

## Embracing Change

### Role of the OLS Task Force

(Number of words: 2226. Appx time:25 minutes)

#### Opening (Slide 1)

Good morning, afternoon, and a very good evening to all. I hope you and your loved ones are in the best of health. We are in a new normal where, unfortunately, most interactions and communications are done virtually. Thank you for making time to join us in the OLS Symposium. I understand that there are close to 700 participants joining the symposium virtually today with participants representing civil aviation authorities, aerodrome operators, air navigation services providers, military organizations, airlines and pilots' associations, aircraft manufacturers and land use planners.

I would like to start off by thanking, on behalf of the OLS task force, ICAO and ACI for organizing this symposium. My fellow speakers and I will do our best to deliver and meet the objectives intended for this symposium.

#### Slide 2

This is a kick-off presentation. It is a start of a journey to better understand the reasons on why we are embarking on this change process. In the next few slides, you will have insights into

- a) the role played by OLS in the aviation system,
- b) an introduction on the OLS Task Force and the job card assigned to it by ICAO
- c) a brief description on the task force think process when conducting the review
- d) what we aim to achieve with this OLS review. And lastly
- e) The important dates or timelines leading to the applicability date.

LET'S START THE JOURNEY!

#### Slide 3

Aviation is a system involving different users both aviation and non-aviation. ICAO have established Annexes, PANS, and documents to provide states, ANSPs, aerodrome operators, and other relevant authorities standardized and best practices to ensure safe and efficient flight operations and air traffic management.

Over the years, we have seen advancement in aircraft design, avionics and performances, and introduction of new navigational equipment and capabilities.

Increasingly, we see new flight procedures being introduced which provides better lateral and vertical accuracies. With all the changes mentioned above, it opens a question on whether the existing Obstacle Limitation Surfaces are relevant today and whether it is future proof. This is what we will be looking at today.

#### Slide 4

Airspace is a key asset in an aviation system. Arrivals, departures, and overflights are being conducted in this space. Increasingly, more pressure is being exerted on this asset as air traffic grows and the demand for land space intensify. There is a need to establish a systematic way of protecting the airspace so that air traffic movements can be conducted safely and deconflicted from land development below.

#### Slide 5

I understand the symposium is being attended both by aviation and non-aviation stakeholders. It is important for participants to get to know OLS and its role in aviation. Let me start off by providing a short introduction on OLS.

The Obstacle Limitation Surfaces are established for the purpose of protecting the airspace against obstacles. In addition to this purpose, the OLS concept or surfaces are being adopted by other purposes such as

- a) Being adopted in Annex 4 for charting, Annex 15 and PANS AIM for collection of Terrain and Obstacle Database
- b) It is widely used in PANS-Operations for flight procedure design
- c) It is widely used in airport master planning
- d) The OLS are also used to determine other aerodrome related requirements such as the requirements for the establishment of runway holding position
- e) They are also used as a tool to control the height of developments, structures, and fixtures
- f) Lately, the OLS are also being adopted in the management of unmanned aircraft operations in areas near aerodromes

From the above examples, we can see the importance OLS play in aviation and in my opinion, its uses are likely to expand to cover other areas in future.

The Standards and recommended practices on OLS are found in ICAO Annex 14. Additional guidance is also found in the Airport Surfaces Manual – Part 6 on the Control of Obstacles.

Most States would have adopted these requirements in the national legislation and use the OLS in their zoning or urban planning laws.

### Slide 6

The 12<sup>th</sup> Air Navigation Conference and the 38<sup>th</sup> ICAO Assembly called for a review of the Obstacle Limitation Surfaces standards and recommended practices found in ICAO Annex 14. The ICAO Secretariat set up the OLS Task Force in 2014. The first meeting was conducted in 2015. A job card was assigned with the following deliverables:

- a) Review and proposed necessary changes to the OLS Standards and recommended practices
- b) Review and proposed changes to the guidance material found in Airport Services Manual Part 6 on the Control of Obstacles.
- c) Develop guidance on aeronautical study.

In addition to the above tasks, there are associated tasks that are to be delivered by the task force. These are

- a) As mentioned, the OLS are referred to and used for the development of other standards and recommended practices, and guidance material. As such, making changes to the requirements in Annex 14 will trigger the need to make consequential changes to the affected Annexes, PANS and Documents.
- b) New guidance will have to be developed in the PANS to support the changes proposed by the task force.

The target is for these tasks to be completed and delivered to ICAO in the near term so that the proposed SARPs can be made effective in the year 2024. The task force is also considering an applicability date of 2026.

### Slide 7 & 8

Now let's get to know the task force a bit more!

The task force reports to two panels, the Instrument Flight Procedure Panel (IFPP) and the Aerodrome Design and Operations Panel (ADOP). We are supported greatly by the ICAO colleagues from the Airport Operations and Infrastructure section of the Air Navigation Bureau. Some of you may wonder why the task force report to two panels when the OLS is mostly applied and used by aerodrome operators. I will not answer this now but as you learn more about the review, you will understand the reason.

The task force is made up of members representing the civil aviation authorities, air navigation services providers, aerodrome operators, regulators, profession aviation association or organization such as IFALPA and aviation consultants.

The picture you are seeing now was taken in Mannheim, Germany in 2015. It shows the OLSTF members at one of task force meetings. Over the years, we have lost members due to retirement, but work must go on. Our members are experts in their areas and have worked tirelessly. The last two years have been challenging. The task force was not able to meet in person and had to conduct meetings virtually.

