STATE OF LIBYA
MINISTRY OF TRANSPORT
CIVIL AVIATION AUTHORITY

دولة ليبيا
وزارة المواصلات
مصلحة الطيران المدني

LIBYAN CIVIL AVIATION Regulations

ATSEP LICENSING REQUIREMENTS

(LYCAR - Part ATSEP)

First Edition - August 2018

RECORD OF AMENDMENTS

Amendment	Sources	Subject(s)	Effective Date

FOREWORD

1. The regulations contained herein are adopted under the provision of Article No.(5) of Libyan Civil Aviation Law No.(6) of 2005, and issued and signed up by the Director General of Civil Aviation by virtue of powers vested from the Minister of Transport under the resolution No.(154) issued on 13/05/2015.
2. The Libyan Civil Aviation Regulations - Part Air Traffic Services Electronic Personnel (LYCAR – Part ATSEP) describes the requirement for ATSEP qualifications and Licensing Requirements
3. LYCAA in development of these regulations has adopted ICAO standards and industry best practices.
4. Explanatory and detailed material regarding the qualification and licensing of ATSEP shall be found in the LYCAA approved training manual of the relevant department.
5. The information contained herein is subject to constant review in the light of changing regulations and requirements. No subscriber or other reader should act on the basis of any such information without also referring to the applicable laws and regulations and/or without taking appropriate professional advice when/as indicated/required. Although, every effort has been made to ensure accuracy, the Libyan Civil Aviation Authority, shall not be held responsible for loss or damage caused by errors, omissions, misprints or misinterpretation of the contents hereof.
6. Copies of this publication can be downloaded from: www.caa.gov.ly

Issued on 27th August, 2018, and signed by

27.8.18

Capt. Nasereddin Shaebelain
Director General

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Subpart A - General

ATSEP.GEN.005 - DEFINITIONS

Air traffic management: The aggregation of the airborne functions and ground-based functions (air traffics services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations.

Approved maintenance training: In the context of this requirement, approved maintenance training is the training program and the syllabus prepared for the maintenance of particular type of equipment which is approved by director general of civil aviation authority of Libya.

ATSEP: Air Traffic Safety Electronic Personnel (ATSEP) is the technical personnel directly involved in operations and maintenance of CNS equipment/systems that are in operation at different civil aviation departments.

ATSEP License: A document issued by LYCAA authorizing the holder to exercise specified privileges.

Certification: The process of determining competence, qualification, or quality on which an aviation document is based.

Competency: The combination of knowledge, skills and attitude required to perform a task to the prescribed standards.

Equipment: Portion of a system that performs a function that contributes to a systems output(s).

General duty: The duty in the normal office working hours assigned to the personnel for the maintenance of aeronautical telecommunication equipment and systems.

Knowledge: A person's range of information, familiarity gained by experience or repetition, understanding. Knowledge is understood as storage of information in the trainee's mind that can be retrieved when necessary, and understanding of concepts and performances. Knowledge is component part of the expected trainees' performance that is described in the intermediate objective.

Licensing authority: The Director General of Civil Aviation Authority of Libya is the licensing authority responsible for licensing/ rating of ATSEP.

Licensing office: ANS Safety Standards Department is the licensing office established for performing the administrative and technical function of licensing and rating task of ATSEP including keeping records of ATSEP license.

License Rating: A rating on ATSEP license identifies the particular type of equipment/system which may be certified by the license holder within the scope of his/her rating.

OJTI: An ATSEP, with an OJTI endorsement on ATSEP license authorized to supervise and conduct on the job training of ATSEPs.

Operation duty: The duty assigned to work in shift for the operation of air traffic movement.

Out Station: Those CNS station outside Tripoli FIC and Benghazi FIC.

Rating: An authorization entered on or associated with a license and forming part thereof, stating special conditions, privileges or limitations pertaining to such license.

Rated ATSEP: A person holding ATSEP license with endorsement of any rating and authorized to certify particular type of equipment/system.

Skill: Practical or intellectual ability, ease in doing something, dexterity. Skills are classified as either intellectual or physical. Intellectual skills are those related to the use of intellect, like the abilities of classifying, rule-using, discriminating, problem-solving or cognitive strategy (the most complex of all).Physical skills are those that enable a person to make coordinated movements, perform manual tasks, and carry out physical activities. The skills are component part of the expected trainees' performance that is described in the intermediate objective.

