



CNS INSPECTORS' HANDBOOK

MANUAL

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Directorate of Airspace & Aerodrome Regulations

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TABLE OF CONTENTS

FOREWORD.....	iv
GLOSSARY OF TERMS AND	v
ABBREVIATIONS/ACRONYMS	v
Chapter 1	1-1
DEFINITIONS.....	1-1
Chapter 2	2-1
GENERAL.....	2-1
2.1 INTRODUCTION:.....	2-1
2.2 REVISION OF CNS INSPECTORS' HANDBOOK:	2-1
2.3 STATUTORY AUTHORITY:.....	2-2
2.4 FUNCTIONS OF TECH STANDARD BRANCH:	2-2
2.5 PROCESS & ACTIVITIES OF TECH STANDARD BRANCH:	2-3
2.6 WORKFORCE REQUIREMENT:	2-6
2.7 POSITION OF CNS INSPECTOR:.....	2-6
2.8 JOB DESCRIPTIONS:.....	2-6
2.9 PURPOSE OF INSPECTION:.....	2-17
2.10 QUALIFICATION / CRITERIA FOR CNS INSPECTORS:.....	2-19
2.11 STATION TO BE INSPECTED:.....	2-19
2.12 GOVERNING DOCUMENTS:	2-20
Chapter 3	3-1
INSPECTION PROCEDURES	3-1
3.1 THE ROLE OF INSPECTORS:.....	3-1
3.2 PLANNING PREPARATION OF INSPECTION:	3-1
3.3 METHOD OF INSPECTION:.....	3-1
3.4 INTERVIEWS:.....	3-2
3.5 INSPECTION SCHEDULE:	3-2
Chapter 4	4-1
TRAINING & PERSONAL ETHICS	4-1
4.1 TRAINING OF INSPECTORS:.....	4-1
4.2 PERSONAL ETHICS AND CONDUCT:	4-1
Chapter 5	5-1
5.1 CHECKLISTS:	5-1
5.2 TECHNICAL STANDARDS FORMS:	5-1



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FOREWORD

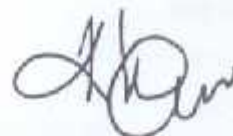
Pakistan as a contracting state to the convention of International Civil Aviation has an obligation to the international community to ensure that Civil Aviation activities under its jurisdiction are carried out in strict compliance with the Standards and Recommended Practices contained in the Annexes to the convention on International Civil Aviation Organization, ICAO.

Regulatory Division of PCAA through its various Directorates is responsible to ensure compliance of Safety Standards and to keep an active oversight on service providers through a regular program. Directorate of Airspace & Aerodrome Regulations (DAAR) has three primary oversight functional areas, i.e. Aerodrome Standards (AS), Airspace & Air navigation Standards (AANS) and Technical Standards (TS). This handbook deals with the functioning of Technical Standards Branch of DAAR. It is continuously being reviewed and updated in accordance with the requirements and enhancement in efficiency of Technical Standards oversight program.

It is emphasized that all matters pertaining to an inspector's duties and responsibilities cannot be covered in this Handbook. Keeping in mind the standards prescribed in Air Navigation Orders on the respective field, state policies and local orders. CNS Inspectors are expected to use their good judgment in matters where specific guidance has not been given.

Comments and recommendations for revision/amendment in CNS Inspectors' Hand Book should be forwarded to General Manager Technical Standards for approval of Director Air Space & Aerodrome Regulations (D.AAR) and inclusion in this publication.

Dated: - 22nd May, 2013



(MUHAMMAD ZIA KHAN)

Air Cdre
Director
Airspace & Aerodrome Regulations
Pakistan Civil Aviation Authority

GLOSSARY OF TERMS AND ABBREVIATIONS/ACRONYMS

AFTN	:	AERONAUTICAL FIX TELECOMMUNICATION NETWORK
AMHS	:	AERONAUTICAL MESSAGE HANDLING SYSTEM
ANO	:	AIR NAVIGATION ORDER
ANP	:	AIR NAVIGATION PLAN
ASMP	:	AERODROME STANDARDS MANUAL PAKISTAN
ATN	:	AERONAUTICAL TELECOMMUNICATION NETWORK
ATS	:	AIR TRAFFIC SERVICE
CARs	:	CIVIL AVIATION RULES
CATI	:	CIVIL AVIATION TRAINING INSTITUTE
CNS	:	COMMUNICATION, NAVIGATION & SURVEILLANCE
CVOR	:	CONVENTIONAL VERY HIGH FREQUENCY OMNI RANGE
DAAR	:	DIRECTORATE OF AIR SPACE AND AERODROME REGULATIONS
DGCAA	:	DIRECTOR GENERAL OF CIVIL AVIATION AUTHORITY
DME	:	DISTANCE MEASURING EQUIPMENT
DVOR	:	DOPPLER VERY HIGH FREQUENCY OMNI RANGE
G.M	:	GENERAL MANAGER
HQCAA	:	HEADQUARTERS CIVIL AVIATION AUTHORITY
IAR	:	IMPROVEMENT ACTION REPORT
ICAO	:	INTERNATIONAL CIVIL AVIATION ORGANIZATION.
ILS	:	INSTRUMENT LANDING SYSTEM
ISO	:	INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
JDs	:	JOB DESCRIPTIONS
NDB	:	NON DIRECTIONAL BEACON
NOTAM	:	NOTICE TO AIRMEN
OEM	:	ORIGINAL EQUIPMENT MANUFACTURER
OJT	:	ON JOB TRAINING
PCAA	:	PAKISTAN CIVIL AVIATION AUTHORITY
SARPS	:	STANDARDS AND RECOMMENDED PRACTICES
SOP	:	STANDARD OPERATING PROCEDURE
SSR	:	SECONDARY SURVEILLANCE RADAR
UHF	:	ULTRA HIGH FREQUENCY
VHF	:	VERY HIGH FREQUENCY

