

# **International Civil Helicopters Conclave 2015**

**on Safety Management System, Multi Mission Utility  
and Regional Air Connectivity**



**16<sup>th</sup> October, 2015, DRDO Bhawan, New Delhi**



## Contents

<b>Executive Summary .....</b>	<b>4-7</b>
<b>Inaugural Session .....</b>	<b>9</b>
Dr. B P Sharma, CMD, PHL <i>Welcome Address .....</i>	<i>10</i>
Mr.Kapil Kaul, CEO, South Asia Center for Asia Pacific <i>Knowledge Paper Presentation .....</i>	<i>11</i>
Smt M.Sathyavathy IAS, Director General, DGCA <i>Keynote Address .....</i>	<i>12</i>
Shri.Arun Mishra, Regional Director ICAO Asia Pacific Bangkok <i>Industry Adress .....</i>	<i>13</i>
Shri R N Choubey, Secretary Civil Aviation <i>Special Address .....</i>	<i>16</i>
Sh. P. Ashok Gajapathi Raju, Union Minister of Civil Aviation <i>Chief Guest .....</i>	<i>17</i>
Dr. Mahesh Sharma, MoS Civil Aviation, Culture and Tourism (I/C) <i>Guest of Honour .....</i>	<i>17</i>
Ms Usha Padhee IAS, Jt Secy (GA) MOCA <i>Concluding Remarks &amp; Vote of Thanks .....</i>	<i>17</i>
 <b>TECHNICAL SESSION - I: Safety Management System</b>	
Shri.Arun Mishra, Regional Director ICAO Asia Pacific Bangkok <i>Chairman .....</i>	<i>18</i>
Wg Cdr BS Singh Deo VM, MD, Bell Helicopter India <i>General Aviation - Safety Management Perspective .....</i>	<i>19</i>
Air Mshl PS Ahluwalia PVSM AVSM & Bar VM VSM (Retd) <i>Safety - A way of doing business .....</i>	<i>19</i>





Shri. S.V. Satish, General Manager, Airports Authority of India <i>Helicopter Navigation and Tracking System – Use of GAGAN</i> .....	20
Shri. R.K. Mishra, GM (Logs.), ONGC, Culture of Safety <i>Offshore Aviation Perspective</i> .....	21
<b>Recommendations receives from Stake holders</b> .....	<b>22</b>

## **TECHNICAL SESSION - II: Multi Mission Utility**

Shri.S.Machendranathan IAS, Chairman, AERA MOCA, <i>Chairman</i> .....	23
Mr. Sandeep Goel, IPS Jt Commissioner Police Traffic, Delhi <i>Role of helicopters for law and order Surveillance and Traffic Management</i> .....	24
Maj Gen Anurag Gupta, Jt Secy, NDMA <i>Use of Helicopters in Disaster Management</i> .....	24
Shri U B Das, Addl DG, DGHS, Ministry of Health <i>Helicopters as an Air Ambulance for Emergency Medical Services</i> .....	25
Mr. Ram Karan, Economic Adviser, Ministry of Tourism, GoI <i>Helicopter a complete solution for Heli Tourism</i> .....	26
Mr. Lionel de Maupeou, Director, Airbus Helicopters, France <i>Helicopter : A complete Rotary Wing Solution for all multi mission</i> .....	26
<b>Recommendations receives from Stake holders</b> .....	<b>27</b>

## **TECHNICAL SESSION - III: Regional Air Connectivity**

Shri. Ashok Chawla IAS, Chairman, Competition Commission of India GoI <i>Chairman</i> .....	28
Shri.Rakesh Sharma IAS, Chief Secy, Govt of Uttarakhand <i>Regional Air Connectivity - a way forward</i> .....	29



Mr. GR Gopinath CEO, Deccan Airways, <i>Helicopters – Mode of Transport for providing Regional Connectivity</i> .....	29
Mr. Amber Dubey, Partner & Head Aerospace and Defence KPMG <i>Regional Air Connectivity - A global prospective</i> .....	30
Shri S. Biswas, GM, AAI <i>Need for low-cost Airports and Heliport infrastructure-Necessity for Regional Air Connectivity</i> .....	30
Mr. Subhas Goyal, President IATO <i>Unlocking the Indian Sky - Air Connectivity in major and potential tourist destinations</i> .....	30
Shri Lokesh Bardia, CEO, DEDICO <i>Aviation Modular Airports &amp; Portable Helipads - An enabler of Regional Air Connectivity</i> .....	31
Ms Gargi Kaul IAAS, Jt Secy & FA MOCA : Concluding Remarks .....	31
Conclusion .....	31
<b>Recommendations receives from Stake holders</b> .....	<b>32</b>

---

**Prepared by Corporate Planning & Management Systems**





## EXECUTIVE SUMMARY

An International Conclave on Civil Helicopters was held on 16<sup>th</sup> October, 2015 at the DRDO Bhawan, New Delhi to commemorate the 30 years of service to the Nation by Pawan Hans Limited. The theme of the International Conclave was Safety Management System, Multi mission utility and Regional Air connectivity for helicopters in India.

Union Minister of Civil Aviation Shri. P. Ashok Gajapathi Raju who inaugurated the event called upon all stakeholders to come up with new ideas to give a boost to the civil aviation sector as a whole, and the helicopter industry in the country in particular. He said that a new Civil Aviation Policy is in the process of being drafted. Once it is ready, response and comments of stakeholders will be sought, so that a vibrant and forward looking policy can be put in place. The minister also said that the facility of flying should not be restricted to only the privileged people in the country. We should put policies in place so that flying becomes affordable and reaches the masses.

Speaking at the event, Dr. Mahesh Sharma MoS Civil Aviation, Culture and Tourism stressed upon the need to increase helicopter services to the North Eastern and hilly areas of the country where road connectivity is a major problem. He indicated the need to create Helihubs in Delhi, Mumbai and Guwahati to facilitate smooth navigation of helicopters.