We are fortunate that ICAO has established an environment there encourages collaboration with other panels, working groups and task force. Even though, the OLS Task force membership is less than 20, we do receive contributions from other panels such as the Flight Operations Panel and Information Management Panel. At the same time, we have also discussed with and seek feedback and ideas from aircraft manufacturers and airlines and pilots' associations. This cross fertilization of ideas helps the task force to come up with proposals that will be beneficial to all the different aviation stakeholders.

#### Slide 9

In the next few slides, I would be sharing the thought process that brought about the changes. Through these sharing, I hope you understand the need for change. It is the task force assessment that changes are necessary to improve the existing Obstacle Limitation Surfaces concept.

The OLS were introduced back in the 1950s. That is about 70 years ago! There were several changes made in the 70s and 80s but most of the surfaces were left unchanged. Looking at the advancement in aircraft technologies, navigation systems performances and evolution of new flight procedures, you can understand why changes to the OLS are needed.

#### Slide 10

As mentioned, the OLS serve several stakeholders. As part of the task force assessment, we explore users' wants and needs. Based on these needs, we discuss on possible measures or improvements that can be incorporated into the existing concept.

The OLS are intended to protect the safety of flight operations. Objects beyond the OLS may still pose a hazard to flight safety. The question is whether by safeguarding the OLS, are we assured that all obstacle and terrain in the areas of operations have been assessed or accounted for.

Apart from OLS, there are other surfaces in PANS-Operations that are used in limiting objects. In addition, there are also identification and assessment surfaces in PANS-Operations which may not be safeguarded by the competent authority.

To provide the assurance, the task force is proposing to harmonize the different surfaces found in Annex 14 and PANS-Operations. In addition, we will consolidate these surfaces in a single document. Here I would like to assure participants that not all the PANS-Operations surfaces will be in Annex 14 but only selected ones that represent the bulk of operations conducted at the aerodrome. You will find out more on this tomorrow.

Some participants may also be concern that by having these new surfaces in the Annex 14, the responsibility of the aerodrome operators may be expanded. To this, I would like to provide an assurance that even though the surfaces are consolidated in one document, the State or relevant authority may assign the responsibility of the surfaces to different stakeholders.

#### Slide 11

As mentioned earlier, the OLS were introduced in the 1950s. Users would want to know if the OLS are still relevant today and more importantly, how suitable are they to protect future operations.

The task force discussed and has come up with proposals that include surfaces that are applicable today and can be adapted to future operations. The adaptability of these surfaces is important as different aerodromes or runways may support different type of operations and flight procedures. So, it may not be always suitable to design surfaces that subscribe to the philosophy of 'one size fits all'.

Arising on the question of sufficiency of these surfaces to protect current and future operations, the task force study the possibility of introducing additional surfaces that will beef up the OLS.

#### Slide 12

OLS are being used in managing building developments, use of construction machinery and erection of structures or fixtures. It is increasing challenging to defend the current OLS as a tool for obstacle control. We need to consider how a balance can be struck between aviation and land use needs.

For OLS to be defensible, there is a need to review existing surfaces. The task force is proposing a set of sets of surfaces that have clear purposes and characteristics. This

approach allows for States or aerodrome operators to adopt surfaces that are required for the type of operations conducted at the aerodrome or runway. In addition, these surfaces are performance based and will be adaptable to the needs of the aerodromes.

This approach ensures the surfaces needed for a safe and efficient operation are being safeguarded. Those not needed, based on the aerodrome operational needs, can then be released for other usage such as building development.

### Slide 13

Up to this point, you would know that change is necessary and understand the thought process in identifying areas of improvement. Making changes to OLS is no easy feat. It must be data driven. This statistical approach ensures a credible and acceptable outcome.

The task force made use of actual aircraft trajectories during an approach, missed approach and take-off phases. The data used are representative of aerodromes with different type of operations, climate, and altitude.

Most of the proposed surfaces are derived through this quantitative approach. In areas where we are not able to get the required data of acceptable accuracy, the task force has retained the surfaces dimensions as per today's requirements.

The task force also calibrates its proposal to consider feedback from pilots, airlines, aerodrome operators and States.

### Slide 14 to 16

This symposium is another platform where feedback on the task force proposal can be obtained. We would strongly encourage participants to submit your feedback or questions through out these there days. We will address all feedback and questions either at the panel discussion or after the symposium.

Over the next 3 days, your journey to understanding our proposal will continue. Apart from presentations, we will have a demonstration of the application of the new surfaces, pilot's and procedure designer's perspectives and lastly case studies.

We will share with you

- a) the new concept
- b) showcase of the new surfaces that will be added to the Obstacle Limitation Surfaces

- c) Pilot's and procedure designer's take on the new surfaces and how these surfaces benefit them
- d) We have set aside 3 slots for aeronautical study. The first slot is on our proposal for the aeronautical study guidance and the other two slots are case studies.
- e) The ICAO Secretariat will also be sharing the next steps, the various milestones and possible initiatives to help States or aerodrome operators to transit and adopt the changes.

This is the end of my presentation. I am confident that you will benefit from this symposium. My suggestion is for you to focus on the changes and the details. We appreciate your inputs, and the task force will remain contactable even after the symposium.

Once again, thank you for your participation.