Chapter 1

DEFINITIONS

1.1. The following terms when used in this Hand book have the meanings assigned to them respectively. Any term used in this document but not defined herein shall have the same meaning as given in the Civil Aviation Ordinance, 1960, Pakistan Civil Aviation Authority Ordinance, 1982, Civil Aviation Rules, 1994 (CARs, 1994) and relevant Air Navigation Orders.

1.1.1. **Air Navigation Services:** Services provided to air traffic during all phases of operations including Air Traffic Management (ATM), Communications, Navigation and Surveillance (CNS), Meteorological services for air navigation (MET), Search and Rescue (SAR) and Aeronautical Information Services (AIS).

1.1.2. **Approval:** The formal act of approving a change submitted by a requesting organization. This action is required prior to the proposed change being implemented.

1.1.3. **Assessment:** An evaluation based on engineering, operational judgment and/or analysis methods or an appraisal of procedures or operations based largely on experience and professional judgment.

1.1.4. **ATM Service:** A service for the purpose of Air Traffic Management.

1.1.5. **Authority:** The Civil Aviation Authority established under section 3 of the Pakistan Civil Aviation Authority Ordinance, 1982.

1.1.6. **Closing Meeting:** A meeting of the inspection team and the representatives of the service provider at the end of the inspection, the purpose of which is to provide the service provider authorities with preliminary information on inspection findings/non-conformance to enable the service provider to start working on its corrective action plan.

1.1.7. **Conformance:** The state of meeting the requirements of a Standard.

1.1.8. **Corrective action:** Action to eliminate the cause of a detected non-conformity or non-compliance or other undesirable situation.

Note: - Corrective action does not mean the action taken to restore a non-conforming situation to a conforming situation. This is known as remedial action. If the root cause of non-conformity is not addressed then it is very likely that similar non-conformities will recur).

1.1.9. **Corrective Action Plan:** An action plan submitted to CAA by an auditee, detailing the proposed action to be carried out by the service provider to resolve identified deficiencies/non-conformance (safety concerns) made by an audit/inspection team. Implementation of the corrective action plan should bring the service provider into full compliance with the provisions of the National Rules/Regulations, conformance with or adherence to prescribed Standards and Recommended Practices (SARPs), procedures and good aviation safety practices.

1.1.10. **Deficiency:** Lacking of something essential, imperfect, defective and if such hazards allowed to exist within a system, result in a system deficiency.

1.1.11. **Event:** Any incident that occurs or a situation arises at a particular place during a particular interval of time.

- 1.1.12. **Hazard:** Conditions, object or activity with the potential of causing injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function.
- 1.1.13. **Hazard Identification:** The process of determining what can happen, why and how.
- 1.1.14. **Human Factor:** The factor pertaining to human's capabilities, limitations, and behaviors and its integration into the design of a system to enhance the safety performance.
- 1.1.15. **Human Performance:** Human capabilities and performance limitations which have an impact on the safety and efficiency of aeronautical operations.
- 1.1.16. **Incident:** An occurrence, other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operation.
- 1.1.17. **Inspection:** The basic activity of an audit, which involves examination of the specific characteristics of the safety oversight programme/function.
- 1.1.18. **Inspection Activities:** Those activities and procedures by which information is obtained in order to verify that the inspected location/airport is in conformance with, or adherence to, applicable Standards and Recommended Practices (SARPs), procedures described in ANO-001-DRTS-1.0 to ANO-006-DRTS-1.0, ANO-008-ARTS-1.0 & ANO-009-ARTS-1.0 and CNS Inspectors Hand Book. Such activities may include, but are not limited to, interviews, observations, inspections, and the examination of records/documents.
- 1.1.19. **Inspection Report:** A standardized means of reporting the inspection findings to the designated authorities.
- 1.1.20. **Inspector:** A person trained and authorized to undertake oversight inspections/audits.
- 1.1.21. **Monitoring:** The processes to check, supervise, observe critically, or record the progress of an activity/function or system on a regular basis in order to identify change.
- 1.1.22. **Non-adherence:** A deficiency in characteristic, documentation or procedure with respect to a Recommended Practice, procedure, guideline or good aviation safety practice.
- 1.1.23. **Non-compliance:** A deficiency in characteristic, documentation or procedure with respect to provisions of the Chicago Convention or a national regulation.
- 1.1.24. **Non-conformance:** A deficiency in characteristic, documentation or procedure with respect to an ICAO Standard.
- 1.1.25. **Opening meeting:** A meeting of the inspection team and the representatives of the Service provider to be audited/inspected before the commencement of the inspection, the purpose of which is to provide the Authorities with information on the audit/inspection process and the scope of the audit/inspection.
- 1.1.26. **Operations Manual:** A manual containing procedures, instructions and guidance, for use by the operational personnel in the execution of their duties.
- 1.1.27. **Recommendation:** Those controls that have the potential to mitigate a hazard or risk but have not yet been validated as a part of the system or its requirements.
- 1.1.28. **Regulation:** The giving of authoritative direction to bring about and maintain a desired degree of order.
- 1.1.29. **Safety:** Safety is the state in which the risk of harm to persons or of property damage is reduced to, and maintained at or below, an acceptable level through a continuing