The Secretary Civil Aviation in his inaugural address mentioned that the new civil aviation policy, including the policies of DGCA will have such light touch regulations without compromising with overall safety requirements. The Secretary further informed that the proposed Civil Aviation Policy seeks to simplify procedures and remove policy blocks so that more and more people can fly. He informed that regional connectivity and religious tourism using helicopters will be given a major push under the new policy. He said that efforts are on to work out fiscal initiatives for the sector with the Ministry of Finance. He further said that talks are on with the Ministry of Road Transport & Highways to work out ways for a quick and low cost evacuation of victims of road accidents. Talking on the issue of safety of helicopter travel the Secretary informed that GAGAN satellite assisted navigation systems which provide one meter resolution even in unregulated air-space will be used for efficient monitoring and tracking of helicopter movement.

Smt. M. Sathiyavathy, DG, DGCA in her Key Note Address at the Conclave said that most of the operators under NSOP category have a small fleet of 1 or 2 or 3 helicopters and only three operators have a larger fleet. While agreeing to instances of delays in the





matter of licensing process, she said efforts are being made to streamline the system with timelines being laid for each process. However, there would be no compromise with safety. In view of the number of helicopter types, adequate type certified pilots for handling FOIs work are not available at DGCA. In the absence of type certified pilots for handling FOIs work, such qualified pilots from the Industry have been appointed to handle the work.

Dr. BP Sharma CMD Pawan Hans Ltd spelled out that the industry interaction at the conclave is to encourage the General Aviation segment to promote Regional Air Connectivity by using Helicopters, small fixed wing aircraft and sea plane under three-tier air services model viz connectivity between regional hubs, intra-regional connectivity between Regional hubs and smaller heliports and airfields within the region-small aircrafts; Helicopter services in remote districts to the smaller heliports/airfields/regional hubs/helipads and also encourage investment and participation in the civil aviation sector in India under make in India programme. He felt that it was time the industry come forward in ensuring good policy initiatives for the growth of General Aviation. He felt it important to act in meeting the gap between the demand for heli services and the ability of our aviation system to meet the demand. While building the capacity, he felt it important to meet safety, security and environment. He assured the stake holders of the Industry that the suggestions received from them will be submitted to the MOCA.

The session was concluded with a vote of thanks from Ms Usha Padhee IAS Jt Secy (GA) MOCA who assured the Industry that she would do her best in her new assignment to give the Industry necessary impetus for the Helicopter segment of the Industry to grow.

In the first technical session speakers discussed the relevance and importance safety and necessary actions for the growth of the helicopter industry in our country. It was stated that the safety in helicopter operations is of paramount importance and how the SMS (Safety Management System) is a process which can lead to the aim of zero accidents. If the DGCA ensures that all organizations connected with helicopter operations incorporate and implement SMS in letter and spirit, it may be achieved. As the present on-board navigation systems on the aircraft being used for determining position and instrument let downs at IFR airfields are expensive to establish and maintain. Switching to GAGAN system which also provides the position of the aircraft/helicopter and can be transmitted to a ground station by fitment of an on-board system on the aircraft/helicopter, as well as let-down procedures, at a lesser cost. Therefore, the helicopters in India should be made GAGAN compatible within a period of next 3 years.





The helicopter tracking system available worldwide use iridium satellite for their operation. But use of iridium satellite is not permitted in India. Hence, it is recommended that permission be granted for use of helicopter tracking system using iridium satellite in India also.

In India it is imperative to create separate parking places at the airports more specifically at busy airports like Delhi & Mumbai, and a separate corridor for flying of helicopters with certain height restrictions be created in order to increase the growth in helicopter flying. Also instead of having close control by ATC if we have a reporting system where the helicopters fly on their own predetermine routes, it would reduce flight distances and duration of flights. Lastly it was recommended that if the night flying requirements are clearly spelt out by the DGCA based on utility and relevance, then the helicopters may be able to take up night flying also.

Then in the second technical sessions the discussions continued with speakers talking on the steps that could be taken for the safety and growth of helicopter industry in our country. It was said that dedicated helicopters must be earmarked and SOP's must be established for disaster Management. The Procedures for requisitioning of helicopters dedicated towards Disaster Management needs to be simplified, and similarly the State Govts should also have dedicated helicopters as part of disaster management. A separate directory listing of all the helipads and helicopters for this purpose must be maintained in a serviceable state at all times for Disaster Management.

Another recommendation was regarding simplifying of the helicopter operations, by having a dedicated air corridor for Helicopter operations with height clearances up to 3000ft. and no flight clearances must be required in those helicopter corridors.

The utilization of helicopters may be promoted by application for Law and order Management movements by the SWAT for crowd control in large gathering and riot/terrorist situations. It can also be used for the promotion of tourism with adventure sports like skiing, tracking, mountaineering etc. and in heritage sites such as TajMahal, Forts of Rajasthan etc.

There is also a great need for Air Ambulances at dedicated Corridors alongside highways for crash victim retrievals. This would require cooperation between the Hospitals, Insurance Companies and Helicopter operators in which the State will have to play an important role. In order to fund the scheme, a cess could be levied by NHAI for vehicle movement on the highways.

Finally, in the last technical session, the speakers spoke on the development of regional air connectivity and how heliports and vertiports are critical to their growth. Stating the





need for the State Governments to play a critical part in boosting these infrastructures at the remote locations.

The growth of commercial helicopters in India can come from Viability Gap Funding which is a critical enabler in boosting Regional Connectivity.

There are huge opportunities hidden in the tourism industry if the helicopters are made more affordable to the regular public and by having a 50-70 or 100 seater machines available. Though the cost cutting may only be possible if the cost of operations can be reduced provided custom duties and VAT are reduced on import of helicopter spares and ATF, and reducing the ground handling charges at the Airports.

The need for regional air connectivity is also very high in the Himalayan regions like the North Eastern States. The 8 NE states have very bad road connectivity and regional connectivity with fixed wing aircrafts to be complimented with Helicopters is the need of the hour.

The requirements for having Heli hubs in Metros like Delhi, Mumbai, Guwahati, Vizag etc are also a must for the promotion of Regional Air Connectivity and the State Governments need to play an important role in providing lands and other required infrastructure, permissions etc.

The DGCA regulations must be modified to cater to the requirements of helicopter operations in air ambulance for medical evacuations at road side accidents, and roof top helipads at major hospitals etc.