Standardization and Training Officer (STO). An ATSEP duly designated by the licensing authority for the assessment of ATSEPs for the purpose of issue, renewal and revalidation of ATSEP license or rating.

System: One or more types of electronic equipment and ancillary devices functioning to provide

a service.

Test rack: An identical/replica of CNS equipment used for maintenance /check of modules /units for maintenance/adjustment purpose of operational equipment's.

Work Station: Station where the CNS/ATM equipment's are installed.

ATSEP.GEN.010 - ABBREVIATIONS

AIP	Aeronautical Information Publication
ANSP	Air Navigation Service Provider
ATSEP	Air Traffic Safety Electronic Personnel
CAR	Civil Aviation Requirements
OJT	on the Job Training
OJTI	on the Job Training Instructor
PELR	Personnel license Requirement
STO	Standardization and Training Officer

ATSEP.GEN.015 - INTRODUCTION

(a) All of the Air Traffic ground based facilities need to achieve complete satisfaction to the standards mentioned in the Annexes to the convention on International Civil Aviation(ICAO)for the safety of Air Traffic management. To ascertain the operation and maintenance of CNS equipment's/ system in international standards, Air Traffic Safety Electronic Personnel (ATSEP) license is issued to the personnel directly involved in operations and maintenance of CNS equipment's/systems that are in operation at different Libyan civil aviation departments. The act of licensing consists of the granting of privileges to the personnel who is able to satisfy the prescribed requirements.

(b) Before issuing a license, the licensing authority must satisfy itself that the applicant meets, in all respect, the standards of experience, knowledge, and Competency so as to be competent to execute the authorized activities or privileges granted in the license.

(c) ATSEP main duties are to maintain, repair, install and certify CNS equipment's/systems, so that they remain fully operational and safe.

Subpart B - REQUIREMENTS FOR THE ISSUANCE OF LICENSE/ RATINGS

ATSEP.LIC.005 - REQUIREMENTS FOR INITIAL ATSEP LICENCE

Applicant before being issued Initial ATSEP License shall meet the following requirements:

(a) General eligibility requirements

(1) Education

The applicant shall have completed minimum of 3 years certificate level course (Diploma in electronics engineering) or higher.

(2) Age

The applicant shall not be less than 18 years of age.

(3) Technical Knowledge

The applicant shall have demonstrated a level of knowledge appropriate to the holder of an ATSEP license as describe in appendix A1.

(b) Applicant shall be required to satisfactorily complete induction/orientation course approved by LYCAA.

(c) Applicant shall possess one year of work experience in the field of Air Traffic Safety (Inspection, Servicing and maintenance of ATS equipment/Services).

(d) Applicant shall pass the prescribed written examination.

(e) Applicant shall have met the training, experience and assessment requirements for at least one ATSEP Rating issued under Subpart C.

ATSEP. LIC.010 - VALIDITY OF LICENSE

ATSEP license shall remain valid subject to the endorsement of at least one rating.

ATSEP. LIC.015 - SPECIFICATION OF ATSEP LICENSE

ATSEP license/rating book issued by LYCAA shall confirm to the following specifications:

i. Emblem of the authority issuing the license on the center of cover page;
ii. Name of State (in bold type);
iii. Title of license (in very bold type);
iv. Serial number of the license given by the authority issuing the license;
v. Name of the holder (in full);
vi. Date of birth of holder;
vii. Address of holder;
viii. Nationality of holder;
ix. Signature of holder;
x. Authority and, where necessary, conditions under which the license is issued;
xi. Certification concerning validity and authorization for holder to exercise privileges appropriate to license and statement of medical validity;
xii. Signature of officer issuing the license and the date of such issue;
xiii. Seal or stamp of authority issuing the license;
xiv. Details of Ratings, e.g. category; privileges
xv. Remarks, i.e. special endorsements relating to limitations and endorsements for privileges.

Note- Sample of ATSEP license/rating book issued by LYCAA is given in Appendix D and its cover shall be of blue color.

ATSEP. LIC.020 - ELIGIBILITY FOR ATSEP RATING

An applicant shall be eligible to apply for equipment/system type rating fulfilling the following requirements.

(a) The applicant shall have fulfilled all requirements for ATSEP license mentioned in

ATSEP.LIC.005.