process of hazard identification and risk management. Safety may also be defined: as a condition in which the risk of harm or damage is limited to an acceptable level.

- 1.1.30. **Safety Directive (SD):** A mandate from the Authority/DGCAA (Regulator) to Service Provider(s)/Operator(s) to take immediate corrective action to address a non-compliance/non-conformance issue that creates a significant unsafe condition.
- 1.1.31. **Safety Circular (SC):** A guidance and/or information from the Director General /Regulator for Service Provider(s) and Operator(s), necessary to take appropriate measures regarding safety-related issue(s).
- 1.1.32. **Safety Oversight:** A function by means of which the Authority ensures effective implementation of the National Aviation Legislation, Rules, safety-related Standards and Recommended Practices (SARPs) and associated procedures prescribed in the Air Navigation Orders/Manuals/Directives including amendments thereto; to meet the obligations as contained in the Annexes to the Convention on international Civil Aviation and related ICAO documents. Safety oversight also ensures that the national aviation industry provides a safety level equal to, or better than, that defined by the SARPs.

Chapter 2

GENERAL

2.1 INTRODUCTION:

CNS Inspectors' Handbook MNL-001-DRTS-1.0 was prepared and issued keeping in view of the USOAP audit conducted in 2011. Following ANOs has been issued by TS branch till date.

ANO #	TITLE	ISSUE DATE
ANO-001-DRTS-1.0	Communication, Navigation & Surveillance	05-10-2009
ANO-002-DRTS-1.0	Radio Navigational Aids	15-03-2010
ANO-003-DRTS-1.0	Communication Procedures	15-02-2010
ANO-003-ARTS-2.0	Communication Procedures	30-09-2012
ANO-004-DRTS-1.0	Communication Systems ➤ Part I Digital Data Communication Systems ➤ Part II Voice Communication Systems	30-05-2011
ANO-005-DRTS-1.0	Surveillance Radars & Collision Avoidance Systems	10-06-2011
ANO-006-DRTS-1.0	Aeronautical Radio Frequency Spectrum Utilization	15-12-2011
ANO-008-ARTS-1.0	Certification Requirements for CNS Facility Service Provider	30-08-2012
ANO-009-ARTS-1.0	Requirement of "Communication Operation Manual" for Airports / locations	30-05-2011

2.2 REVISION OF CNS INSPECTORS' HANDBOOK:

In order to enhance the oversight inspection/audit capabilities of CNS inspectors, handbook needs to be revised. Job descriptions of CNS inspectors, IAR and CAP forms have been reviewed. Checklists, Job Descriptions of Trade Staff and new forms have been developed and incorporated in new version of handbook MNL-001-ARTS-2.0:

- 2.2.1 JDs of trade staff
- 2.2.2 Checklist for Training Institute
- 2.2.3 Checklist for airports/locations
- 2.2.4 Audit Feedback form
- 2.2.5 Training Record of CNS Employee form
- 2.2.6 Future Training Requirements for Development of Skills & Competencies form
- 2.2.7 Improvement Action Log form

2.3 STATUTORY AUTHORITY:

Technical Standards Branch of DAAR is authorized by the DG CAA to carry out all required Safety Oversight functions in the field of CNS. Further under Section 10 of the Pakistan CAA ordinance 1982 and Rules 4(2) & (3) and 5 of Pakistan Civil Aviation Rules 1994, DGCAA has authorized the CNS Inspectors to enter any place to which access is required for the purpose of exercising his/her powers.