As new vintage helicopters are lately being sought by state govts. and institutional clients, there is a need for maintenance of helicopters in accordance with the maintenance requirements stipulated by the manufacturers & DGCA, and as long as this is done these helicopters should be acceptable for civil operations. There is also a need to educate and spread awareness amongst the Government Authorities about the Safety of the older vintage helicopters as frequent replacement of helicopters due to the new vintage requirements of various customers is not a viable option in our country due to financial constraints.

Also Skill Development Centres for Aircrew and technical personnel with training at affordable cost needs to be developed, and lastly setting up of MRO facilities must be incentivized with waiver of custom duties and service tax on services to be provided by the MROs.





# INAUGURAL SESSION

## Civil Helicopters Conclave - 2015

### International Conference & Exhibition on “Safety Management System, Multi Mission Utility and Regional Air Connectivity”



(L to R) Dr. BP Sharma, CMD, PHL; Smt. M. Sathiyavathy, DG, DGCA; Shri R N Choubey, Secretary Civil Aviation; Sh. P. Ashok Gajapathi Raju Union Minister of Civil Aviation; Dr. Mahesh Sharma MoS Civil Aviation, Culture and Tourism (I/C); Shri. Arun Mishra IAS, Regional Director ICAO Asia Pacific Bangkok and Ms Usha Padhee IAS, Jt Secy (GA) MOCA are seen at the Inaugural Session of International Civil Helicopters Conclave 2015 held at DRDO Bhawan in New Delhi on 16 Oct 15



Dignitaries lighting the lamp



Inaugurating the Exhibition

An International Conclave on Civil Helicopters was held on 16<sup>th</sup> October, 2015 at the DRDO Bhawan, New Delhi to commemorate the 30 years of service to the Nation by Pawan Hans Limited.

The theme of the International Conclave was Safety Management System, Multi-mission utility and Regional Air connectivity for helicopters in India.





## Welcome Address



Dr. B P Sharma  
CMD Pawan Hans Ltd

Dr. B P Sharma, CMD Pawan Hans Ltd spelled out that the industry interaction at the conclave is to encourage the General Aviation segment to promote Regional Air Connectivity by using Helicopters, small fixed wing aircraft and sea plane under three-tier air services model viz connectivity between regional hubs, intra-regional connectivity between Regional hubs and smaller heliports and airfields within the region-small aircrafts; Helicopter services in remote districts to the smaller heliports/airfields/regional hubs/helipads and also encourage investment and participation in the civil aviation sector in India under make in India programme. He felt that it was time the industry come forward in ensuring good policy initiatives for the growth of General Aviation. He felt it important to act in meeting the gap between the demand for heli services and the ability of our aviation system to meet the demand. While building the capacity, he felt it important to meet safety, security and environment. He assured the stake holders of the Industry that the suggestions received from them will be submitted to the MOCA.

Dr. BP Sharma in his welcome address thanked the distinguished delegates for sparing their valuable time to participate in the event. He felt interaction at the conclave will certainly encourage the General Aviation segment to consider promoting Regional Air Connectivity by using Helicopters, small fixed wing aircraft and sea plane under three-tier air services model viz connectivity between regional hubs, intra-regional connectivity between Regional hubs and smaller heliports and airfields within the region-small aircrafts; Helicopter services in remote districts to the smaller heliports/airfields/regional hubs/helipads and also encourage investment and participation in the civil aviation sector in India under make in India programme.





## Inaugural Session



Shri Kapil Kaul

At the inaugural session of the Conclave Shri Kapil Kaul, CEO, South Asia, Centre for Asia Pacific Aviation (CAPA) presented the Knowledge Paper on Civil Helicopter Industry in India. He informed that there are tremendous growth prospects for the Helicopter Industry in India which combined with the strategic initiatives of GOI in terms of “Make in India” will make the helicopter industry component of the Civil Aviation an important segment for the overall growth of the country. In view of the MoCA’s focus on regional air connectivity, the helicopters would be considered as the best option for upto 300 miles as compared to small fixed wing aircrafts. Helicopters can be used for medical evacuation which can create growth for the medical industry with all its beneficial social impacts. Helicopter is considered as a critical enabler for the last mile connectivity. The Hub and Spoke concept would be relevant for promotion of regional air connectivity by using combination of small fixed wing aircrafts with helicopters for connecting remote areas.

Sh. Kaul stressed that the eco-system has to be created for development of the helicopter industry by appropriate regulatory framework specific to helicopter operations instead of the application of regulation relating to fixed wing, improved safety management system with the operators and its monitoring by DGCA, enhanced security system, encourage skill development centres for induction of new Pilots & AMEs and cost competitiveness in terms of reduced custom duties, taxes on ATF, service tax on MRO services, reduction in airport handling charges, etc. He projected that apart from replacement of the older vintage helicopters in the present fleet of 276 helicopters in the country, there is likely demand of 600 helicopters in the next 10 years.



## Keynote Address



Smt. M. Sathiyavathy IAS

Smt. M. Sathiyavathy IAS, DG, DGCA delivered the Keynote Address at the Conclave. It was brought out that out of 280 civil helicopters at present most of the NSOPs have 1 or 2 or 3 helicopters and only 3 NSOPs have a sizeable number of helicopters.

She mentioned that the draft Aviation Policy will take into account the use of helicopters in Tourism, Disaster Management, Security, Law & Order, Emergency Medical Services etc. The DG, emphasized that there is tremendous scope for HEMS in India for which DGCA has issued a draft CAR on its website. Once the comments are received from the stakeholders, necessary amendments will be incorporated.

DG agreed that there are instances of delays in the matter of licence process which is time consuming. However, efforts are being made to streamline the system with timelines being laid for each process. This will ensure regularity while not ignoring the safety aspects which is paramount for the Aviation sector. In view of the number of helicopter types, adequate type certified pilots for handling FOIs work are not available at DGCA. In the absence of type certified pilots for handling FOIs work, such qualified pilots from the Industry have been appointed to handle the work. Regarding FDTL violations in Heli Pilgrimage role, safety culture is to be developed.





