Pilots' Competencies

Luxair

Dear colleagues,

Luxair Luxembourg Airlines prides itself with a strong company safety culture. We nurture it through our standards, our procedures, our trainings and, above all, through our philosophy on "how we do things".

In your hands you now hold our 'Philosophy on Operational & [Inter]Personal Competencies', in short 'Pilots' Competencies'. The philosophy regroups all important areas of expertise essential to a safe and successful flight operation. As a foundation of our company safety culture, it is published in our OM-A. This philosophy also sets the criteria of our CRM assessment program.

The aim of this booklet is to present these competencies and their related requirements in a clear, transparent and understandable way. All requirements are deliberately pre-sented in positive terms to emphasize on "what to do" and not "what not to do". The philosophy was developed with the help of your valuable feedback, ideas and comments received in various trainings. Thank you very much for your effort!

We constantly need to adapt it to the fast changing environ-ment we operate in. Therefore, we welcome any input you can provide to contribute to this challenging task. Let us live our philosophy, let us talk about it, let us exchange our opinions and feed it with our on-the-job experiences.
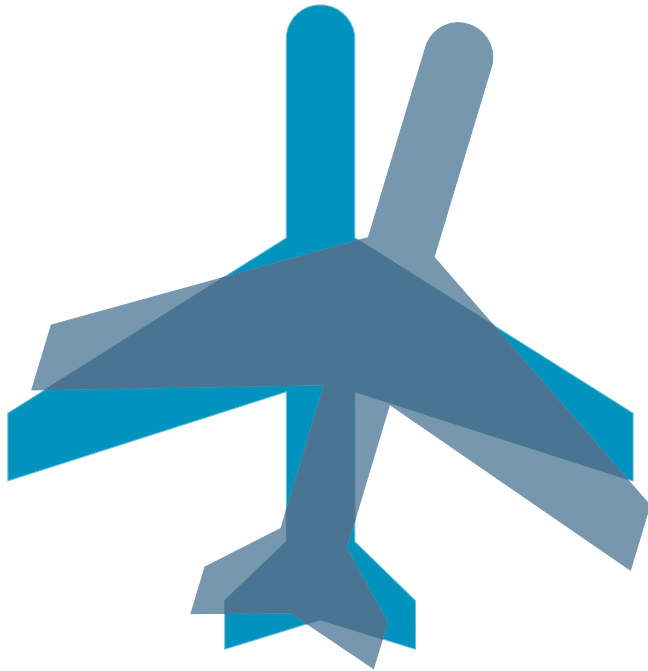
In good cooperation,

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Operational Competencies

Aircraft Control

Definition	Requirements

The Flight Crew Members have the ability to control the aircraft accurately in all manoeuvres and flight phases.

- Be able to control the aircraft manually
- Be able to maintain horizontal and vertical profile
- Apply basic pitch and power values
- Co-ordinate control inputs and trim
- Recognize new developments by instrument scan and react as appropriate
- Comply with the applicable limitations and tolerances

The following Luxair manoeuvre tolerances for normal and non-normal situations are for general guidance.

Height
- Generally +/-100 feet
- Starting a go-around at DH / Minimum Descent Height +50/-0 feet

Tracking
- On radio aids +/-5°
- Precision approach half scale deflection, azimuth and glide path

Heading
- All engines operating +/-5°
- With simulated engine failure +/-10°

Speed
- All engines operating +/-5 knots
- With simulated engine failure +10/-5 knots

Knowledge / Use of Systems and Automation

Definition

Requirements

Flight Crew Members possess a well-founded knowledge of the aircraft systems and automation, their range of applicability, limits and interactions. Crew members have the ability to apply their knowledge for optimum use, to avoid misinterpretation or misuse.

- Be very familiar with the structure and function of systems and automation
- Be very familiar with the limitations of systems and automation
- Be very familiar with the documentation of systems and automation
- Be able to operate the aircraft systems and automation properly
- Be aware of interactions of the systems
- Be aware of mode changes
- Be capable in changing level of automation

Knowledge of / Adherence to Procedures

Definition

Requirements

Flight Crew Members possess well-founded knowledge of the published normal and abnormal procedures. Crew members adhere to standard operating procedures.

Only if a higher degree of safety is achieved, deviation from standard procedures might be necessary.

- Be very familiar with normal and abnormal procedures
- Be very familiar with the standard operating procedures
- Adhere to published procedures
- Know memory actions by heart
- Execute procedures with discipline and precision. Exceptionally, deviation from standard procedures might be required to obtain a higher degree of safety.

[Inter]Personal Competencies

The Luxair Flight Crew's Philosophy part on [Inter]Personal Competencies encompasses the scope of Crew Resource Management (CRM). On top of the CRM, our Philosophy emphasises interpersonal and as well personal competencies.

All these key elements are of particular importance and therefore called '[Inter]Personal Competencies'.

Communication

Definition

Communication between Flight Crew Members may be either social or functional/operational. Both aspects serve a useful purpose, the former helping to built teamwork and the latter being essential to the task of flying an aircraft.