2.4 FUNCTIONS OF TECH STANDARD BRANCH:

The **Technical Standards Branch** in DAAR has the mandate to:

- 2.4.1 Provide regulatory and safety oversight of CNS service providers. Such oversight is conducted through scheduled, non-scheduled audits and inspections of CNS facilities/equipment.
- 2.4.2 Monitor the national CNS services safety oversight; risk management processes; and contributing to the development of national/international CNS regulations, standards, policies and practices.
- 2.4.3 Provide assistance to the locations and respective branches regarding explanation of ICAO standards/recommendation/guidance materials pertaining to CNS and Comm Ops. This includes preparation of necessary ANOs, evaluation of SOPs/Manuals/TOs etc developed by the service providers before implementation.
- 2.4.4 Monitor the CNS Service Provider operations;
- 2.4.5 Monitor the training and Experience of technical staff deployed by service providers to install, maintain and operate CNS Systems.
- 2.4.6 Evaluate & process the requests from service providers such as CNS Dte. & Ops Dte. for exemptions from prescribed standards and recommended practices;
- 2.4.7 Provide guidance regarding siting, installation, operation and interpretations to service providers regarding the application of Standards and Recommended Practices of ANOs, CARs, Annexes and documents of ICAO.
- 2.4.8 Establish and conduct the safety oversight audit and inspection program for CNS systems and procedures to verify compliance with CARs, ANOs and related Annexes and documents of ICAO.
- 2.4.9 Study aviation related occurrence data, analyze trends, identify risk indicators, assess risk and recommend control measures for the provision of safe CNS systems.
- 2.4.10 Provide subject matter expertise to HQ and Service providers, in addition to outside agencies, organizations in general; and
- 2.4.11 Ensure availability of protected aeronautical radio spectrum free from harmful interference for the safe operation of civil aviation.

2.5 PROCESS & ACTIVITIES OF TECH STANDARD BRANCH:

S #	Process	Activities	Available Operating Regulation / Procedure
1	Transformation of Air Navigation Orders (ANOs)	<ul style="list-style-type: none"> • Study the relevant ICAO Annex or Document to be converted in ANO as national regulations • Analyze the Standards and Recommended Practices (SARPs) to be implemented in Pakistan • Take out material from relevant ICAO Annex or Document and transform into ANO as per IMS format • Complete the ANO as per above procedure • Send the ANO to DMR for verification of IMS format • Send the ANO to the DAAR for any correction / feedback • Send the ANO to the PD (Regulatory) for any correction / feedback • Send the ANO to the Legal Directorate for evaluation and vetting • Edit the ANO in the light of feedbacks / amendment received from DAAR, PD (Reg) and CLS • Get the color print of ANO from IT branch and signed by initiating officer • Get signature of GM TS, DAAR, PD (Reg), • Get the approval of DG CAA through Dy DG CAA 	ANO-001-DRTS-1.0
2	Transformation of Manuals / Plans etc.	<ul style="list-style-type: none"> • Study the requirement of stations / locations of Pakistan with respect to their CNS facilities installed • Analyze the Standards and Recommended Practices (SARPs) to be implemented in Pakistan • Take out material from relevant Documents and transform into Manuals or Plans as per IMS format • Complete the ANO as per above procedure • Send the Manuals or Plans to DMR for verification of IMS format • Send the Manuals or Plans to the DAAR or competent authority for any correction / feedback • Edit the Manuals or Plans in the light of feedbacks / amendment received from DAAR, PD (Reg) and CLS • Get the color print of ANO from IT branch and signed by initiating officer • Get signature of GM Technical Standards • Get the approval of DAAR or competent authority as the case may be. 	ANO-001-DRTS-1.0

S #	Process	Activities	Available Operating Regulation / Procedure
3	Promulgation / Distribution of ANOs / Manuals / Plans etc	<ul style="list-style-type: none"> • Make photocopies of ANOs / Manuals / Plans etc. as per distribution list • Get binding of ANOs / Manuals / Plans etc. through Logistic Directorate • Stamp "<u>Controlled Copy</u>" on each page of every copy of ANOs / Manuals / Plans etc. • Write the serial number on stamp as per distribution list • Prepare covering letter / LM and get it signed by GM TS • Dispatch the ANOs / Manuals / Plans etc. through CR or local distribution • Record acknowledgment of receipt on peon book or through return letter / LM • Issue reminder to the addressee from which acknowledgment did not receive. 	CAAO-001-MSXX (Document and Record Control.
4	Uploading of ANOs / Manual / Plans on CAA website / IMS portal	<ul style="list-style-type: none"> • Convert the ANO, Manuals or Plans into PDF file • Scan the signature page and replace in PDF file • Send soft copy of ANO, Manuals or Plans to IT Branch with LM for uploading of ANO on CAA website • Send soft copy of ANO, Manuals or Plans to IMS Branch with LM for uploading of ANO on IMS portal 	
5	Annual Oversight Inspection of Airports / Locations	<ul style="list-style-type: none"> • Get the approval of Inspection from DAAR as per Annual Plan • Send LM to HR BS for issuance of Air tickets as per approved itinerary • Send LM to Mechanical Branch if by road travelling is involved in the approved itinerary • Liaise with M/s Professional Travel for booking / issuance of Air tickets • Issue signal to the airport / location informing about the inspection or visit • Study the previous visit report of the location and mark the deficiencies observed in last inspection • Raise the MT requisition for vehicle to pick and drop of the officers from home to Airport and back • Conduct the inspection 	ANO-001-DRTS-1.0