## Industry Address



Shri Arun Mishra IAS

Shri. Arun Mishra IAS, Regional Director, Asia Pacific, ICAO, delivered the industry address. He stated that the civil aviation industry in India has ushered in a new era of expansion driven by factors such as low-cost carriers (LCC), modern airports, high tech air navigation systems, liberal foreign direct investments (FDI) policies and a growing emphasis on regional connectivity. While India is doing well in the fixed wing sector it is lagging far behind in Helicopter operations. For those who belong to this sector will be well aware of the five main problems facing the industry – what he called the CRISP factor. He elaborated on the CRISP factor in helicopter industry which has largely contributed to its stagnancy in the last several years. CRISP is an acronym for Cost, Rules, Infrastructure, Safety and Personnel.

a) **Cost:** High Cost of Turbine fuel, customs duty for import of helicopters/spares, expensive MRO facilities, high wages and the high transaction cost for operations - all contribute to the prohibitive operational costs in comparison to other countries. b) **Regulation:** Application of fixed wing air traffic rules to helicopters has limited the operation and growth of civil helicopter industry. While some action for having separate corridors for operation of helicopters in Delhi and Mumbai airspace is in progress the pace is again very slow. This is a major step that will help in increasing safety as well as efficiency and capacity for helicopter operations. Also within the DGCA the need to evolve regulatory principles which properly address the unique nature of Helicopter operations is not well recognized. c) **Infrastructure:** Another major problem is lack of infrastructure. While the scope of operations and utilisation for commercial helicopters is vast, the requisite infrastructure is almost non-existent both in the metros and remote areas. While it takes less than tiny fraction of the costs of a modern airport to build a helipad, the authorities are





reluctant to invest due to low usage. So we have a Chicken& egg situation wherein lack of infrastructure restricts growth, while existing low levels of helicopter activity restricts investment in infrastructure. Further even when the infrastructure is present the process for permission to use is very complicated. For example how could an operator in Delhi get the permission of DM or SP to use the helipad in a remote district town for medical evacuation on a Sunday afternoon. d) **Safety:** Safety is the core of any aviation related activity. Overall Helicopter safety record in India has not been satisfactory which has contributed to lack of confidence amongst potential users. Regulating safety of helicopter operations is very difficult compared to fixed wing operations especially in cases where it is not a fixed point A to point B kind of sortie, for example the election campaigning operations. Thus the responsibility for safety rests primarily on operators. Operational safety measures include developing and implementing safety management systems that include sound risk management practices, particularly flight risk evaluation programs and formalized dispatch and flight procedures. Operators also need to implement best practices for flight crews that include scenario-based training and fatigue management. In particular, given the heightened risk associated with flight in bad weather, helicopter operators should employ training scenarios that expose pilots to inadvertent flight into terrain. Use of latest technology like radio altimeters, night vision imaging systems, and terrain awareness warning systems can help substantially in risk mitigation. To compound this problem India has a huge number of small operators with fleet size of 2-3 helicopters who find it very difficult to comply with the large number of regulatory safety requirements. The DGCA needs to implement systems to address this problem. Sh. Arun Mishra suggested that quick implementation of Safety Enhancement Initiatives would certainly have a profound impact on the success of helicopter industry. e) **Personnel:** Availability of Pilots and Training Facilities for pilots & engineers is a major bottleneck. With the expanding civil helicopter industry the demand for qualified and experienced pilots is ever increasing. Presently 80 per cent of pilots are being provided through the armed forces (Retirees/Premature Retirees). Also we have a significant number of expat pilots. There is a need to boost up the training facilities to get pilots from the civil street. What we need is a large number of High quality training institutions for development of the new generation of aviation professionals to cater to this sector. There is also reluctance within the industry to invest in training of young pilots. Everyone needs to recruit 5000 plus hour pilot. We all know that they are not available of the shelf. We all recognize that helicopter services are irreplaceable by any other means of transport, hence they are an economic and social necessity for a large





country with such a diverse terrain. Unless we make helicopter pilot training easily available and affordable to the young people this industry cannot compete with its fixed wing counterpart in attracting talented young students. The challenge in setting High Quality Aviation training Centres is further compounded as it entails huge investments with low returns and thus it is not very attractive to Private Sector. Proactive intervention by the Government in the form of facilitation and attractive fiscal incentives is essential to attract private investment.

Shri Mishra concluded by saying that it is critical that the Government engages and collaborates with the industry stakeholders to come up with efficient and rational decisions that will ensure that the Indian rotary wing industry realizes its full potential. With the right policies and a relentless focus on safety, India would be well placed to realize the full potential of this amazing and versatile means of transportation.





## Special Address



Shri R.N. Choubey

**Shri R.N. Choubey IAS, Secretary, Civil Aviation** emphasized that the helicopter industry has not been given a proper treatment in terms of specific regulatory requirements. Accordingly necessary policy prescriptions are being made under the proposed Civil Aviation Policy. DGCA is in the process of making regulatory provisions specially suiting helicopters operations. Ministry is trying for “light touch regulation” instead of heavy handed regulations in order to boost helicopter usage in the country. Secretary, Civil Aviation brought out the advantages of GAGAN which will help in tracking of un-regulated movement of helicopters specially in the remote areas. He brought out that 2/3rds of flying is covering between the 6 metros in the country. The large section of the middle class section of 300 million does not fly even once in a year. Accordingly, the Ministry is giving a big push to the regional connectivity under the new Civil Aviation Policy. Secretary, Civil Aviation emphasized the need to make helicopter flying affordable which could be achieved through some fiscal incentives. He brought out that medical evacuation by helicopters has a huge potential in the country. Accordingly, it is proposed to partner with NHAI for this purpose. Cess can be considered for usage of highways in order to fund the medical evacuation due to accidents on the highways.





## Guest Address



Ashok  
ni Raju

### **Hon'ble Minister for Civil Aviation and Minister of State for Civil Aviation**

The Hon'ble Ministers emphasised their support to the Helicopter Industry through specific provisions under the new Civil Aviation policy under formulation with special focus on Regional Air Connectivity and infrastructural development in terms of creation of Heli-hubs at various locations in the country covering Heliports / Helipads, MRO and Skill development Centres for the Pilots & technical personnel and appropriate in the Regulatory framework to facilitate growth of helicopters in the country.