(b) The applicant shall have work experience of the specified duration for the specific category of rating.

ATSEP. LIC.025 - CATEGORIES OF RATING

The categories and equipment/system type ratings under those categories shall be as follows:

S.N	Category Rating	Class Rating	Type Rating	Code
1.	Communication Rating	Voice Com	HF (R&S – XK2000) VHF (R&S – XU 220/250) VCCS (Neptune) Recording (ATIS) VSAT (NDSAT - Sky Wan)	COM
		Data com	AFTN/ AMHS (Comsoft / AIDA-NG & CADAS) ATM / AIM Applications Maintenance ATM / FPD Applications	COM
		Networking Certification in (Cisco S&R)		
2.	Navigation Aids Rating	VOR	CVOR/DVOR Thales 431 Selex 1150A	NAV
		DME	Thales 415/435 Selex 1118A/1119/A	
		ILS / Cat-II	Thales 410 Selex 2100	
		NDB	Thales 43 Nautel	
		Networking Certification in (Cisco S&R)		
3.	Surveillance Rating	Radar (Primary)	3D Radar Indra ARSR-10D3	SUR
		Radar (Secondary)	MSSR/Mode-S Indra IRS/MPL 20	
		Radar Processing System	Indra AIRCON 2100	
		Networking Certification in (Cisco S&R)		
4.	Logistics & Support	Electrical	Power & Control Power Generators	L&S
		Networking Certification in (Cisco S&R)		
		Air Conditioning	Central Air Conditioning Split Units	
		Mechanics	Diesel Engines	

Note: Type rating shall be added accordingly after the installation of the new equipment type in the Navigation and Surveillance system.

Subpart C - REQUIREMENTS FOR ISSUANCE OF INITIAL ATSEP RATING

ATSEP.RAT.005 – Issuance Requirements

An applicant before being issued with initial ATSEP rating shall meet the following requirements as applicable to the corresponding rating category sought.

(a) COMMUNICATION RATING:

(1) Eligibility:

The applicant shall be eligible as mentioned in ATSEP.LIC.020

(2) Knowledge:

The applicant shall have demonstrated a level of knowledge relevant to the privileges to be granted and appropriate to the responsibilities of ATSEP as described in the syllabus in appendix A2 appropriate to the privilege granted.

(3) Experience:

The applicant shall have work experience of three months in the field of communication.

(4) OJT

The applicant shall have successfully completed OJT of 15 working days in Communication field and shall be recommended by OJTI.

(b) NAVIGATION RATING:

(1) Eligibility:

An applicant shall be eligible as mentioned in ATSEP.LIC.020

(2) Knowledge:

The applicant shall have demonstrated a level of knowledge as described in the syllabus in appendix A2 appropriate to the privilege granted

(3) Experience:

The applicant shall have work experience of six months in related equipment/system type.

(4) OJT:

Applicant shall have successfully completed OJT of 20 working days for VOR and 12 working days for DME 20 working days for ILS in the related equipment/system type and shall be recommended by OJTI.

(c) RADAR ASR/ SSR/MSSR RATING:

(1) Eligibility:

Applicant shall be eligible as mentioned in ATSEP.LIC.020

(2) Knowledge:

The applicant shall have demonstrated a level of knowledge as mentioned in appendix A2 appropriate to the privilege granted.

(3) Experience:

The applicant shall have work experience of six months in related equipment/system type.

(4) OJT:

Applicant shall have successfully completed OJT of 30 working days in the related equipment/system type and shall be recommended by OJTI.

(d) RADAR RDPS/SDPS/SIMULATOR:

(1) Eligibility:

Applicant shall be eligible as mentioned in ATSEP.LIC.020 ATSEP.RAT.005

(2) Knowledge:

The applicant shall have demonstrated a level of knowledge as mentioned in appendix A2 appropriate to the privilege granted.

(3) Experience:

Applicant shall have work experience of six months in related equipment/system type.

(4) OJT:

Applicant shall have successfully completed OJT of 30 working days in the related equipment/system type and shall be recommended by OJTI.

(e) In case of new installation / up-grading of the system/equipment following process shall be carried out for the rating :

(1) Training shall be given to the candidate as approved by DGCA.

(2) OJT shall be carried out as mention in ATSEP.RAT.005 (a), (b), (c) and (d). However, in case of up gradation with no significant change in the system, OJT period for a person who has already got license/rating of the similar category may be reduced to 50% by DGCA.

