Welcome

Speakers:  Mr Neil May
          Mr Alfred Vlasek
          Mr Erwin Rischan
          Ms Kimberly Pyle
Welcome

Introductions

• Mr Neil May, Head of Human Factors, NATS

• Mr Alfred Vlasek, ANS Safety Manager, Austro Control

• Mr Erwin Rischan, Safety Peer, Austro Control

• Ms Kimberly Pyle, Safety Programme Manager, CANSO
Day 1 – Thursday 28th September 2017

• Session 1 – Human Performance Theory and Practice

• Session 2 – Human Performance Challenges

• Session 3 – What are the Human Performance Challenges Facing your Organisation?
Day 1 – Thursday 28\textsuperscript{th} September 2017

• Session 4 – ICAO Fatigue Risk Management Regulations

• Session 5 – How will your Organisation Comply with the ICAO Fatigue Risk Management Regulations?
Day 2 – Friday 29th September 2017

- Session 6 – Human Performance and System Design
- Session 7 – How will your Organisation Address the Human Performance Challenges Associated with Change?
- Session 8 – Presentation of Workshop Certificates
Human Performance Theory and Practice
Speaker: Mr Neil May
Human Performance Theory and Practice

Video – Introduction to Human Performance
Human Performance Theory and Practice

The Business Vision

The key Human Performance areas that deliver the business

The discipline that deals with the underlying Human Factors in work situations and their optimisation

People need support

Human Performance

Support needs expertise

Human Factors

People make ATM work

Business Performance
A Human Performance Framework

There are 3 elements to how we help people to do their jobs:

1. How well the person is supported by the things they use to do their job
   - Provide the right TOOLS

2. How well the person is prepared for the task
   - Provide the right CAPABILITY

3. How well the person is supported by the organisation
   - Provide the right ENVIRONMENT
A Human Performance Framework

All 3 elements of Human Performance have to work together.
Human Performance Challenges

Speakers:  Mr Neil May
          Mr Alfred Vlasek
Human Performance Challenges - Tools

Technology and Equipment
Airspace Design
Airport Layout
Procedures
Operations Room
Digital Towers
Human Performance Challenges - Capability

- Controller Selection and Training
- Incident Investigation
- Confidence and Personal Resilience
- Competence Assessment
- Job Design, Task Allocation, Workload
- Human Performance Training
Human Performance Challenges - Environment

- Safety Culture
- Well-Being and Fatigue Risk Management
- Change Management
- Human Performance Data
- Continuous Improvement
- Communication and Engagement
What are the Human Performance Challenges Facing your Organisation?

Facilitators:  Mr Neil May
            Mr Alfred Vlasek
            Mr Erwin Rischan
            Ms Kimberly Pyle
What are the Human Performance Challenges Facing your Organisation?

Consider the Human Performance headings of Tools, Capability and Environment

• What are the current challenges facing your organisation?

• What are the Human Performance and business benefits from addressing them?

• What steps is your organisation already taking to address the challenges?

• What else does your organisation need to do to address the challenges?
The Importance of Fatigue Risk Management

- Fatigue is something that can occur in all professions
- It contributes to 15-20% of fatal aviation accidents caused by human error
- ICAO and industry recognised the need for regulations similar to those already in place for pilots and cabin crew
- National Health & Safety regulations are increasingly focused on well-being
ICAO Fatigue Risk Management Regulations

The Manual for the Oversight of Fatigue Management Approaches (Doc. 9966)

Extended to include ANSPs

Fatigue Management Guide for Operators (IATA/ICAO/IFALPA)

Annex 6, Part I

Fatigue Management Guide for GA Operators of Large and Turbojet Aeroplanes (IBAC/ICAO/FSF)

Annex 6, Part II

Fatigue Management Guide for Air Navigation Service Providers

Annex 11

New
ICAO Fatigue Risk Management Regulations

Co-branding with CANSO

Great introduction to fatigue risk management
• Science / scientific principles
• Implementation of effective fatigue approaches

Effective from 2020

Has implications for all Air Navigation Service Providers
What is Fatigue?

A physiological state of reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase and/or workload (mental and/or physical activity) that can impair a person’s alertness and ability to adequately perform safety-related operational activities.

Key words:
- Sleep loss
- Extended wakefulness
- Circadian phase
- Workload
- Alertness
- Perform safety-related operational activities
Fatigue risk management has to be a shared responsibility between:

- The Regulator
- The Air Navigation Service Provider
- The Controller
Regulator Responsibilities

Provide a regulatory framework that:

• Enables adequate fatigue risk management
• Ensures that the ANSP is managing their fatigue related risks
ANSP Responsibilities

- Implement work schedules that enable Air Traffic Controllers to perform their duties safely
- Provide a working environment that has appropriate emphasis on controls and / or mitigations for fatigue-related risk
- Provide adequate opportunities for rest and sleep
- Provide fatigue management education and awareness training for all stakeholders
- Have a process for monitoring and managing fatigue
Controller Responsibilities

- Arrive for work fit for duty
- Make appropriate use of non-controlling periods (both between duty periods and during a duty period)
- Manage own fatigue levels
- Report fatigue issues
Regulators will Need to Define

- **Maximum**
- Hours in any duty time
- Number of consecutive work days
- Hours worked in a defined period
- Time-in-position
Regulators will Need to Define