Hon'ble Ministers conveyed their best wishes for the success of the International e on Civil Helicopters.

n Minister of Civil Aviation Shri. P. Ashok Gajapathi Raju who inaugurated the lled upon all stakeholders to come up with new ideas to give a boost to the civil sector as a whole, and the helicopter industry in the country in particular. He said w Civil Aviation Policy is in the process of being drafted. Once it is ready, response ments of stakeholders will be sought, so that a vibrant and forward looking policy ut in place. The minister also said that the facility of flying should not be restricted he privileged people in the country. We should put policies in place so that flying becomes affordable and reaches the masses.



hesh  
ma

### **Guest of Honour Address**

Speaking at the event, Dr. Mahesh Sharma MoS Civil Aviation, Culture and Tourism stressed upon the need to increase helicopter services to the North Eastern and hilly areas of the country where road connectivity is a major problem. He indicated the need to create Helihubs in Delhi, Mumbai and Guwahati to facilitate smooth navigation of helicopters.



sha  
IAS

### **Vote of thanks address**

Ms Usha Padhee IAS Jt Secy (GA) MOCA in her concluding remarks thanked all the distinguished delegates for sparing their valuable time to participate in the conclave. She also assured the Industry thtat she would do her best in her new assignment to give the Industry necessary impetus for its growth.





## **TECHNICAL SESSION - I**

### **SAFETY MANAGEMENT SYSTEM : BRIEF ON PANEL DELIBERATIONS**



Wg. Cdr. (Retd) B.S. Singh Deo, VM, MD, Bell Helicopter India; Shri. S.V. Satish, General Manager, Airports Authority of India; Shri Arun Mishra, Regional Director, Asia Pacific, ICAO; Air Marshal P. S. Ahluwalia, PVSM, AVSM & BAR, VM, VSM (Retd); Shri. R.K. Mishra, GM (Logs.), ONGC



#### **Chairman and Keynote Speaker**

**Shri Arun Mishra IAS, Regional Director, Asia Pacific, ICAO**

Shri. Arun Mishra had already delivered an Industry Address during the Inaugural Session primarily covering in detail the Safety aspect relating to helicopter operations. During his Keynote address he mentioned that safety is core to any activity and more so for the aviation sector. We need to value flight safety as the most important parameter in aviation. Our experience is that all our organizations may not have effective Safety Management System. While we agree we cannot have same Safety Management System for all organizations to meet various organizations need so we develop such a SMS system which broadly meets the basic SMS requirements and also meets various organizational needs. I would like to define the SMS system. SMS is a set of processes which lead to optimal utilization of available resources to manage process based on leadership and accountability. Implementation needs proper safety quality and action of personnel to develop safety for the organization. Documentation controls procedures of safety performance and is mandatory. Utilization of available resources is necessary to manage safety.





Wg. Cdr. (Retd)  
B.S. Singh Deo VM

### **Panelists**

#### **Wg. Cdr. (Retd) B.S. Singh Deo, VM, MD, Bell Helicopter India General Aviation - Safety Management Perspective**

Wg. Cdr. Singh Deo addressed gathering on the topic of general aviation-safety management perspective. He said that civil aviation is the safest mode of travel. He further elaborated as to "how safe is safe enough". He quoted Capt E.J. Smith in a seminar nearly 100 years ago who described his experience at sea as uneventful for the last 40 years. Subsequently, he was the Capt of ill-fated Titanic which sank on 14th April 1912. Accidents happen because of unsafe conditions and unsafe practices. Lack of situational awareness is the major reason for accidents in India and worldwide. The operator, the regulator and the manufacturer are the three people responsible for passenger safety.

Data on civil helicopter accidents due to loss of situational awareness since 2007 and the civil helicopter accident rate per 1,00,000 hours of flying in India was presented. Anticipated factors causing accident rate reductions from 2006 to 2015 were presented (data from IHST). He brought out that the data shows that 80% of the accidents can be prevented. The technological features which would enhance helicopter safety from 2015 and beyond were enumerated. These included ADS-B (Automatic Dependent System Broadcast), HTAWS (EGPWS), WAAS and LPV, HUMS, Enhanced Vision System, IFR for Single Engine Helicopter and Night Operations with NVG. The latest integrated avionic features of Bell 407GXP and Bell Relentless 525 helicopters were presented. He said that the Bell 429 is already GAGAN compatible.



Air Marshal P. S.  
Ahluwalia,  
PVSM,  
AVSM & BAR,  
VM, VSM (Retd)

#### **Air Marshal (Retd) P. S. Ahluwalia, PVSM AVSM & BAR VM VSM Safety - A way of doing business**

Air Marshal P.S. Ahluwalia said that the crux of flight safety is the human element. Proven technologies have failed but human experience and intelligence have saved the situation, thus saving precious lives. However, the human element has also been responsible for bad decisions which have resulted in accidents. He quoted from the findings of one accident and one incident at Mangalore. In the accident the lack of timely inputs led to the aircraft crashing by overshooting the end of runway. In the incident, the co-pilot stressed that the PIC should go around as the approach was overshooting. This avoided a potentially hazardous situation. He further





stated that the training is the need of the hour with CRM (Crew Resource Management).

Air Marshal Ahluwalia said that there is a need to check if the people on ground, pilots and policy makers are really communicating among themselves. He said that the lack of implementation of various procedures can lead to a helicopter accident like that of the Arunachal Pradesh Chief Minister.



**Shri. S.V. Satish, GM, Airports Authority of India**  
**Helicopter Navigation and Tracking System – Use of GAGAN**

Shri. S.V. Satish

Sh. S.V. Satish said that there is a requirement to incorporate IT enabled tools where there is cross communication. However, commonsense and logic have to prevail for a safe environment. He said that the most important element today to bring about a culture of safety is the training of pilot and engineers about the human element. The culture of safety has to be inherent in the organisation.

He deliberated on helicopter navigation and tracking system – use of GAGAN (GPS Aided GEO Augmented Navigation). He stated that safety has a threefold process – Safety technology, Safety procedure and Safety practices & human element. He brought out some important facts regarding the use of SBAS (Satellite Based Augmentation System). Ours is the fourth country in the world to use SBAS since Dec. 2013 and the third country to achieve approach with vertical guidance certification on 21/4/15. The 1st satellite navigation system has been developed by Airports Authority of India & ISRO. It is the first system developed in the equatorial region making India a leader in the Asia Pacific Region. He further explained risk management processes to bring down risk to the acceptable levels. There is a need to make helicopters GAGAN compliant by the fitment of onboard system. He said that the GAGAN system has four key parameters namely, Accuracy, Integrity, Availability and Continuity. The achievements of India through the GAGAN system was greatly appreciated and lauded by the audience.