(3) Knowledge and the skill test shall be taken by the examiner. This test shall be valid for the endorsement of the rating if the candidate has passed the knowledge test for the license examination or already carrying the valid license.

ATSEP.RAT.010 –ISSUANCE OF RATING

The applicant before being issued any category of rating shall fulfill the following requirement specified for particular rating category.

(a) Eligibility **:**

Applicant shall fulfill the eligibility requirements as mentioned in ATSEP. LIC.020.

(b) Knowledge:

Applicant shall have demonstrated a level of knowledge specified for particular rating as mentioned under Subpart C..

(c) Experience :

Applicant shall have work experience of specified duration for particular rating as mentioned under Subpart C.

(d) Training:

Applicant shall have successfully completed maintenance training course approved by DG LYCAA in the equipment/system type for which rating is sought. The training may have obtained either within the country or outside the country.

(e) OJT:

Applicant shall have successfully completed OJT of prescribed duration specified for specific categories of rating.

(f) Examination/Test:

Applicant shall satisfactorily qualify the prescribed written and practical examination along with competency check.

ATSEP.RAT.015 –PRIVILEGES OF ATSEP LICENCE/RATING

The holder ATSEP license endorsed with specific rating shall have the privileges of installation, acceptance, certification, operations and maintenance work of CNS equipment's/systems that are in operation at different civil aviation departments of Libya.

ATSEP.RAT.020 –LIMITATION OF LICENSE / RATING:

The privileges of License/ Rating shall be limited to the specific equipment/system endorsed in the ATSEP license.

ATSEP.RAT.025 –VALIDITY OF RATING:

Equipment/system type rating shall remain valid for one year from the date of its issuance, renewal or revalidation.

ATSEP.RAT.030 –REQUIREMENTS FOR CURRENCY OF LICENSE/ RATING:

A person holding ATSEP license/rating shall fulfill the following requirements for maintaining the currency of his/her license/rating.

(a) The rated ATSEP working in operation shift duty shall attend the operation duty for corresponding system/equipment for at least 10 days in three months and perform schedule maintenance and checkup.

(b) The rated ATSEP working in general duty shall perform maintenance / checkup of the corresponding equipment/ system either on work bench or test rack for 10 days within three months period, including at least one operational equipment check.

However, the rated ATSEP absent from operation or general duty under official training/visit shall be provided extra days exact to the amount of the official training to fulfill the above mentioned requirements.

ATSEP.RAT.035 –RENEWAL OF ATSEP LICENSE/ RATING

ATSEP rating shall be renewed subject to meeting the following requirements:

(a) Qualifying the prescribed rating renewal practical and competency test conducted by licensing/rating office.

(b) Fulfilling the requirements for maintaining the currency of rating.

ATSEP.RAT.040 – EXPIRY OF LICENSE/RATING

When a rating has not been renewed by the date of expiry, the validity of the Rating/License stands expired. The holder of the expired rating shall not exercise the privileges of the rating until it is renewed or has got special approval from DG LYCAA which shall remain valid for ninety days from the date of approval.

ATSEP.RAT.045 – REVALIDATION OF EXPIRED LICENSE/ RATING

To restore the validity of an expired rating, the holder shall meet the requirements subject to the expiry period from the date of expiry as follows:

(a) Less than six months:

(1) Recommendation by the respective department/division chief.

(2) Shall have valid ATSEP license or have fulfilled all the requirements of ATSEP license.

(3) Shall complete five working days of OJT for Communication seven working days for voice communication, seven working days for data communication , seven working days for VOR, seven working days for ILS, five working days for DME and seven working days for RADAR PSR/SSR/RDPS .

(4) Completion of OJT program and recommendation of revalidation of the rating certified by OJTI.

(b) Up to two years:

(1) Recommendation by the respective department/division chief.

(2) Shall have valid ATSEP license or have fulfilled all the requirements of ATSEP license.

(3) Shall complete ten working days of OJT for Communication, fifteen working days for VOR, ten working days for DME fifteen working days for and fifteen working days for RADAR PSR/MSSR/SSR/RDPS.

(4) Completion of OJT program and recommendation of revalidation of the ATSEP rating certified by OJTI

(5) Shall have satisfactorily qualified the test prescribed for rating renewal.