S #	Process	Activities	Available Operating Regulation / Procedure
6	Preparation of Inspection Reports	<ul style="list-style-type: none"> • Prepare the inspection report in the light of observations made during inspection • Get the approval of report from DAAR through GM TS • Send / dispatch the report to the location under intimation of following General Managers: <ul style="list-style-type: none"> ➢ Aerodrome Standards HQCAA ➢ CNS (South/North), ➢ Telecom & Elects, Nav-Aids, Radar HQCAA ➢ Comm Ops, HQCAA ➢ APS (South/North) HQCAA, • Ask the station or location to submit their Corrective Action Plan (CAP) on CAAF-002-ARTS-2.0 within 30-days of receipt of the report 	MNL-001-ARTS-2.0 (CNS Inspector Hand Book)
7	Follow up actions	<ul style="list-style-type: none"> • In case, any station fails to submit its CAP within time frame given, a reminder shall be issued to the station or location to submit CAP • If a locations submits its CAP, compare the same with original report either all or some of the deficiencies removed or not • If some deficiencies still exist, the station/ location will again be asked to remove the deficiency within estimated implementation dates • Correspondence through signals, LM or letters continues till the removal of all deficiencies or until next inspection / visit follows 	MNL-001-ARTS-2.0 (CNS Inspector Hand Book)
8	Verification of Documents	<ul style="list-style-type: none"> • Vet SOPs of CNS and allied equipment in operation at Airports/locations. • Vet work instructions for operational equipment installed. • Check and verify maintenance records and log books. • Remove findings after satisfaction of CAPs implementation from service provider 	
9	Computer Operation	<ul style="list-style-type: none"> • Searching of Web. • Searching of IMS portal. • Downloading of required data. • Typing work. 	
10	Correspondence	<ul style="list-style-type: none"> • Receipt of mail. • Diary of mail received. • Put up to GM TS. • Retrieve all mail after marking. • Disseminate mail to all relevant officials. • Take action by the relevant officials after retrieving the concerned file from cabinet. • Dispatch mail. • Place files in the cabinet after doing required actions. 	



2.6 WORKFORCE REQUIREMENT:

Technical Standard Branch of D.AAR shall make available a sufficient number of Inspectors and trade staff, as per work load requirement, enabling them to carry out oversight inspection of all installations of CNS Equipment & procedures, with qualification, experience & knowledge in related field as elaborated in Job Descriptions.

2.7 POSITION OF CNS INSPECTOR:

Name of the Office	HQs Pakistan Civil Aviation Authority
Title/ Position	CNS Inspector
Service	Regulatory oversight
Group	Technical Standards Branch
Sub Group	Communication, Navigation and Surveillance
Directorate	Air Space & Aerodrome Regulations
Reporting Officer	G.M. Technical Standards

2.8 JOB DESCRIPTIONS:

Job Descriptions of CNS Inspectors and Trade Specialists of Technical Standards Branch were reviewed in Feb. 2012 and appended below.

		CIVIL AVIATION AUTHORITY JOB DESCRIPTION		CAAF-031-HRBS-1.0
HR (C/B & BS) Branch				
Job Title:	GM Technical Standards	Pay Group:	10	
Unit:	Technical Standards Branch	Reports to:	Director A.A.R.	
Location:	AAR Directorate HQCAA	Last revision Date:	February 2012	
PART-I				
A. JOB SUMMARY				
<p>General Manager Technical Standards is responsible to Director Airspace and Aerodrome Regulations (DAAR) for Planning and implementing a continuous oversight program with respect to all Communication, Navigation and Surveillance (CNS) related Engineering facilities installed in Pakistan for the safe and efficient movement of Civil Air Traffic. He has to arrange Technical audits / Inspections for all Airports / locations within Pakistan through his Specialist trained Inspectors on behalf of Director Airspace & Aerodrome Regulations (DAAR) to ensure maintenance of ICAO / DAAR standards as per Annex-10 (Vol. I to Vol. V) and all related PCAA Air Navigation Orders (ANO's). He will also represent PCAA in all local and foreign forums w.r.t. CNS standards. He will be responsible to administer and manage Technical Standards Branch besides maintaining continual efforts to keep himself and his team abreast of latest developments in CNS systems & for updating standards / ANO's through planned training programs.</p>				
B. PRIMARY RESPONSIBILITIES				
<ul style="list-style-type: none"> • Proper manning and arranging of resources for the workforce (Officers and their staff) of this Branch for their optimum performance. To regulate work load of the deployed man power under control and to recommend D.AAR on issues such as revision/amendment in Organizational structure and manpower requirements on as and when required basis. • General Administration of Technical Standards branch in all respects and co-ordination with other functionaries of DAAR in specific and PCAA in general on as and when required basis. 				



- Formation of Standards for Pakistan CAA in various Engineering fields of CNS, in the form of Operating Regulations, ANOs, Manuals, guidance material or any other document. To ensure updating and implementation of the devised Standards and to make sure that the standards formed in the form of Operating Regulations, ANOs or any other document must be in line with ICAO SARPs.
- Updating D.AAR on progress and performance of Technical Standards Branch and to discuss and resolve any issues relating to functioning of this Branch.
- To plan visits of Inspectors for the CNS oversight functions and to ensure submission of reports to concern quarters giving a suitable time line for removal of deficiencies/non-conformance
- To perform random checks /surprise visits of locations as part of oversight function to authenticate the steps being taken by locations for removal of deficiencies/non-conformance.
- To explore and make arrangement for training of inspectors working in Technical Standards Branch and to ensure and follow up implementation of annual training program through concerned authorities of PCAA.
- Ensure implementation of relevant directives and policy decision of HQCAA.
- To assume any other responsibility that may contribute in the enhancement in performance of Technical Standards Branch.
- To represent PCAA in all local and International Forums with respect to Communication, Navigation and Surveillance (CNS) related Engineering and operational standards.

