

June 2022

# 100 KNOTS

India's Premier Crew Magazine

## Health

Mental Health  
in Pilots

## Environment

Reducing Airport  
Carbon Footprint

## People

India's First Female  
Offshore Captain  
Mayuri Deshmukh

## Operations

Operational safety  
under IFR Helicopter

## Safety

Generative Safety Culture  
in a long term perspective

## Statistics

Helicopter Operations



# India's First Female Offshore Captain

Rising above the Invisible Barrier



**Mayuri Deshmukh**  
Captain AS365 N3





Although we are familiar with the oil and gas industry, very rarely do we come across pilots who fly in the Off Shore! What is more remarkable and inspiring is to discover a female pilot flying in this unexplored and unusual sector. Today we'll be riding along with Capt. Mayuri Deshmukh, India's first female offshore captain and delving a little more into this fascinating and unique field of aviation.



# JOURNEY

My journey into flying began in 2008 when I went to Florida, the USA to pursue my Commercial Pilot's License (Helicopters). It was always my dream to fly the rotary-wing. The inspiration came from my father, a Helicopter pilot himself, who I used to watch take-off and land every day across the runway and from whom I used to hear exhilarating stories about going to the remotest places and his experiences of flying in the tricky terrains.

After struggling initially and working in ground operations for a while, I got my first flying break after joining a reputed corporate company. I enjoyed the overall tenure and it was quite a comfortable job but the limited flying was holding me back from exploring my dream of acquiring varied experiences in helicopter flying. So, my real journey as an aviator started in 2015 when I joined Pawan Hans Ltd. My first exposure to the hills in the North East was in the hills of Upper Shillong, I still have the picture of the golden rays falling on the ridges etched in my mind. After that my journey grew further richer by flying pan India, sunrise to sunset, ferrying aircraft from the corners of India to the most unexplored and remote terrains of the Northern plains. Flying over the Islands of Lakshadweep and Port Blair was a beautiful experience always.

My further journey which was the most exciting part for me was when I was taken up into Offshore. I was apprehensive whether as a female pilot I would be inducted since flying Offshore was a complete male bastion. Accommodation, association with other pilots, and acceptability were all a cause of consideration in my mind. But thanks to the people in organizations like Pawan Hans and ONGC, who set the bar differently, I was rather welcomed happily and I could make an entry into this novel field of flying. After this significant step, there was no looking back, despite the struggles.

I joined Offshore as a co-pilot in 2016. The next aim was to become an Offshore Captain, the process for which is long drawn and arduous and requires a lot of patience and hard work. It involves thorough training because the nature of work is complex. In that sense, it was an accomplishment for me personally when I got my fourth stripe.

Becoming an Offshore Captain is as much a dream come true for me as it was becoming a Helicopter pilot. It is indeed one of the most challenging sectors to fly. Like any other profession, the task which lies ahead doesn't get any easier, it is an important milestone but maintaining an approach for safer skies does entail putting in continuous hard work.

## Off Shore as an industry

Offshore flying refers to the transportation of passengers and cargo between the mainland and offshore oil rigs and platforms. Helicopters are the industry's workhorse, delivering employees to and from projects. Crew change and production, which entails replacing personnel and material for maintenance and repairs, emergency evacuation, and search and rescue missions are the most common tasks.

Offshore ops in India are divided between the West Coast and the East Coast. West coast operations are to Mumbai High, the largest oil field in the Arabian Sea. It houses all the major platforms, rigs, and floaters in the field. East Coast operations cover the Godavari Basin in the Bay of Bengal.

Due to the high entry barriers set by the customer, getting contracts for offshore can be fairly difficult due to the risks and complexities involved. There are several regulations that focus on operations, pilot qualifications, and the equipment used. Pilots must undergo extensive training. Before they are deployed offshore, they must pass multiple competency tests. Similarly, there are vintage provisions and rigorous maintenance monitoring for helicopters to suit operations.





## Challenges and risks

Since the domain of flying is over the sea, offshore operations can have their own set of risks. Although the safety record is excellent, accidents and fatalities do occur. There is no room for complacency when it comes to offshore helicopter safety, especially given the harsh conditions in which they operate. The following are the primary challenges:

### Nature of helidecks

Landing and taking off over helidecks are the most difficult obstacle for a helicopter pilot on Offshore because they are floating or semi-floating in nature. Because the platforms are situated in the sea, they are not as stable as helipads that are located on land. Everyday challenges include obstructions, gusts, hot gases, restricted deck size, and up to 50 takeoffs and landings daily.

### High Humidity and Temperature

The passenger-carrying capacity of helicopters is limited due to weight limitations. Most offshore helicopters do not have air conditioning to avoid incurring a weight penalty. Because the weather is hot and humid for most of the year, the fatigue level of pilots assigned to production tasks increases exponentially.