- Minimum
- Duration of non-duty period
- Number of non-duty days in a defined period
- Duration of breaks between periods in position
ANSPs will Need to Have in Place

- Policy
- Documentation
- Hazard Identification
- Risk Assessment
- Risk Mitigation
- Assurance
- Promotion and Training
Working Time Limits – an Example

The UK has a Scheme for the Regulation of Air Traffic Controllers Hours (SRATCOH) published by the UK CAA as CAP 670

- The prescriptive limitations are in Part D, Section 2

Its purpose is to:

“ensure, as far as is reasonably possible, that controller fatigue does not endanger aircraft and thereby to assist controllers to provide a safe and efficient service”
Working Time Limits – an Example

- Periods of duty
- Intervals between periods of duty
- Consecutive periods of duty
- Operational duty

- Night duty
- On call duty
- Early starts
- Morning duty
- Holidays
Assurance – an Example

Limits have not been exceeded

Cases of Deviation:

- Reason
- Extent
- Date and time
- Safety case: mitigation to support deviation
Promotion and Training – an Example

Awareness training is provided and workshops held with controllers to highlight:

• The signs of fatigue in themselves and their colleagues
• Tips and techniques for avoiding / managing fatigue
• What to do if fatigue is identified
CANSO’s Message to the 2016 ICAO Fatigue Symposium

To meet the 2020 effective date:

• ANSPs will need in excess of two years to implement any fatigue management intervention which requires additional resources

• 18 months are therefore available to research, negotiate and legislate new regulations

• Regulators should start considering their approach today

CANSO views this as a challenging timeline
What do you Need to do in your Organisation to Comply with the ICAO Fatigue Risk Management Regulations from 2020?

Facilitators: Mr Neil May
Mr Alfred Vlasek
Mr Erwin Rischan
Ms Kimberly Pyle
What do you Need to do to Comply with the Fatigue Risk Management Regulations?

Consider your organisation:

- What do you currently do to manage fatigue risk?
- What more do you need to do to comply with the ICAO regulations?
- What steps do you have to take to comply by 2020?
Day 1 Wrap-up
Topics Covered

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Human Performance and System Design

Speakers:  Mr Neil May
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The Project “V” Model for Change

Human Performance Requirements → Design → Training → Validation → Implementation

Operational Change → Operation
Human Performance Requirements

• What are you trying to achieve from a Human Performance perspective?

• Examples include:
  • Reduce workload
  • Increase situation awareness
  • Improve communication and teamwork
  • Reduce fatigue
  • Increase validation rates

• How will you know if you have achieved your requirements?
The Project “V” Model

Human Performance Requirements

Design

Operational Change

Training

Operation

Implementation

Validation
User Centered Design

- Puts the users’ needs at the heart of the development process
- Early visibility and discussion of a wide range of solutions contributes to user buy-in and ownership of the final solution
- Reduces lifecycle costs and risks by getting the design right early
User Centered Design – an example
The Project “V” Model

- Human Performance Requirements
  - Design
  - Training
  - Validation
- Operational Change
  - Implementation
  - Operation
What are the tasks that need to be trained?

- How difficult is the task?
- How important is the task?
- How frequently is the task undertaken?

What is the current level of knowledge, skills and attitudes?

What is the gap between the current level and the level required?
Training

How should the training for the tasks be provided?

For example:
• Reading
• Classroom
• Simulation
• On The Job

How do you assess whether someone has the competence and confidence to do the task effectively?
Validation

How do you gather evidence that the Human Performance requirements will be delivered?

• Mock-ups
• Simulations
• Limited Operational Service

As you get closer to implementation, the higher your confidence should be that the Human Performance requirements will be delivered.
Implementation

How do you provide assurance that the change is safe to use from a Human Performance perspective?

Will the Human Performance requirements be met?

• Examples include:
  • Reduce workload
  • Increase situation awareness
  • Improve communication and teamworking
  • Reduce fatigue
  • Increase validation rates
The Project “V” Model
Is the “Work As Done” the same as the “Work As Imagined”? 

Have the Human Performance risks identified during development been successfully mitigated? 

What new Human Performance risks have arisen during operation?
The Project “V” Model

Human Performance Requirements

Design

Operational Change

Training

Validation

Implementation

Operation
“It works well today so why change?”

“The new way of working won’t be as good”

“I don’t like the colour / screen size / chair / coffee etc”

“What’s in it for me?”
Change

CHANGE CURVE

STAGE 1
STATUS QUO

STAGE 2
DISRUPTION

STAGE 3
EXPLORATION

STAGE 4
REBUILDING

Source: Kubler-Ross
Change

Lewin’s Model

Unfreeze → Change → Freeze

What are your Human Performance Challenges Associated with Change?

Facilitators:  Mr Neil May
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Mr Erwin Rischan
Ms Kimberly Pyle
What are your Human Performance Challenges Associated with Change?

• What are the Human Performance challenges facing your organisation today associated with implementing change?

• What steps is your organisation already taking to address the challenges?

• What else does your organisation need to do to address the challenges?
Conference and Workshop Wrap-up

Facilitators:  Mr Neil May  
Mr Alfred Vlasek  
Mr Erwin Rischan  
Ms Kimberly Pyle
Consider all of the Material Discussed at the Conference and the Workshop

• What are the biggest Human Performance challenges facing your organisation?

• When you go back to your organisation, what will you do to address these challenges?
Presentation of Workshop Certificates
THANK YOU!