Requirements

- Use the same channel of communication
- Share information actively
- Clearly state plans and intentions
- Assure that information given is received
- Assure understanding
- Actively ask for feedback
- Accept appropriate criticism
- Provide constructive feedback when appropriate
- Listen actively
- Express uncertainties and ambiguities
- Ask for proposals and openly listen to counter-proposals
- Show respect for other people's feelings and opinions

Teamwork

Definition

Flight Crew Members have the ability to work as a team. The aim is to assure that 1 + 1 > 2. Meaning team performance should take precedence over individual performance.

The team objectives are:
* increased safety through redundancy to detect and remedy individual errors.
* increased efficiency through the organised use of all existing resources.

All Flight Crew Members have the responsibility to get the balance right as a team, whilst recognizing that the Commander has the final say and liability for the safety of the aircraft.

Requirements

* Ensure redundancy
* Be aware of own role/position and its assigned tasks and responsibilities
* Support others actively
* Encourage others to cooperate
* Pursue crew objectives
* Support the team with own strengths
* Allow others to balance own weak-points
* Adopt assertive behaviour
* Seek ideas and opinions from others
* Address and manage conflicts actively
* Concentrate on what is right rather than who is right
* Consider personal condition of others
* Show respect and regard to the view of others

Leadership

A leader is a person who is able to motivate the crew to act towards achieving a common goal. To reach this common goal as a crew the leader acts through the use of example and persuasion. The leader understands the goals and desires of the crew as well of each involved individual. Leadership involves teamwork, and the quality of a leader depends on the success of the leader's relationship with the team.

Leadership skills should also be developed by junior crew members. These skills are essential in aircraft operations where First Officers are sometimes called upon to adopt a leadership role throughout the normal performance of their duties.

- Take the lead of the crew as commander
- Adopt a leadership role as a First Officer if required
- Advocate own position
- Encourage crew to be assertive
- Take views and opinions of others into account
- Establish and communicate tasks
- Achieve common understanding of tasks
- Take initiative to ensure involvement and task completion
- Control the outcome, if necessary, correct or adjust strategies
- Ensure SOP compliance
- Manage by objectives
- Delegate tasks
- Motivate crew through appreciation and, when necessary, offer support
- Give compliments when tasks are completed successfully
- Address and manage conflicts within the crew if appropriate

Workload and Stress Management

Definition

Flight Crew Members have the ability to manage operational tasks and perform them as required. The common aim is to achieve an optimum level of task performance.

Workload Management describes the physical and mental ability to cope with work demands. From a human viewpoint, stress can be created by the imposition of any demand that requires a person to react, to adapt to a situation or to behave in a particular manner.

The [Inter]Personal Competencies aim to help Flight Crew Members to plan their workload, make the best use of the team, and take into account the fact that individuals may be performing below peak levels.

Requirements

- Plan ahead
- Prioritise tasks
- Delegate workload
- Ensure appropriate time management
- Actively involve other crew members in high workload situations
- Ask for support early
- Actively offer assistance
- Communicate when encountering unexpected situations
- Communicate when stressful situations arise
- Be aware of different stressors
  physical – e.g. noise
  psychological – e.g. emotional upset
  reactive – e.g. working under time pressure
- Recognise of signs of stress
  physical symptoms – e.g. sweating
  health effects – e.g. headaches
  behavioural symptoms – e.g. shaking
  cognitive effects – e.g. poor concentration
  subjective effects – e.g. anxiety
- Note that individuals respond to stressful situations in very different ways – pay attention to colleagues
- Aim for good health and fitness levels
- Ask for counselling if required – ranging from talking to a supportive friend or colleague to seeking advice; professional advice by a Human Factor Specialist might also be helpful

Situation Awareness and Decision Making

Definition	Requirements

Flight Crew Members have the ability to establish Situation Awareness by the correct perception of the elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future.

This is to be achieved mainly by good workload management, team work and communication.

Decision Making is based on Situation Awareness, therefore if Flight Crew Members obtain proper Situation Awareness, they are likely to make appropriate decisions.

Decision Making is a mental process leading to the selection of a course of action among several alternatives.

- Gather information and identify the problem
- Review causal factors with other crew members
- Develop a mental plan for course of action
- Plan course of action based on all available information
- Confirm selected course of action
- Consider and share risks for course of action
- Monitor and evaluate current status relative to the mental plan
- Project ahead and consider contingencies
- Gain feedback to review the accuracy of own mental model
- Use checklists, procedures and written information
- Use automation effectively
- Speak up when Situational Awareness is breaking down
- Act with respect to time available
- Ask crew members for options
- Listen to input from all crew members
- Adopt multi crew co-ordination concept

Case Studies

On the following pages you will find some case studies to show you examples of 'good' and 'bad' CRM.

You have already read through this booklet and learnt a lot about our 'Pilots' Competencies'. To get from theory to the real world, we suggest looking at practical examples.

Although we do think it is best practice to learn from good examples we are aware that it is also important to gain a balanced overview. Therefore we enclosed some examples of 'bad' CRM as well.