(c) More than two years

(1) Recommendation by the respective department/division chief.

(2) Shall have valid ATSEP license or have fulfilled all the requirements of ATSEP license.

(3) Shall fulfill the work experience of specified duration for particular rating as mentioned under Subpart C.

(4) Shall have completed the OJT as specified in the initial rating.

(5) Completion of OJT program and recommendation of revalidation of the ATSEP rating certified by OJTI.

(6) Shall have satisfactorily qualified the test prescribed for initial rating.

ATSEP.RAT.050 – ATSEP RATING –ADDITIONAL

(a) The holder of ATSEP license with one rating may apply for additional ratings to be added in the license.

(b) Applicant before being issued additional rating for new equipment/system shall fulfill the following requirements in addition to knowledge and experience requirement of the rating sought:

(1) Applicant shall have successfully completed approved maintenance training of the equipment/system for which additional rating is sought.

(2) Applicant shall have completed prescribed OJT for the rating category under which the rating contains.

(3) Completion of OJT program and recommendation of additional rating certified by OJTI.

(4) Applicant shall qualify the test prescribed for initial rating.

ATSEP.RAT.055 – LICENSING / RATING EXAMINATION

A theory written test shall be conducted for the purpose of evaluating personnel qualification requirements for ATSEP License.

(a) Failure to obtain 50% marks in the written exam shall necessitate supplementary written examination.

(b) The supplementary examination shall not be conducted within 30 days of the first examination.

(c) If the person fails on supplementary written examination, the application shall be forwarded to ANSP who shall be responsible for providing training prior to conduct a further written examination.

(d) A theory written and practical competency test shall be conducted for the purpose of evaluating personnel qualification requirements for ATSEP Rating for any of the equipment / System type.

(e) Failure to obtain 50% marks in the written exam shall necessitate supplementary written examination.

(f) The supplementary examination shall not be conducted within 30 days of the first examination.

(g) If the person fails on supplementary written examination, the application shall be forwarded to ANSP who shall be responsible for providing training prior to conduct a further written examination.

(h) Similarly, for the failure to obtain 60% in the practical competency test, shall necessitate supplementary practical examination.

(i) The supplementary practical competency test shall not be conducted within 30 days of the first examination.

(j) If the person fails on supplementary practical competency test, the application shall be forwarded to ANSP who shall be responsible for providing training prior to conduct a further practical competency test.

Subpart D - REQUIREMENTS FOR ON-THE-JOB TRAINING INSTRUCTOR (OJTI)

ATSEP.OJTI.005 – ELIGIBILITY

Air Traffic Safety Electronic Personnel holding valid ATSEP license and either deployed in operational shift duty or involve in regular maintenance of Air Traffic Safety equipment's shall be eligible to be appointed as OJTI subject to meeting the following requirements:

(a) Experience of 3 years with current ATSEP rating of specific equipment/system.

(b) Has not failed in any license/rating examination during last two years.

Note: last two years shall be understood as recently completed last two examinations/assessments.

(c) Has no regulatory action regarding license/rating attributable to him/her during the last one year.

(d) Has suitable temperament.

ATSEP.OJTI.010 – APPROVAL PROCESS

(a) 3.2.1 ANSP shall propose ATSEP having eligibility as per ATSEP.OJTI.005 as an OJTI, ANSD shall designate OJTI among the proposed ATSEP taking into account his/her experience and competency.

(b) 3.2.2 However, in special conditions such as new installations, up-gradation/replacement of the system/equipment or unavailability of OJTI due to unavoidable circumstances, DGCA may wave some of the requirements mentioned in ATSEP.OJTI.005 for the designation of OJTI.

Note: ANSD may conduct test for selection of appropriate candidate for recommending OJTI.

ATSEP.OJTI.015 – PRIVILEGES

The OJTI shall have following privileges:

(a) To observe/supervise the license/rating OJT program as an OJT instructor.

(b) To guide and educate the license/rating OJT trainee to the required level of safety and precaution in the system/equipment and its working environment.

(c) To check competency and certify the license/rating OJT trainee upon completion of the corresponding license/rating OJT program.

(d) To supervise license/rating examination and recommend license/rating issuance/renewal on behalf of ANS licensing and Rating Division when designated.

