilots of the Indian Air Force, chosen for India's manned mission to space, have been undergoing training at the Yu.A. Gagarin Research and Test Cosmonaut Training Centre near Moscow since February.

However, since last week the centre has been shut due to coronavirus outbreak, sources said.

"Our (prospective) astronauts are fine. They are currently in hostel. We have been told the centre will open by the end of the month," a source said.

When asked whether the suspension of training for nearly four weeks will hurt the training programme, the sources added that although the training programme spans over 12 months, they had kept a buffer of three months to factor in exigencies. India's first manned mission to space -- Gaganyaan -- is planned around 2022.

<https://www.hindustantimes.com/india-news/training-of-gaganyaan-astronauts-in-russia-put-on-hold-amid-lockdown-report/story-IZDzRg3Sb7fK8uNjpEftI.html>



Coronavirus: Patients rush to join studies testing drug for Covid-19 infection

Coronavirus patients around the world have been rushing to join remdesivir studies that opened in hospitals in the last few weeks. Remdesivir is given through an IV. It's designed to interfere with an enzyme that reproduces viral genetic material.

The new coronavirus made Dr Jag Singh a patient at his own hospital. His alarm grew as he saw an X-ray of his pneumonia-choked lungs and colleagues asked his wishes about life support while wheeling him into Massachusetts General's intensive care unit.

When they offered him a chance to help test remdesivir, an experimental drug that's shown promise against some other coronaviruses, "it did not even cross my mind once to say 'no,'" said Singh, a heart specialist.

Coronavirus patients around the world have been rushing to join remdesivir studies that opened in hospitals in the last few weeks.

Interest has been so great that the U.S. National Institutes of Health is expanding its study, which has nearly reached its initial goal of 440 patients. The drug's maker, California-based Gilead Sciences, is quickly ramping up its own studies, too.

"I would enroll my family in a heartbeat" if the need arose, said Dr Libby Hohmann, who placed Singh and nearly 30 others in the NIH one at Mass General. To have no approved medicines for Covid-19 now is "kind of terrifying," she said.

For most people, the new coronavirus causes mild or moderate symptoms, which can include fever and cough but sometimes pneumonia requiring hospitalization. The risk of death is greater for older adults and people with other health problems.

Remdesivir is given through an IV. It's designed to interfere with an enzyme that reproduces viral genetic material.

In animal tests against SARS and MERS, diseases caused by similar coronaviruses, the drug helped prevent infection and reduced the severity of symptoms when given early enough in the course of illness. It's farther along in testing than many other potential therapies and the current studies could lead to regulatory approval.

Gilead has given remdesivir to more than 1,700 patients on a case-by-case emergency basis, but more people ultimately will be helped if the company does the needed studies to prove safety and effectiveness, chief executive Dan O'Day wrote in a recent letter to the public.

"Many people have reached out to Gilead to advocate for access to remdesivir on behalf of friends and loved ones. I can only imagine how it must feel to be in that situation," he wrote. "We are taking the ethical, responsible approach."

In another letter on Saturday, O'Day said the company has 1.5 million doses, which could mean more than 140,000 treatment courses, depending on how long treatment needs to last. The company is providing the drug for free for now and has set a goal of making 500,000 treatment courses by October and more than a million by the end of the year.

Gilead supplied remdesivir for two studies in China expected to give results by the end of the month. It also launched two studies for hospitalized patients in the U.S., Asia, Europe and elsewhere. One in severely ill patients tests five versus 10 days of treatment. Another in moderately sick patients compares those two options to standard care alone.

"There's so much anxiety about the disease that the patients are quite interested" and no one offered the chance has refused, said Dr. Arun Sanyal, the study leader at Virginia Commonwealth University in Richmond.

The first patient he enrolled was a previously healthy middle-aged man who had an out-of-state visitor a few days before his symptoms began. What started as mild illness escalated to profound shortness of breath requiring supplemental oxygen.

At University Hospitals Cleveland Medical Center, Dr. Grace McComsey has enrolled roughly half a dozen patients.

"We're seeing more and more younger people, like 30, really sick," she said.

The NIH study is the most rigorous test. It compares remdesivir to placebo infusions, and neither patients nor doctors know who is getting what until the end of the study. Besides the U.S., it's open in Japan, Korea and Singapore.

In Chicago, an 89-year-old man was Northwestern Memorial Hospital's first participant and "the family was very excited" to have him included, said infectious diseases chief Dr. Babafemi Taiwo.

At the University of California, Irvine, Dr. Alpesh Amin has enrolled several patients. All are getting standard care even if they wind up getting a placebo rather than remdesivir, Amin said.

The Boston cardiologist, Singh, said he was willing to take that chance to advance science even if he personally winds up not benefiting. He's now recovering at home after spending a week in the hospital.

"The word 'placebo' freaks some people out," but rigorous testing is needed to avoid giving false hope or using something unsafe. Still, it's tough to face patients with no proven therapy now, Hohmann said.

"The worst thing is seeing some really young people who are really, really sick," such as a 49-year-old man with three young children on life support, she said. "That's pretty awful."

<https://www.indiatoday.in/india/story/coronavirus-patients-rush-join-studies-testing-drug-covid-19-infection-us-japan-korea-1663986-2020-04-06>

Tue, 07 April 2020

Coronavirus pandemic | Anti-parasitic drug kills COVID-19 in lab grown cells: Study

According to the study, published in the Journal Antiviral Research, the drug, Ivermectin, stopped the virus, SARS-CoV-2, from growing in cell culture within 48 hours.

The new coronavirus made Dr Jag Singh a patient at his own hospital. His alarm grew as he saw an X-ray of his pneumonia-choked lungs and colleagues asked his wishes about life support while wheeling him into Massachusetts General's intensive care unit.

Researchers have found that an anti-parasitic drug already available around the world can kill the novel coronavirus grown in cell cultures within 48 hours, an advance that may lead to the development and trial of a new clinical therapy for COVID-19.

According to the study, published in the Journal Antiviral Research, the drug, Ivermectin, stopped the virus, SARS-CoV-2, from growing in cell culture within 48 hours.

"We found that even a single dose could essentially remove all viral RNA by 48 hours and that even at 24 hours there was a really significant reduction in it," said study co-author Kylie Wagstaff from Monash University in Australia.

The scientists said Ivermectin is an approved anti-parasitic drug that has also been shown to be effective in vitro against a broad range of viruses including HIV, Dengue, Influenza and Zika virus.

However, Wagstaff cautioned that the tests conducted in the study were in vitro and that trials needed to be carried out in people.

"Ivermectin is very widely used and seen as a safe drug. We need to figure out now whether the dosage you can use it at in humans will be effective - that's the next step," Wagstaff said.

"In times when we're having a global pandemic and there isn't an approved treatment, if we had a compound that was already available around the world then that might help people sooner," she said.

Although the mechanism by which Ivermectin works on the virus is not known, the scientists said it is likely, based on its action in other viruses, that it works to stop the virus 'dampening down' the host cells' ability to clear it.

"As the virologist who was part of the team who were first to isolate and share SARS-COV2 outside of China in January 2020, I am excited about the prospect of Ivermectin being used as a potential drug against COVID-19," said Leon Caly, study co-author from the Royal Melbourne Hospital in Australia.

The scientists further cautioned that the use of Ivermectin to combat COVID-19 would depend on the results of future pre-clinical testing and ultimately clinical trials.

<https://www.moneycontrol.com/news/trends/health-trends/coronavirus-pandemic-anti-parasitic-drug-kills-covid-19-in-lab-grown-cells-study-5108491.html>