C. SECONDARY / ADDITIONAL RESPONSIBILITIES

- Any additional duties / responsibilities assigned by D.AAR.

PART-II

D. KNOWLEDGE AND SKILL

Personal Characteristics

- Ambitious for high achievement and capable to perform management functions.
- Motivator for Team Members and eager to create a win-win situation for his team. Always respects team values.
- Takes the opportunity to teach and empower other team members.
- Focused, unbiased and task oriented.
- A good listener and proactive in dealing with issues
- Vigilant and gives proper feedback as and when required.
- Has ability to establish connections with people
- High level of integrity, motivation, and drive to have better results.
- Good analytical and interpersonal skills.
- Strong administrative skills such as decision making, organizing, and planning
- Shows empathetic behaviors towards team.

Experience

- Minimum 10 years of diversified working experience related to CNS Engineering at Headquarters, CATI and at Airports/Locations.

Educational Qualifications

- A graduate Engineer with major in Electronic or related Engineering fields with working experience and knowledge of Operation and maintenance of Radio Nav-Aids, RADARs and various Communication equipment used in the Civil Aviation industry.

E. WORKING CONDITIONS

Normal office working conditions as prescribed by Directorate of SQMS. It is the responsibility of the CAA's Management to provide with resources to expect optimum output. Work may require frequent traveling for purpose of oversight inspections/surprise visits of CNS Engineering facilities across Pakistan.



		CIVIL AVIATION AUTHORITY JOB DESCRIPTION		CAAF-031-HRBS-1.0
		HR (C/B & BS) Branch		
Job Title:	CM Technical Standards (Surv)	Pay Group:	09	
Unit:	Technical Standards Branch	Reports to:	GM Technical Standards	
Location:	AAR Directorate HQCAA	Last revision Date:	February 2012	

PART-I

A. JOB SUMMARY

CM Technical Standards (Surveillance) is responsible to GM Technical Standards regarding inspection / audit of the Airports/locations with CNS facilities related to Radar sensors/EVHF & their related services, equipment maintenance standards, related documents & records, and SMS of the service provider as per existing regulations as authorized by DGCAA under the rules 4(2)(a) and (5) of CAA Rules 1994. He will manage preparation and updating related to ANOs/guidance materials, evaluation of SOPs/Manuals/TOs etc developed by the service providers before implementation. He has to arrange assistance to the locations and respective branches regarding explanation of ANOs, ICAO standards / recommendation / guidance materials pertaining to CNS engineering facilities. He will conduct regulatory and safety oversight inspections of all locations where Radars sensors/EVHF and related equipment are installed through scheduled and non-scheduled audit/inspections. He will also evaluate training level and experience of technical officials deployed at such locations for maintaining and operation of relevant Systems by the service provider.

B. PRIMARY RESPONSIBILITIES

- To inspect / audit the aerodrome facilities, services, equipment, documents, records and SMS of the aerodrome operators as per existing regulations as authorized by DGCAA under the rules 4(2)(a) and (5) of CAA Rules 1994.
- To prepare and update respective ANOs, Manuals and guidance material.
- Evaluation of SOPs/Manuals/TOs etc developed by the service providers from time to time.
- To establish mechanism for checking of Surveillance (RADARS) and Extended Range VHF equipment across the country for proper functioning in accordance with the SARPS contained in ANO-005-DRTS-1.0.
- To inspect/audit, Radar/EVHF locations at least once in a year and submit the findings / non conformance to GM TS/DAAR for approval and consequently dispatching to relevant service providers for remedial actions.
- Establish independent follow up actions with locations regarding their Corrective Action Plan for removal of findings.
- Provide assistance to the locations and respective branches regarding explanation of ANOs, ICAO standards / recommendations / guidance materials pertaining to Radars/sensors/EVHF etc engineering facilities.
- To inspect all relevant documents and maintenance records of the service providers as per relevant SOPs.
- To evaluate training level and experience of technical officials deployed at various airports / locations with respect to their responsibilities.
- To manage his section and maintain relevant records of inspections/audits related to his areas of responsibility.

C. SECONDARY / ADDITIONAL RESPONSIBILITIES

- To assume any other additional duty / responsibility assigned by G. M. Tech. Standards.

PART-II

D. KNOWLEDGE AND SKILL

Personal Characteristics

- Ambitious for high achievements. Also motivator for junior team members.



- Always respect team values
- Respect time and personal commitments with others.
- A good listener and proactive in dealing with issues
- Vigilant and give proper feedback as and when required.
- The ability to establish connections with people
- High level of integrity, motivation, and drive to have better results.
- Good analytical and interpersonal skills.