All provided cases can be easily changed in their meaning by dropping or adding one word or sentence. You can also question these cases as they are taken out of a certain context, might be lacking some information that would completely turn the picture around.

Please share your ideas and views on these case studies and discuss them with your colleagues. These case studies were created by participants of our CRM recurrent trainings and also of the CRM Assessment courses for TRIs and LTCs. Some of these cases are based on real experiences and some are purely invented. The aim is, by all means, not to blame any colleagues. Therefore you will find no names or dates in these created cases.

The more we think about our Philosophy and how to put it into practice, and the more we talk about it and share our opinions, the more we gain a common understanding of how to best work together in a team.

Situation Before starting the approach into TFS for runway 08 which is known to be prone to sudden wind shifts and shears the captain performed an extensive approach briefing highlighting possible problems specific to the approach into TFS and recalling the flap placard speeds. Copilot was PF.

Outcome Crew encountered moderate wind shear on final, but due to the extensive briefing and mental preparation the copilot was able to cope with the situation and performed a stable approach. The copilot also highlighted that he had felt empowered by the captain's trust in his competencies.

Reflection How was the safety increased by the captain's behaviour? What could have happened if the crew had considered the approach as just another routine approach?

Situation During a LOFT mission on the simulator, the crew experienced a technical problem and entered the holding with plenty of fuel. After taking his decision, the captain asked the copilot for new input. However, with the copilot's new input, the captain changed his decision; and this happened over and over again.

Outcome The crew evaluated the situation several times. The final decision on how to proceed was taken very late, this led to a low fuel situation.

Reflection Could a good decision making tool have led to a structured process to solve the problem? What could have happened if an additional problem had appeared?

Situation After engine start on the GPU the generators did not come on line. Since the captain had experienced similar problems during previous days, he decided to start the engines on the APU without asking for the copilot's input.

Outcome It turned out that the electrical problem was different to the ones on the previous days. If the captain had asked the copilot, the latter may have had relevant information and they may not have lost so much time.

Reflection What could the captain have done differently?

Situation The captain briefed the cabin crew about specific items for a planned triangle flight (cleaning, fuelling etc.). His aim was to avoid confusion or a misleading routine in their actions during turnarounds.

Outcome The entire crew was aware of their respective tasks during the turnarounds thus avoiding wrong actions or unnecessary delays.

Reflection What could have happened if the captain would not have communicated with the cabin crew about the specific items of the triangle flight?

Situation While the copilot was doing the outside check, the captain programmed the wrong runway into the FMS. When the copilot came back, he detected the mistake and corrected it without telling the captain who was reading the newspaper. The captain noticed this and said that the copilot's CRM was bad because he didn't say anything about the correction in the FMS.

Outcome The copilot felt blamed, so when he noticed during the flight that the captain was falling asleep, he turned the captains' radio panel to low. The captain slept for 15 minutes.

Reflection What could both pilots have done differently to defuse the situation? How would the teamwork have looked if an unforeseen and demanding situation would have occurred?

Situation During a flight, the captain noticed that his copilot was restless, moving around in his seat. The captain asked the copilot if he was OK, to which the answer 'yes' was given. However the restlessness continued. After multiple inquiries, the copilot finally felt strengthened by the captain's concern and admitted that he had noticed that the captain was flying below MSA.

Outcome The captain thanked the copilot for the input. In the debriefing he regretted the copilot's lack of confidence to speak up sooner, insisting on how important open communication is to a safe flight operation.

Reflection Why would the copilot feel uneasy about pointing out his captain's mistake? What was constructive about the captain's behaviour in this situation?

Situation During a circling approach into NCE the captain was PF with a copilot in line training. Early in the approach, the airplane was a little high and not yet fully configured. The copilot did not feel at ease and suggested a go around. The captain agreed that the airplane was not fully configured yet; however he did not consent to a go around at that point. He informed the copilot to call for a go around should the stabilized approach criteria not be fulfilled by the time they reached 1000 ft. The captain appreciated the copilot's situation awareness and that he addressed his concerns actively. They continued the approach, followed by a normal landing.

Outcome After the approach the captain debriefed in detail the copilot on his decision. The copilot appreciated the open atmosphere inciting him to reflect on his early input for a go around.

Reflection What do you think about the captain's communication and leadership? What do you think about the copilot's situation awareness and assertiveness?

Situation When checking passenger seating, the purser noticed a major difference between the load sheet and the actual passenger seating. She found out that the passengers had kept initial boarding cards from their previous, cancelled flight. After discussing the apparent facts with the cockpit crew, the situation was solved through reseating the passengers according to the load sheet. The initial seating would have resulted in a far out limits trim condition and could have jeopardized the safety of the flight.

Outcome The flight crew highly appreciated the purser's situation awareness, and her active involvement in questioning unusual passenger seating; especially considering a very short turnaround of the three-hour delayed flight. The entire crew agreed that the decisive factor to the positive handling of the situation was the open, team-minded and professional crew atmosphere.

Reflection What did the purser do right? What could have happened if the captain had been less team-minded or less open to cabin matters?

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