ATSEP.OJTI.020 – VALIDITY

The OJTI approval shall remain valid until the license rating remains valid. ANS Licensing and Rating Division may check the competency of any OJTI if it thinks necessary to do so to ensure the competency of OJTI.

Subpart E - REQUIREMENTS FOR STANDARDIZATION AND TRAINING OFFICER (STO)

ATSEP.STO.005 – APPOINTMENT OF STO

(a) The licensing office shall recommend eligible ATSEP license holder working in licensing office to DGCA to be appointed as STO fulfilling requirements of ATSEP.STO.010.

(b) In case of unavailability of STO in licensing office for the assessment of rating in particular Equipment / System type, DGCA may designate a person among the experts from ANSP qualifying the requirements of ATSEP.STO.010 and taking into account the experience and competency to conduct assessment check for the initial issue , renewal or revalidation of the license.

Note: OJTI assigned and expert designated to conduct assessment check of particular person shall not be the same person.

ATSEP.STO.010 – ELIGIBILITY

ATSEP license holder deployed in licensing office shall be eligible to be appointed as STO fulfilling the following requirements:

(a) Experience of 5 years with current ATSEP rating of specific type.

(b) Has no regulatory action regarding license/rating attributable to her/him during the last one year.

(c) Has suitable temperament.

ATSEP.STO.015 – PRIVILEGES

The Standardization and Training Officer (STO) shall have following privileges:

(a) To exercise the privilege of ATSEP license/rating as applicable.

(b) To conduct assessment checks for the initial issue, renewal or revalidation of the license or rating.

ATSEP.STO.020 – VALIDITY AND RENEWAL PROCESS

(a) The STO approval shall remain valid until license/rating remains valid subject to satisfactory conduct of STO.

(b) ANS licensing and Rating Division may check the competency of STO if it is realized to do so to ensure his/her competency.

APPENDIX A - SYLLABUS FOR ATSEP LICENSE AND RATING

A1. SYLLABUS FOR ATSEP LICENSE

1. Voice Communications
   a. COM System and Equipment
      - The principles of voice communication systems
      - The concept and terminology in use for voice communication
   b. Radio Communications
      - The working principles of a transmitting and receiving system
      - Description with a basic block diagram, the components of a transmitter system Description with a basic block diagram,
      - The components of a receiver system
   c. Air – Ground - Air
      - The complete signal path from the control suite to the aircraft
      - State the Voice COM equipment situated in the operational position and describes the purpose and operation of each element
      - The purpose and principles of operation of the radio switch
      - The principle of radio link equipment
      - The TX and RX station and the antenna system
   d. Ground – Ground
      - The function and the basic operation of the Ground - Ground communications system
      - The routing and switching equipment
   e. Recording
      - The recording system in use
      - List the function of the equipment
   f. Aeronautical Data Communication
      - The existing network and description of the data communications Data (ATN)
      - Communication Systems commissioned e.g., (AFTN&AMHS)
2. Radio Navigation Aids
   a. NDB
      - The purpose and working principles of NDB
      - Description with an overall schematic, the function and performance of NDB
      - The precision and limitations of NDB
   b. VOR
      - The purpose and principles of VOR
      - Description with an overall schematic, the function and performance of --VOR The principle of the conventional VOR
      - The principle of the Doppler VOR -The precision and limitations of ---VOR
   c. DME
      - The principle and purpose of DME
      - Description with an overall schematic the function and performance of DME The precision and limitation of DME
   d. ILS
      - The principle and purpose of ILS
      - Description with an overall schematic the function and performance of ILS

- The precision and limitation of ILS

3. Surveillance
   a. Primary Radar
      - The working principles of Primary Surveillance Radar The use of primary radar in ATC
      - The system architecture
      - Description with using an overall block diagram, the function and the performance of the primary radar system
   b. Secondary Radar
      - The working principles of Secondary Surveillance Radar The different interrogation mode
      - The system architecture
      - The principle of the basic elements of a typical secondary radar system
      - Description with using an overall block schematic, the function and the performance of the secondary radar system
      - Radar Data Processing
      - The functions of Radar Data processing the principles of data processing
   c. Display
      - The different display technologies
      - The main components of the display system
4. Power Supply
   a. Power Distribution
      - The main features of the current power supply systems
5. International, National Organizations and Standards
   - ICAO International Standards and Recommended Practices
   - National Organizations