Experience

- Minimum 10 years of working experience on operation and maintenance of RADARs / EVHF.
OR
- In case of direct induction in PG-08 in Technical Standards Branch, the inductee will require to pass the Basic Electronic Engineering Course from CATI, audit technique course, operation and maintenance courses on RADARS/EVHF etc. and undergo an OJT as prescribed in CNS inspectors handbook with five years working experience as DM Technical Standards (Surveillance) to qualify as CM TS (Surv.).

Educational Qualifications

A graduate Engineer with major in Electronics.

E. WORKING CONDITIONS

Normal office working conditions as prescribed by the Directorate of SQMS. Work requires frequent traveling for the purpose of inspections/audits across Pakistan.

		<u>CIVIL AVIATION AUTHORITY</u> JOB DESCRIPTION		<u>CAAF-031-HRBS-1.0</u>
		HR (C/B & BS) Branch		
Job Title:	CM Technical Standards (Nav-Aids)	Pay Group:	09	
Unit:	Technical Standards Branch	Reports to:	GM Technical Standards	
Location:	AAR Directorate HQCAA	Last revision Date:	February 2012	
PART-I				
A. JOB SUMMARY				
<p>CM Technical Standards (Nav-Aids) is responsible to GM Technical Standards regarding inspection / audit of the Airports/locations with CNS facilities related to Nav-Aids/Electronics, their related services, equipment maintenance standards, related documents & records, and SMS of the service provider as per existing regulations as authorized by DGCAA under the rules 4(2)(a) and (5) of CAA Rules 1994. He will manage preparation and updating related to ANOs/guidance materials, evaluation of SOPs/Manuals/TOs etc developed by the service providers before implementation. He has to arrange assistance to the locations and respective branches regarding explanation of ANOs, ICAO standards / recommendation / guidance materials pertaining to CNS engineering facilities. He will conduct regulatory and safety oversight inspections of all locations where Nav-Aids and related equipment are installed through scheduled and non-scheduled audit/inspections. He will also evaluate training level and experience of technical officials deployed at such locations for maintaining and operation of relevant Systems by the service provider.</p>				
B. PRIMARY RESPONSIBILITIES				
<ul style="list-style-type: none"> • To inspect / audit the aerodrome facilities, services, equipment, documents, records and SMS of the aerodrome operators as per existing regulations as authorized by DGCAA under the rules 4(2)(a) and (5) of CAA Rules 1994. 				



- To prepare and update respective ANOs, Manuals and guidance material.
- Evaluation of SOPs/Manuals/TOs etc developed by the service providers from time to time.
- To establish mechanism for checking of Nav-Aids and electronics equipment across the country for proper functioning in accordance with the SARPS contained in ANO-002-DRTS-1.0.
- To inspect/audit, Nav-Aids locations at least once in a year and submit the findings/non-conformance to GM TS/DAAR for approval and consequently dispatching to relevant service providers for remedial actions.
- Establish independent follow up actions with locations regarding their Corrective Action Plan for removal of findings/non-conformance.
- Provide assistance to the locations and respective branches regarding explanation of ANOs, ICAO standards / recommendations / guidance materials pertaining to Nav-Aids engineering facilities.
- To inspect all relevant documents and maintenance records of the service providers as per relevant SOPs.
- To evaluate training level and experience of technical officials deployed at various airports / locations with respect to their responsibilities.
- To manage his section and maintain relevant records of inspections/audits related to his areas of responsibility.

C. SECONDARY / ADDITIONAL RESPONSIBILITIES

- To assume any other additional duty / responsibility assigned by G. M. Tech. Standards.

PART-II

D. KNOWLEDGE AND SKILL

Personal Characteristics

- Ambitious for high achievements. Also motivator for junior team members.
- Always respect team values
- Respect time and personal commitments with others.
- A good listener and proactive in dealing with issues
- Vigilant and give proper feedback as and when required.
- The ability to establish connections with people
- High level of integrity, motivation, and drive to have better results.
- Good analytical and interpersonal skills.

Experience

- Minimum 10 years of working experience on operation and maintenance of Nav-Aids.
OR
- In case of direct induction in PG-08 in Technical Standards Branch, the inductee will require to pass the Basic Electronic Engineering Course from CATI, audit technique course, operation and maintenance courses on Nav-Aids and undergo an OJT as prescribed in CNS inspectors' handbook with five years working experience as DM Technical Standards (Nav-Aids) to qualify as CM TS (Nav-Aids).

Educational Qualifications

- A graduate Engineer with major in Electronics.

E. WORKING CONDITIONS

Normal office working conditions as prescribed by the Directorate of SQMS. Work requires frequent traveling for the purpose of oversight inspections/audits across Pakistan.