### Ditching

Ditching is defined as the controlled emergency landing of a helicopter on water. Since offshore operations are performed over long distances and in an often hostile

environment over water, events and emergency situations may arise which require immediate ditching.

## Psychological and Physiological Exhaustion

The degree of physical and mental weariness is quite high. The flight commitment can last for up to two hours or more, with multiple landings. Landings and takeoffs are manual, repetitious, and fast-paced, whereas only cruising flights are automated.

## Rapidly changing meteorological conditions/Monsoons

Offshore flying is very challenging during monsoons. Low-level clouds, reduced visibility, and heavy rain or storms can all make flying challenging. Furthermore, the pitching, rolling, and heaving experienced while landing on floating decks necessitates a high level of flying skill and accuracy.

## Life at the platform

The contracts require staying overnight at platforms, and while efforts are made to increase comfort, it does become a little restrictive in nature. Except for emergencies, there is no mobile network or internet access. Because the levels are stacked on top of each other, one must constantly climb and descend multiple staircases.

Since its inception, there has been a consistent effort toward making offshore operations safer. In recent years, DGCA has made considerable efforts to improve operational safety by introducing enhanced Flight Duty Time Limitations (FDTL), routine audits, and high training requirements. Better ground installations and airborne equipment with modern landing systems are being mandated to orientate the overall approach to safer operations. The oil platforms have been equipped with weather observation and reporting stations, navigation aids like Automatic Direction Finder (ADFs) and Helicopter Approach Path Indicator (HAPIs), a control room, and cameras. Besides DGCA, the customer also lays down a further comprehensive training program that is binding to the companies. Overall, a lot of efforts go into making offshore operations safer. Systems have improved over the years. The inherent risks associated with doing repetitive tasks in physiologically challenging demanding environments continue to be a challenge.

Offshore captaincy involves one of the highest training standards in the helicopter industry. The syllabus laid down currently by the customer requires extensive training as a pilot under supervision. An Instrument Rating is mandatory and there is also a requirement to operate a minimum of three monsoons before getting released to fly offshore. Pilots also have to undergo night training so as to prepare for any emergency situations. Helicopter Underwater Escape Training and ditching procedures are a part of the syllabus and are renewed from time to time. Indian oceanic routings are structured and well laid out in conjunction with Mumbai Air Traffic Services and Juhu Air Traffic Controller. They have been made keeping in mind the separation between scheduled and Non-Scheduled airline operations from Santacruz airport and helicopter operations at Juhu. The Kilo routings are specially designed for helicopter operations systematically to lead west towards Offshore fields. The operations are primarily VFR and special VFR from sunrise to sunset. There is Night Ambulance that is on constant standby for casualty evacuation at Mumbai High.



# How does the industry mitigate risks?

# 100 KNOTS

## How to join?

Due to a lack of interest and readily available candidates from the armed forces, India currently lacks a commercial helicopter training school. There are currently no cadet or operator-sponsored programs, as there are with the major airlines. Independent candidates prefer to train in the United States, Canada, New Zealand, Australia, or Southeast Asia. Following the receipt of the license, the candidate may apply directly to the operators. Vacancies are scarce, but so are applicants. With the continued growth of helicopter popularity, the industry will require more pilots in the coming years.

## Life as an Offshore Pilot

The life of an offshore pilot has its advantages and disadvantages. Unlike airlines, helicopter operations in India follow an ON/OFF rostering pattern, with pilots working 6 weeks ON followed by 3 weeks OFF or 4 weeks ON followed by 2 weeks OFF. The majority of helicopter operations take place between sunrise and sunset, with only a small percentage of operations taking place at night. As a result, red-eye flights, as well as Ultra Long-Haul flights are extremely rare. So, while the rest part at night is an advantage, one has to be prepared for long hours of work in the daytime. Flying is almost every day from morning to evening. Offshore is like a second home for those on duty.

## About the Author

I'm Capt. Mayuri Deshmukh from Pune. My father was a helicopter pilot in the Indian Air Force. I've watched him fly out of the most exotic locations that have planted the dream in me to fly this machine. My sister is an Airbus Captain with one of the leading commercial airlines. We are both fortunate to have found our source of inspiration at home, in my father, who has been a constant and a brilliant guiding force to us, and in our mother who has been our greatest support system.

The Ministry of Civil Aviation recently honored me for being India's first female offshore captain. I can't be more satisfied that I chose to pursue my dream which appeared impossible at first, but the will to persist and to be patient has taken me to a new path completely. Flying offshore can be a very rewarding experience that improves your skills and overall cockpit management. It is difficult due to physiological barriers but the rewards at the end of the day are well worth it. Being the only woman pilot flying in this sector currently, I do wish that more women come forward to join an industry that is unconventional and has its own challenges.

