CROATIA CONTROL

EUROCONTROL

ANSP CEOs' SAFETY CONFERENCE

"Managing safely the Boundaries of Operations"

Split, Croatia, 11 June 2015

Preceded by EUROCONTROL Safety Team on 10 June 2015

The tale of Two Stories

Enhancing safety begins with efforts to understand not just the sources of failure but also the sources of success

MESSAGE FROM THE DIRECTOR GENERAL OF EUROCONTROL

Every two years EUROCONTROL organises the CEOs' Safety Conference, within the framework of the ES^2 programme (Experience Sharing to Enhance Safety). The Conference provides an opportunity to meet and discuss safety challenges and the outcomes help set the safety priorities for the EUROCONTROL Network Manager.

The ES^2 programme continues to be a success; many of your staff have attended the various safety workshops which are the core element of the programme. The ability to gather people together to think about and discuss the safety challenges we are all facing is a key strength of the Network Manager. The biennial ANSP CEOs' Safety Conference is a central pillar of the ES^2 programme; it helps to provide strategic direction that cements our collective view of, and approaches to, Safety in the context of achieving sustainable business growth.

Consequently, I would like to invite you to the next EUROCONTROL ANSP CEOs' Safety Conference entitled "*Managing safely the Boundaries of Operations - The tale of Two Stories – Enhancing safety begins with efforts to understand not just the sources of failure but also the sources of successes*". The event is kindly hosted by Croatia Control, the ANSP of Croatia, and will take place in Split on 11 June 2015. Please note that the CEO's Conference will be preceded on 10 June by the 11th meeting of the Safety Team.

You will be aware that the EU Performance Scheme Reference Period 1 is already history and that since 1st January this year we are in the RP 2 era which will run until the end of 2019. Our business is now driven by performance. Competing forces to further reduce costs, improve efficiency, provide more capacity whilst at the same time maintaining the highest possible safety levels in our ongoing daily operations will not be easy. How are we going to continue to balance safety and other performance requirements within 'systems' that already operate at their capacity and are getting closer to the margins where signals from operations need attention? The challenge facing us is formidable, but not insurmountable. Safety 'systems' thinking provides a new opportunity to help us maintain safety levels that support efficient ATM businesses. There is an old saying that 'success breeds success'; in our world this should mean building on the things we are good at and improve our resilience as the key sources of future success.
In bringing you all together the intent is to hear about you and the safety issues and challenges that concern you the most. Of course the Network Manager, EASA and the airlines are also part of the equation and their voices also need to be heard. Thus, I am inviting you to share your Safety experiences and set out how you intend to meet these challenges in particular in the context of the on-going second reference period.

Frank Brenner, Director General

OBJECTIVES

- Give ANSP CEOs the opportunity to discuss and comment, with EUROCONTROL Network Manager and EASA, RP2 safety challenges and the 'new' approaches in Safety.
- Give ANSP CEOs and Safety Directors/Managers the opportunity to inform EUROCONTROL Network Manager on their safety management needs at local, FAB or the Network level (presentation of 2014 achievements, 2015 content and proposed 2016 ES^2 programme).
- Give CEOs and Safety Managers of ANSPs the opportunity to learn from invited speakers from other industries on how they manage to balance safety and operations and ensure adequate trade-offs.
- Give CEOs and Safety Managers of ANSPs the opportunity to network with their peers and senior Network Management Directorate managers and staff.

AGENDA

11 June 2015 - Hotel Le Meridien Lav Split, Podstrana

08:30 **Registration**

09:00 **Welcome & Opening Ceremony**
Ministry of Transport, Mr Zdenko Antešić
Croatia Control CEO, Mr. Dragan Bilać & Mr. Franck Brenner, EUROCONTROL DG

09:15 **Network Manager View on dealing with Operational Safety from System Perspective**
Mr. Joe Sultana - EUROCONTROL Director Network Manager - EUROCONTROL

09:35 **Managing The Boundaries of Operations**

.....every system operates always at its capacity. As soon as there is some improvement, some new technology, we stretch it... Good results come from Experience. Experience comes from bad results - how to integrate the tale of two stories.