A2. A2. SYLLABUS FOR ATSEP RATING

1. Communication
   a. Voice - Air-Ground
      - Transmission/Reception:
      - Typical measurements on a transmitter Block diagram of a receiver Block diagram of a receiver remote monitoring and control systems information
   b. Radio Antenna Systems
      - Antenna parameters
      - Detect and Analyze disturbances
   c. Voice Switch
      - Switching functionalities
      - Signal processing
   d. Controller Work Position
      - Most common features of a controller working position
2. Voice – Ground-Ground
   - Different types of interface and its advantages and disadvantages
3. Data - Global Networks
   - Global networks and the standards on which they are based Characteristics of the AFTN, AMHS Analyze traffic Architecture of the ATN
4. Transmission Lines
   - Types of Lines

- The typical parameters of lines Optical Link
- Microwave Link Satellite Link

5. Recorder Legal Recorders Regulations
   - International regulations
   - National regulations Authority regulations

   b. Analog & Digital
   - Principles of analog recording and reproducing
   - Analyze and troubleshoot the analogue recording and reproducing

6. Safety Attitudes and Functional Safety Attitude
7. Role of ATSEP in safety management routines and in reporting processes Functional Safety
8. Implications of functional failures in terms of exposure time, environment, effect on controller and effect on pilot
9. Health and Safety
   - General awareness of potential hazards to health and safety generated by communication equipment

A3. Navigation

1. Ground Based Systems-VOR

a. Use of the System
- The operational use of VOR
- The advantages and disadvantages of VOR
- Justify and theorize the VOR vs. the CVOR

b. Ground Station Architecture
- The block diagram of a VOR ground station

c. Transmitter Sub System
- Analyze main signal parameters
- The typical measurements on the signals by using standard equipment

d. Antenna Sub System
- The generic radiated signals required
- Analyze the interface between power stage and the antenna

e. Monitoring and Control Sub System
- The parameters used for the monitoring
- The operational status of the monitor system

f. On Board Equipment
- Description of the on board equipment Description of the various HMI
- Describe how the VOR information is used on board

g. Compliance with Standards
- Global performance criteria for CVOR and DVOR
- Typical measurements and Calibration

2. Ground Based Systems – DME

a. Overview
- Description of the measurements
- The basic principle of the system
- The frequency spectrum and channel spacing allocated

b. Use of the System
- Operational use of DME
- The principles of the DME

- Advantages and disadvantages of DME

c. System Architecture
- Air ground link
- Block diagram of a DME ground station

d. Transmitter Sub System
- Main signal parameters for a DME
- The typical measurements on the signals by using standard equipment

e. Antenna Sub System
- Description of the generic radiated signals requirements for DME
- Analyzing the interface between power stage and the antenna

f. Monitoring and Control Sub System
- Parameters used for the monitoring
- Operational status of the system

3. Ground Based Systems – ILS

a. Overview
- Description of the measurements
- The basic principle of the system
- The frequency spectrum and channel spacing allocated

b. Use of the System
- Operational use of ILS
- The principles of the ILS
- Advantages and disadvantages of ILS

c. System Architecture
- Air ground link
- Block diagram of a ILS ground station

d. Transmitter Sub System
- Main signal parameters for a ILS
- The typical measurements on the signals by using standard equipment

e. Antenna Sub System
- Description of the generic radiated signals requirements for ILS
- Analyzing the interface between power stage and the antenna

f. Monitoring and Control Sub System
- Parameters used for the monitoring
- Operational status of the monitor system
- Describe how the VOR information is used on board

g. Compliance with Standards
- Global performance criteria for CVOR and DVOR
- Typical measurements and Calibration

A4. Surveillance

1. ATC Surveillance

a. Use of PSR for Terminal and Approach Services
- The operational requirements and special parameters of approach radar Calculation of the key parameters

b. Antenna (PSR)
- Description of antenna types, accuracy and problems

c. Data Transmission (PSR)