**Shri. R.K. Mishra, GM (Logs.), ONGC**  
**Culture of Safety- Offshore Aviation Perspective**

Sh. RK Mishra explained the culture of safety keeping in view the perspective of off shore operations. He said that ONGC has 13 processes, 32 oil rigs and 200 unmanned platforms. This requires 250 personnel going to the rigs and the same number coming back every day. The risk analysis carried out by ONGC incorporates the mitigation of risk through procedures and training. The helicopters carrying men and material to these rigs have made it possible to sustain the oil rigs. Over a period of time ONGC as well as helicopter industry have incorporated procedures and equipment to enhance safety. With this context the safety of oil rigs and helicopters is equally important and comprehensive operational safety of the helicopter should be considered paramount. The oil industry and helicopter industry have to work hand in hand to further increase safety.





## Recommendations

- Safety in helicopter operations is paramount and the operators should work towards having zero tolerance towards safety violations. The SMS (Safety Management System) is a process which can lead to the aim of zero accidents. DGCA may ensure that all organizations connected with helicopter operations must incorporate and implement SMS in letter and spirit.
- The present onboard navigation systems on the aircraft being used for determining position and instrument let downs at IFR airfields are expensive to establish and maintain. GAGAN system would provide the position of the aircraft/helicopter which could be transmitted to a ground station by fitment of onboard system on the aircraft/helicopter, as well as let down procedures, at a lesser cost. Therefore, the helicopters in India should be made GAGAN compatible within a period of next 3 years.
- The helicopter tracking system available worldwide use iridium satellite for their operation. The use of iridium satellite is not permitted in India. It is recommended that permission be granted for use of helicopter tracking system using iridium satellite in India also.
- For the growth of helicopter industry in India it is imperative to create separate parking places at the airports more specifically at busy airports like Delhi & Mumbai.
- Separate corridors for flying of helicopters with certain height restrictions may be created to increase the growth in helicopter flying. Instead of having close control by ATC we should have a reporting system where the helicopters fly on their own predetermine routes.
- The night flying requirements need to be clearly spelt out by DGCA based on utility and relevance so that helicopters can undertake regular night flying as well.





## TECHNICAL SESSION - II

### MULTI MISSION UTILITY: BRIEF ON PANEL DELIBERATIONS



Mr. Lionel de Maupeou, Director, Airbus Helicopters, France; Shri. Sandeep Goel, IPS Joint Commissioner Police, Traffic, Delhi; Shri S Machinedranathan, Chairman, Airports Economic Regulatory Authority; Shri. Anurag Gupta, JS, National Disaster Management Authority; Shri U B Das, Addl Director General, Directorate General of Health Services, Ministry of Health; Mr. Ram Karan, Economic Adviser, Ministry of Tourism, GoI



Shri S  
Machinedranathan

**Chairman and Keynote Speaker –  
Shri S Machinedranathan,  
Chairman, Airports Economic Regulatory Authority  
Multi mission utility : Worldwide helicopter industry**

Out of total fleet of helicopters 40% is used by Corporate Business Houses, 30% by emergencies/ disasters / medical emergencies, 16% by off shore and rest by law enforcement. There is much of scope for multi utility, we have new challenges where we require helicopters in remote areas, for aerial surveys etc. Helicopters were less popular due to their high cost of hiring. Though, the cost of hiring helicopters has come down recently.

There is market for helicopters which have potential and low cost and sure availability.





There are ways to promote tourism in states and remote and hilly terrains, islands where helicopter ride is never experienced.

### **Panalists**



Shri. Sandeep Goel

#### **Shri. Sandeep Goel, IPS Joint Commissioner Police, Traffic, Delhi Role of helicopters for law and order Surveillance and Traffic Management**

Recently, Delhi Police used Drones on experimental basis for managing traffic jams, crowd control, etc. Drones help in identifying the reason for traffic jams and thus prompt action to resolve the issue can be taken. He emphasized that cost of hiring drones is higher than the cost of helicopters which can be used for such situations. Delhi Police is in touch with PHL for usage of Helicopter on experimental basis during the Durga Puja visarjan.

In case of disaster, helicopters can be used for Search and rescue. It can be used during cyclones, land slides, other natural calamities like earthquake etc, as ambulances in remote areas since it is difficult to reach the affected site by means other than helicopters. Helicopters can be used in movement of SWAT teams. At A&N Islands the helicopter is being used as normal means of transportation and troop movement which are not relevant for the urban set up.

There is growing need of helicopters for Traffic policing at highway, crowd control at large gathering, Traffic management and control of communal riots in the troubled areas. Assessment of any of the above situation from ground is poor and only bird's view of the area for helicopters can lead to better management of ground force to control the situation.



Shri. Anurag Gupta

#### **Shri. Anurag Gupta, JS, National Disaster Management Authority Use of Helicopters in Disaster Management**

In 1961 military was providing helicopter services for disaster management. However, during the 2013 floods in Uttarakhand, rescue operations were carried out by jointly by civil and military helicopters saving lives of more than 25000 people. We have approx. 267 helicopters and no dedicated set up for disaster management, whereas one city in Brazil has 350 helicopters. The country needs dedicated helicopters for management of disasters like cloud burst, landslides, floods, earthquakes, cyclones, etc.

Sh. Gupta stated that the helicopter has limitations with respect to low visibility during





heavy rains & dust storm, low load carrying capacity specially at higher altitudes and low cruising speed. Low fuel carrying capacity is also another drawback. Helicopter has limited or no night flying capability unlike fixed wing. Another problem which is being experienced is at many places there are no helipads and flight paths are not clearly defined. If at some places they are, the same are unprepared. These are some of the many issues which make helicopter usage limited. However, inspite of limitations, the helicopters are being used for transport of relief supply, medicines, casualty evacuation and dropping search and rescue team and medical equipment, Shipwreck etc. Helicopters are also used for fire fighting in case of forest fire, in case of fire in high rise buildings, clearing of debris, carrying oversize construction material, rescue boats etc (under-sling operations)

There are several bottlenecks unlike fixed wing, there is requirement for framing appropriate Regulations by DGCA for the growth of Helicopters. There are limited training facilities e.g. simulator training. There is lack of infrastructure, dedicated Search and rescue and fire fighting. In order to have more popularity of usage of helicopters we need to have fast track air corridors exclusive for helicopters. There is need to construct more of Heliports/ roof top helipads on high rise buildings and hospitals, helicopter corridors alongside highways in case of any accidents etc. State Govts also need to put Aviations assets to be part of disaster management. There should be a separate directory listing all the helipads and availability of helicopters where the designated helicopters need to be kept ready in serviceable state all the time. There is requirement to construct helipads in disaster prone areas and procedures to be simplified during disasters so that separate helicopters earmarked for disaster management are used at that time.