Prof. Richard Cook - Professor of Healthcare System Safety, KTH, Stockholm - Invited Keynote Speaker

10:30 **Press Conference and Coffee Break**

11:00 **DSNA Safety Integrated Approach**
Mr Maurice Georges - Directeur Services Navigation Aériene - DSNA

11:20 **Airlines' Safety Perspectives**
Mr Peter Curran - Assitant Director SES - IATA

11:50 **DFS New Approach on Safety**
Prof. Klaus-Dieter Scheurle - DFS CEO

12:20 **Lunch**

14:00 **Moderation Panel - Performance Trade-Offs - Moderator *Joe Sultana***
Prof. K-D Scheurle, M. Georges, F. Brenner, G. Firican, P. Curran and Prof. R. Cook

15:30 **Coffee break**

16:00 **ES2 Programme 2013-2014 and Priorities 2015-2106**
Mr. Tony Licu - Head of Safety - Network Manager Directorate - EUROCONTROL

16:30 **Closing remarks**

MANAGING SAFELY THE BOUNDARIES OF OPERATIONS

"Workers at the sharp end of practice often encounter situations where every available choice is bad. Instead of doing the right thing, they are called upon to weigh the risks and benefits of different choices and to choose among these bad alternatives. Technological and social change will continue to create novel situations where there are only bad choices. Studies of how practitioners manage these situations tell us much about how safety is created and destroyed in modern systems."

The basic problem is there are too few accidents to guide work on safety. So we use arbitrary limits and we hope these are related to safety. However, the limits are conservative because we add margin as we are uncertain… but as a consequence we are tempted to cheat (push the boundary, cut corners) because we know the limits are conservative and nothing bad happens with minor adjustments. The problem is that we do not know where the operating point is at any moment within our boundaries. Consequently we are unaware of how big our margin is.

We are talking about a law of systems development, i.e. every system operates always at its capacity. As soon as there is improvement e.g. some new technology, we stretch it (Mr. Larry Hirschhorn).

Our system has three main boundaries:

- economic Failure Boundary, going beyond it leads to bankruptcy;
- unacceptable Workload Boundary, going beyond it leads to physical exhaustion;
- acceptable Performance (accident) boundary beyond which it is unsafe to operate.

The organisation's operating point lies somewhere within the space inside these three boundaries but the operating point is not static. It is reacting to external pressures and moves around the bounded space. Additionally the boundaries are also not static.

The closer you get to the economic failure boundary, the more the management pressure towards efficiency, thus pushing you towards the other two boundaries. Trying to get away from the unacceptable workload boundary results in a gradient towards least effort. The resultant of these two pressures thus moves the operating point towards the accident boundary. Counter-gradients like rules and safety campaigns try to push back the point far from the accident boundary. Reliable information about the accident boundary comes from accidents, but accidents are rare while the accident boundary changes with the environment.

Therefore we do not know where the accident boundary is. So how can we stay far from it? This is why we put the limits (error margins). Getting close to the error margin (i.e. our notional buffer between safe position and accident) is a signal that the operating point needs attention to push away as soon as possible. Due to other pressures we might be tempted to work beyond the margins. When we start to work beyond the error margin and not having safety problems leads us to believe that nothing bad can happen and we can now definitely work in that dangerous area. In this way our way of working is hazardous and we do not realise it anymore. We are 'flirting' with the margin and we do it when we face the continuous economic pressure. We use every advantage we gain to do more and do it with fewer resources but this production pressure keeps the operating point tight to the boundary.

Enhancing safety begins with efforts to understand not just the sources of failure but also the sources of success. System operations are seldom trouble-free, in fact observers find many more opportunities for failure than actual accidents. Therefore the difference between the high potential for failure and the actual low rate of failure is largely due to the practitioners.

Practitioners identify hazards and react to them; they actively anticipate the effects of changes. They are not so much the cause of occasional sporadic accidents but rather the active agents who regularly contribute to success.

When they carry out their roles successfully, they are the active creators of safety. Safety research tries to identify factors that affect their ability to play this role.

The problem is that we are too successful! We become complacent and we are no more critical to analyse the situation. However, accidents are still so few, so what is going right? The answer is resilience. Where does this resilience come from? Resilience is:

- prominent in complex operational worlds, what the operators do every day is resilience and it is hidden in normal operations;
- distributed: Through space, Across agents (people, machines), Over time scales (seconds to decades);
- dependent on expertise, especially the ability to anticipate problems, bottlenecks.

On the other hand resilience requires balanced goal sacrifices and it resists qualification. The contributors vary from short term e.g. daily meetings to long term like monitoring, experience, expertise, deep domain knowledge, supplies, culture, and professional ethos. The combination of these contributors gives safety, not just the process of daily action.

Resilience is thus feeling responsibility and implementing measures to have resources, human and equipment competence, positive safety culture…

Exercise

Ask yourself:

- Where is the operating point right now?
- How do you know?
- How do you prepare for production pressure you know is coming?
- What 'ordinary' stuff moves the OP past the margin?
- What Tale of two stories bits seem relevant to your experience in ATC?
- How can we make this clearer to others?

Professor Richard Cook

ADDITIONAL INFORMATION

Conference technical coordination contact

Should you like to discuss this event further, please do not hesitate to contact:

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