- Description of the requirements of radar data transmission

d. Transmitters
   - The basic characteristics of a transmitter
   - The signals at all key points in a block diagram
   - A generic transmitter block diagram

e. Characteristics of Primary Targets
   - Description of the characteristics of a primary target

f. Receivers
   - The basic characteristics of a receiver
   - A generic receiver block diagram The importance of STC

g. Signal Processing
   - The basic function of a data processor
   - The basic functions of a modern radar signal processor

h. Displays
   - The basics of PPI displays

2. MSSR- Mode-S

a. Use of SSR for En route Services
   - The key parameters of en route secondary radar

b. Use of SSR for Terminal and Approach Services
   - The key parameters of approach SSR radar

c. Antenna (SSR)
   - The principle of SSR/MSSR antenna

d. Data Transmission (SSR)
   - Data message output from secondary equipment
   - The requirements of radar data transmission

e. Interrogator
   - The characteristics of an Interrogator
   - Drawing and explanation of a generic interrogator block diagram

f. Transponder
   - The operational use of the transponder the basic characteristics of a Transponder
   - The advantages and limitations of the transponder the basic characteristics of a transmitter

g. Receiver
   - The basic characteristic of a SSR-receiver

h. Signal Processing
   - The signal processing

i. Displays (SSR)
   - The SSR display options

3. Surveillance/Secondary- Mode S

a. Introduction to Mode S
   - The working principles of Mode S
   - The advantages of Mode S
   - Explanation of mode S in compatible with MSSR

b. Mode S System
   - The theory of operation of hardware and software

APPENDIX B

	LIBYAN CIVIL AVIATION AUTHORITY **Technical Department** **ATSEP ON THE JOB TRAINING ASSESSMENT FORM**	Initial License	
		Initial Rating	
		Revalidation of Rating	

OJT Position: Office: .....

Name of trainee: ..... **License No.** .....

OJT commenced on ..... completed on .....

Performance of Trainee Remarks *(tick as appropriate)*

S.N	Area	Satisfactory	Unsatisfactory
1.	Duty regularity		
2.	Completion of prescribed duration of OJT		
3.	Involvement in daily or schedule checkup of equipment		
4.	Enthusiasm for learning the subject		
5.	Involving in general inspection and monitoring of equipment		
6.	Involvement in maintenance work with rated ATSEP		

Trainee Signature

.....

OJTI Name ..... **OJTI Lic. No.** .....

OJTI Signature ..... **Date:** ...../...../.....

Form No. …./….

APPENDIX C

	LIBYAN CIVIL AVIATION AUTHORITY **Technical Department** **ATSEP ON THE JOB (OJT) completion certificate**

This is to certify that

Mr./Ms......

License No.....

Has successfully completed OJT of .....**.working days**

In .....**.(Name of division/section)**

At .....**airport/Office.**

Head of the Division Signature:.....

Date:.....

APPENDIX D
ATSEP License format

LIBYAN CIVIL AVIATION AUTHORITY

AIR TRAFFIC SAFETY ELECTRONIC PERSONNEL LICENCE

PHOTO

I. LIBYA
II. AIR SAFETY ELECTRONIC PERSONNEL (ATSEP) LISENCE
III. Number:……..……
IV. Full Name of License Holder……..…

a. Date of birth: ……..

b. Address of License holder:……

c. Nationality of holder …….

.

d. Signature of holder ……..

V. This license is issued in accordance with the regulations of LYCAA, Civil Aviation the provisions of Personnel Licensing Requirements (ATSEP) of Libyan
VI. Civil Aviation Authority.
VII. The license remains valid subject to endorsement of at least one rating and the ratings remains valid for one year from the issue/ renewal date shown in item IX. The holder of ATSEP license endorsed with specific rating shall have the privileges of installation, acceptance, certification, operations and maintenance work of CNS equipment/systems that are in operation at different civil aviation departments of Libya.
VIII. Signature of issuing authority:……

Designation:……Date of issue:…….
IX. Official stamp:

.
X. RATING

Rating Category	Equipment Class Rating	Equipment Type Rating	Code	Issue/ Renewal Date	Initials and Stamp

X. Remarks: Special endorsements, restrictions and privileges etc.

1. Holder of this license shall not exercise the privileges of this license and related ratings while under the influence of any psychoactive substance which might render him/her unable to safely and properly exercise these privileges.

2. No alteration entries or endorsements in the license shall be made by any person other than authorized for this purpose by the Director General of Libyan Civil Aviation Authority of.

3. If this license is lost or destroyed the holder shall notify the Civil Aviation Authority, immediately. A replacement will be issued only for a valid license on receipt of a written application from the holder.

X. If any person finds this license he/she shall forward it immediately to the following address:

Libyan Civil Aviation Authority
Tripoli, Libya