ESARR 5 Explanatory elements

SASI Workshop 4 / 2008
ATSEP COMPETENCE
22nd – 24th October 2008,
Zagreb, Croatia

Bogdan BRAGUTA
Safety Regulation Unit
EUROCONTROL
Any organisation that fall within the jurisdiction of the National ATM safety regulatory body and is responsible for the provision of engineering and technical services supporting ATM services.
Definitions / Meaning

- **Engineering and technical personnel undertaking operational safety related tasks**
  - Personnel who operate and maintain ATM equipment approved for operational use

- **ATM equipment approved for operational use**
  - All engineering systems, facilities or devices that have been operationally released to be used either by airspace users directly (e.g. ground navigation facilities), or are used in the provision of operational air traffic management services.
Engineering and technical personnel undertaking operational safety related tasks

= Personnel who operate and maintain ATM equipment approved for operational use

What was the work done to provide for the categories Engineering and technical personnel undertaking operational safety related tasks?
Launch of a contract with the aim to:

- Identify engineering and technical personnel who undertake “safety related tasks”.
- Categorise the tasks undertaken by such personnel to indicate how personnel in different ATM service providers relate to each other.
- Suggest ways in which the competence of personnel who belong to the same categories might be managed.

- **NO TASK ANALYSIS.**
The aim of the questionnaire was to:

- Classify the types of personnel who carry out safety related tasks.
- Categorise the tasks undertaken by these personnel and identify how job roles in different ATM organisations relate to each other.
- Gather information on how the competence of these personnel is specified, developed and assured.

The questionnaire was designed to produce the following data:

- List of job titles by organisation.
- Numbers of personnel by organisation.
- List of safety related work activities by organisation.
- List of activities by job title.
- List of types of competence schemes in place by organisation and job title.
- Levels of training required by job title and activity.
The questionnaire had two sections:

**Part 1:** Basic information on work activities and job titles.

**Part 2:** A number of closed, open and multiple choice questions structured around key stages of the competence management lifecycle, as follows:

- Recruitment & selection.
- Training & development.
- Organisational controls and performance management including assessment & appraisal.
## SECTION 1

**Table 1: Staff involved in maintenance activities**

<table>
<thead>
<tr>
<th>Job Titles of staff undertaking these activities</th>
<th>Domains in which work is carried out by staff with these job titles <strong>Tick all that apply</strong></th>
<th>Number of staff in each job</th>
<th>Minimum Job (Training) requirements <strong>Tick all that apply</strong></th>
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<tr>
<td></td>
<td></td>
<td>Com</td>
<td>Nav</td>
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<td>Preventative Tasks</td>
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<td><em>extend list as necessary</em></td>
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<td>Level A Tasks: - (or 1st line maintenance)</td>
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<td>Rapid Response for System Restoration.</td>
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</table>

Rapid Response for System Restoration. extend list as necessary

Preventative Tasks:

1. 
2. 
3. 
4. 
5. 
   *extend list as necessary*

Level A Tasks: - (or 1st line maintenance)

6. 
7. 
8. 
9. 
10. 
   *extend list as necessary*
Repetition for
●Level B - Technical support for on-site System Restoration and
●Level C - Specialist Engineering support for fault diagnosis/correction and repair.

Table 2 Work areas (Job Titles)
Communication (Voice, data, transmission paths, recorders)
Navigation (ground and satellite systems, on-board equipment)
Surveillance (primary, secondary, ADS, HMI)
Data processing (COM, NAV, SUR)
System Monitoring and Control (COM, NAV, SUR)
Table 3 – Work activities
Measurement / analysis / testing of equipment performance (may include conformance checking)
Fault diagnosis / troubleshooting
Calibration / re-calibration of equipment
Equipment modification
System configuring / re-configuring
Replacement of faulty equipment parts
Repair of equipment
Cleaning of equipment / replacement of maintainable parts and consumables (e.g. filters)
Software programming / re-programming
Etc.
SECTION 2 addressed

Recruitment, selection and promotion

Training and development

Performance management

• individual and
• at organisational level
These roles and responsibilities include:

Performing preventative maintenance on Communication, Navigation, Surveillance (CNS) / ATM equipment including:

- Calibrating, in flight and at ground, radio navigation aids.
- Certification of CNS/ATM system/equipment.
- Modification of operational CNS/ATM equipment.

Performing corrective maintenance on CNS/ATM systems/equipment.
Performing installation of CNS/ATM systems/equipment. (*Note*)

Operational monitoring and control of CNS/ATM systems/equipment.

**Note:** Installation of CNS/ATM systems/equipment is carried out by operating organisation together with the manufacturer.
Main domains of ATSEP activity:
Communications.
Navigation.
Surveillance.
Data Processing.
System Monitoring and Control.
Electricity and Power.

Main levels of activity:
Preventative tasks.
Level A tasks – Rapid response for system restoration.
Level B tasks – Technical support for on-site restoration.
Level C tasks – Specialist engineering support for fault diagnosis, correction and repair.
Main areas where engineers and technical personnel work

Types of work activities carried out by engineers and technical personnel

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<td>• System Monitoring and Control.</td>
<td>• System configuring / re-configuring².</td>
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<tr>
<td>• (Electricity and Power.)¹</td>
<td>• Replacement of faulty equipment parts.</td>
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<td>• Repair of equipment.</td>
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<td>• Cleaning of equipment / replacement of maintainable parts and consumables (e.g. filters).</td>
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</table>

Electricity and Power is not regarded as a standard area of work for engineers and technical personnel.

Some operating organisations may utilise engineers and technical personnel to carry out software programming/re-programming, however it is not considered that this activity is within normal scope of ATSEPs (as per the definition provided in ESARR 5), however they would usually have responsibility for withdrawing the system from, and restoring to, operational service. Support for on-site restoration.
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