Shri U B Das

**Shri U B Das, Addl Director General, Directorate General of Health Services, Ministry of Health**  
**Helicopters as an Air Ambulance for Emergency Medical Services**

Shri. Das informed that in other countries helicopters are available and being used with facilities for providing basic medical care to the patients before he reaches the hospital. Doctor with para-medical staff travel and also resuscitation to maintain air circulation during patient travel.

Such air ambulance for emergency medical service is required to be earmarked in case of need so that no time is wasted and lives saved.





Mr. Ram Karan

**Mr. Ram Karan, Economic Adviser, Ministry of Tourism, GoI  
Helicopter a complete solution for Heli Tourism**

Heli Tourism has lot of scope where in some areas helicopters are already flying and there is still scope for expansion. Customised packages to pick at the time and destination of choice will be a great idea for tourism industry which include Heli Adventure tourism – National Parks, Shimla etc. Helicopters can also be used for religious places like Badrinath, Kedarnath where the helicopters are already flying. However, there are still many religious places which are to be touched. Also Heli heritage – TajMahal, Forts of Rajasthan etc has lot of scope.



Mr. Lionel de  
Maupeou

**Mr. Lionel de Maupeou, Director, Airbus Helicopters, France  
Helicopter : A complete Rotary Wing Solution for all multi mission**

Mr Lionel de Maupeou explained regarding the multi utility missions such as fire-fighting, personnel transport which require durability, efficiency and cost-effectiveness – key attributes of Airbus Helicopters' complete product range with proven performance in the most demanding utility missions. He covered in detail the technical and operational features of various types of Airbus Helicopter family namely, light helicopter models H135M, H145M, medium helicopter of the Dauphin class including AS365 MBe and the Heavy duty Superpuma family H225M and AS332 Cle. •





## Recommendations

Dedicated helicopters need to be earmarked for disaster Management. SOP's during disaster need to be established. Procedures for requisitioning of helicopters dedicated towards Disaster Management need to be simplified. Same way State Govts should have dedicated helicopters as part of disaster management. Separate directory listing all the helipads and helicopters along with dedicated helicopters need to be kept ready in serviceable state all the time for Disaster Management.

- Simplified Helicopter Operation - A dedicated air corridor for Helicopter operations with height clearances upto 3000 ft. and no flight clearances requirement in helicopter corridors.
- Utilization helicopter for Law and order Management for movement of SWAT. (Special weapons and tactics), crowd control in large gathering and riot/ terrorist control.
- For tourism promotion, Heli adventure like skiing, tracking, mountaineering etc. and for Heli heritage- TajMahal, Forts of Rajasthan etc. should be encouraged.
- Need for Air Ambulance at dedicated Corridors alongside highways for crash victim retrievals. This would require cooperation between the Hospitals, Insurance Companies and Helicopter operators in which the State will have to play an important role. In order to fund the scheme, a cess can be levied by NHAI for vehicle movement on the highways.





## TECHNICAL SESSION - III

### REGIONAL AIR CONNECTIVITY: BRIEF ON PANEL DELIBERATIONS



Shri. Subhash Goyal, Indian Association of Tour Operator (IATO); Shri Amber Dubey, Partner & Head - Aerospace & Defence, KPMG; Smt. Gargi Kaul, Joint Secretary & Financial Advisor, MoCA - Session Moderator; Shri Ashok Chawla, Chairman - Competition Commission of India; Shri Rakesh Sharma, Chief Secretary, Govt of Uttarakhand; Capt. Gopinath, Deccan Airways; Shri S. Biswas, GM, AAI; Shri Lokesh Bardia, CEO, DEDICO Aviation



Shri Ashok Chawla

#### Chairman of the Session

**Shri Ashok Chawla IAS, Chairman - Competition Commission of India**

Shri Ashok Chawla informed that the Regional Air Connectivity is a major driver of economy and tourism in tier-II and tier-III cities. Regional connect through helicopters Seaplane and small fixed wing aircraft services has catalyst impact on growth of overall aviation sectors economy and tourism of the States.

Developing Heli-Hubs / Heliports / Helipads infrastructure is another important enabling aspect of regional air connectivity. In order to attract investors to make the large scale investments that are required, Industry needs adequate financial viabilities to promote Regional Air Connectivity in the region. Shri Ashok Chawla covered the following aspects in his address:





- Availability of first infrastructure is principle request for air transport services & its optimum utilization,
- Running low cost Airport & Heliport,
- Frequency of Flight,
- Size of the Aircraft,
- Setting up Regional Air Activity Fund.



Shri Rakesh  
Sharma

### **Keynote Speaker**

#### **Shri Rakesh Sharma, Chief Secretary, Govt of Uttarakhand Regional Air Connectivity - a way forward**

Shri Rakesh Sharma shared the policy of the State Govt. which has a very strong focus on regional connectivity, keeping in view the remote areas and difficult terrains. In order to reach out to far flung areas, specially for disaster management, the State Govt. is developing a net work of 60 Helipads and 5 Air strips. These Helipads are being developed under the following 4 categories:

- i) H1 – Landing facilities for MI 172 Helicopter and 4 parking bays;
- ii) H2 – Landing facilities for MI 172 Helicopters and 2 parking bays;
- iii) H3 – Landing facilities for MI 172 Helicopters and 1 parking bay;
- iv) H4 – landing facilities for light chopper.

Shri Sharma further stated that in order to make the cost of utilising helicopters affordable to common man, the State Govt. is trying to bring down the ticket cost to Rs.7000-8000 for a 20-25 minutes flight and Rs.4000-5000 for flights with duration of less than 20 minutes. He invited PHL to come Uttarakhand and start intra city connectivity.

### **Panelists**



Capt. Gopinath

#### **Capt. Gopinath, Deccan Airways Helicopters – Mode of Transport for providing Regional Connectivity**

Capt. Gopinath dwelled on his experience on setting up the Deccan Airways and the problems he had faced at that point of time. He pointed out the need to modify the present regulations to suit helicopter operations and requested that the proposed Civil Aviation Policy should cover these issues. He suggested that a Single Window system may be followed for granting





permissions for setting up of new airlines. The new Civil Aviation Policy should encourage new entrants and new ideas having affordable tariff mix leading to better growth of regional connectivity which is the key to all round growth.



Shri Amber  
Dubey

**Shri Amber Dubey, Partner & Head - Aerospace & Defence, KPMG**

**Regional Air Connectivity- a global prospective**

Shri Amber Dubey in his address suggested that the Government should Fund direct subsidies to low cost air services to remote areas for the common man which would help growth of regional air connectivity. The concerned authorities should engage with all the stake holders regularly to gauge their requirements, problems faced by them for timely clearances of their proposals by the local agencies. He suggested that the high cost of operations of helicopters can be reduced by reduction of tax on ATF and MRO services in India. The ticket price should be between Rs.2000-3000 for 10-15 minutes flight.



Shri S. Biswas

**Shri S. Biswas, GM, AAI**

**Need for low cost Airports and Heliport infrastructure-  
Necessity for Regional Air Connectivity**

Shri S.Biswas informed that AAI manages 125 Airports but some of these Airports do not have regular operations due to limitation of suitable runways and other infrastructure for bigger aircrafts. Besides these AAI managed Airports, there are many Airports owned by the State Governments. There is a huge potential to optimally utilize all these Airports by promoting Regional Air Connectivity through introduction of small fixed wing aircraft and helicopter operations.



Shri Subhash  
Goyal

**Shri. Subhash Goyal, Indian Association of Tour Operator (IATO)  
Unlocking the Indian Sky - Air Connectivity in major and  
potential tourist destinations**

Shri Subash Goyal shared that in his organisation M/s. STIC Travels without owning a single aircraft they have managed 200 charters every year by keeping an eye on the market requirements. He recommended centralized reservation system through tour operator all over the world and put it in mobile application where the customer can book his tickets even on helicopters. Usage of helicopters for promotion of religious tourism at Buddhist





circuit, air ambulances have a good business potential. Every information should be available on the net to reduce the paper work in Civil Aviation Department.



Shri Lokesh Bardia

**Shri Lokesh Bardia, CEO, DEDICO Aviation**  
**Modular Airports & Portable Helipads - An enabler of Regional Air Connectivity**

Shri Bardia gave a presentation covering the concept of portable Helipads and module airports. These were low cost infrastructure options as compared to development of small Airports/Heliports at remote places. The portable Helipads can be made ready in 20 minutes on a soft sand ground and would cost Rs.55 to Rs.60 lacs. These are steamily light weight and can be managed by two persons for their installation. These type of low cost options would be good for regional connectivity from remote places where the passenger load during the initial period may be low.



Smt. Gargi Kaul

**Smt. Gargi Kaul, Joint Secretary & Financial Advisor, MoCA - Session Moderator**

**Smt. Kaul summed up the technical session covering the following issues:**

Regional air connectivity is going to be a driver for growth of the helicopter industry; • As there will be competition with other modes of transportation, the travel by helicopters will have to be made economical so that a large population can utilise these services at remote areas; • State Governments will have to play an important role in the promotion of regional air connectivity by providing necessary infrastructure at the remote areas, reduction in taxes on ATF and provide viability gap funding for such services to encourage operators.

### **Conclusion**

The helicopter industry which has so far been a neglected segment of our Aviation Industry has a huge growth prospects in our country, provided suitable steps are taken jointly by the DGCA, AAI, the state governments, as well as by the Stake holders. These Steps are covered in the Recommendations made at the end of each of the three Technical Sessions covered in this Report. Implementation of these Recommendations may be discussed by concerned authorities and plans made for executing them in a time bound manner.





## Recommendations

- Infra focus – Development of Heliports & Vertiports are critical to growth for boosting regional air connectivity. State Governments will have to play a critical role for providing these infrastructure at remote areas.
- Commercial helicopters in India - Growth area can come from funding and financing assistance i.e. Viability Gap Funding, a critical enabler in boosting Regional Connectivity.
- Regional air connectivity can come from 50-70-100 seater aircrafts. Huge opportunities in religious tourism if flying can be made affordable. The cost of operations can be reduced provided custom duties and VAT is reduced on import of helicopter spares and ATF, reduction in grounding handling charges at the Airports
- Himalayan states need to be provided subsidies like the North Eastern States to support regional air connectivity.
- 8 NE states have extremely bad road connectivity, and Regional Connectivity with small Fixed wing aircrafts complimented with Helicopters is the need of the hour.
- Helihubs in Metros like Delhi, Mumbai, Guwahati, Vizag etc are must for promotion of Regional Air Connectivity. The State Governments to play direct role in providing lands and other required infrastructure, permissions etc.
- New Vintage helicopters are being sought by the customers including the State Governments and institutional clients. As long as the helicopters are maintained in accordance with the maintenance requirements as stipulated by the manufacturers & DGCA these helicopters should be acceptable for civil operations. There is a need to educate and spread awareness amongst the Government Authorities about the Safety of the older vintage helicopters. Frequent replacement of helicopters due to the new vintage requirements of various customers is not a viable option in our country due to financial constraints. DGCA may issue necessary directions in this respect.
- DGCA regulations should be modified to cater to the requirements of helicopter operations in its various roles, specially covering air ambulance for medical evacuation at road side accidents, roof top helipads at major hospitals etc.
- Enable development of Skill Development Centres for Aircrew and technical personnel with training at affordable cost.
- Incentivise setting up of MRO facilities with waiver of custom duties and service tax on services to be provided by the MROs.





**Welcome  
to  
2<sup>nd</sup> Edition  
of  
International Civil Helicopters Conclave  
on  
15<sup>th</sup> October 2017 at New Delhi**