		<u>CIVIL AVIATION AUTHORITY</u> JOB DESCRIPTION		<u>CAAF-031-HRBS-1.0</u>
		HR (C/B & BS) Branch		
Job Title:	CM Technical Standards (FDPS/RDPS/ATM)	Pay Group:	09	
Unit:	Technical Standards Branch	Reports to:	GM Technical Standards	
Location:	AAR Directorate HQCAA	Last revision Date:	February 2012	
PART-I				
A. JOB SUMMARY				
<p>CM Technical Standards (FDPS/RDPS) is responsible to GM Technical Standards regarding inspection / audit of the Airports/locations with CNS facilities related to ACC/APP/ATM, their related services, equipment maintenance standards, related documents & records, and SMS of the service provider as per existing regulations as authorized by DGCAA under the rules 4(2)(a) and (5) of CAA Rules 1994. He will manage preparation and updating related to ANOs/guidance materials, evaluation of SOPs/Manuals/TOs etc developed by the service providers before implementation. He has to arrange assistance to the locations and respective branches regarding explanation of ANOs, ICAO standards / recommendation / guidance materials pertaining to CNS engineering facilities. He will conduct regulatory and safety oversight inspections of all locations where ACC/APP/ATM and related equipment are installed through scheduled and non-scheduled audit/inspections. He will also evaluate training level and experience of technical officials deployed at such locations for maintaining and operation of relevant Systems by the service provider.</p>				
B. PRIMARY RESPONSIBILITIES				
<ul style="list-style-type: none"> • To inspect / audit the aerodrome facilities, services, equipment, documents, records and SMS of the aerodrome operators as per existing regulations as authorized by DGCAA under the rules 4(2)(a) and (5) of CAA Rules 1994. • To prepare and update respective ANOs, Manuals and guidance material. • Evaluation of SOPs/Manuals/TOs etc developed by the service providers from time to time. • To establish mechanism for checking of ACC/APP/ATM equipment across the country for proper functioning in accordance with the SARPS contained in ANO-005-DRTS-1.0. • To inspect/audit, ACC/APP/ATM locations at least once in a year and submit the findings/non-conformance to GM TS/DAAR for approval and consequently dispatching to relevant service providers for remedial actions. • Establish independent follow up actions with locations regarding their Corrective Action Plan for removal of findings. • Provide assistance to the locations and respective branches regarding explanation of ANOs, ICAO standards / recommendations / guidance materials pertaining to ACC/APP/ATM engineering facilities. • To inspect all relevant documents and maintenance records of the service providers as per relevant SOPs. • To evaluate training level and experience of technical officials deployed at various airports / locations with respect to their responsibilities. • To manage his section and maintain relevant records of inspections/audits related to his areas of responsibility. 				
C. SECONDARY / ADDITIONAL RESPONSIBILITIES				
<ul style="list-style-type: none"> • To assume any other additional duty / responsibility assigned by G. M. Tech. Standards. 				
PART-II				
D. KNOWLEDGE AND SKILL				
<u>Personal Characteristics</u>				
<ul style="list-style-type: none"> • Ambitious for high achievements. Also motivator for junior team members. 				



- Always respect team values.
- Respect time and personal commitments with others.
- A good listener and proactive in dealing with issues.
- Vigilant and give proper feedback as and when required.
- The ability to establish connections with people.
- High level of integrity, motivation, and drive to have better results.
- Good analytical and interpersonal skills.

Experience

- Minimum 10 years of working experience on operation and maintenance of ACC/APP/ATM.
OR
- In case of direct induction in PG-08 in Technical Standards Branch, the inductee will require to pass the Basic Electronic Engineering Course from CATI, audit technique course, operation and maintenance courses on ACC/APP/ATM. and undergo an OJT as prescribed in CNS inspectors handbook with five years working experience as DM Technical Standards (FDPS/RDPS) to qualify as CM TS (FDPS/RDPS).

Educational Qualifications

- A graduate Engineer with major in Electronics.

E. WORKING CONDITIONS

Normal office working conditions as prescribed by the Directorate of SQMS. Work requires frequent traveling for the purpose of oversight inspections/audits across Pakistan.

		CIVIL AVIATION AUTHORITY JOB DESCRIPTION		CAAF-031-HRBS-1.0
HR (C/B & BS) Branch				
Job Title:	CM Technical Standards (Com Ops)	Pay Group:	09	
Unit:	Technical Standards Branch	Reports to:	GM Technical Standards	
Location:	AAR Directorate HQCAA	Last revision Date:	February 2012	
PART-I				
A. JOB SUMMARY				
<p>CM Technical Standards (Com Ops) is responsible to GM Technical Standards regarding inspection / audit of the Airports/locations with CNS facilities related to communication procedures, their related services, related documents & records, and SMS of the service provider as per existing regulations as authorized by DGCAA under the rules 4(2)(a) and (5) of CAA Rules 1994. He will manage preparation and updating related to ANOs/guidance materials, evaluation of SOPs/Manuals/TOs etc developed by the service providers before implementation. He has to arrange assistance to the locations and respective branches regarding explanation of ANOs, ICAO standards / recommendation / guidance materials pertaining to communication operation procedures. He will conduct regulatory and safety oversight inspections of all locations where communication centres are established through scheduled and non-scheduled audit/inspections. He will also evaluate training level and experience of com ops officials deployed at such locations for operation of relevant Systems by the service provider.</p>				
B. PRIMARY RESPONSIBILITIES				
<ul style="list-style-type: none"> • To inspect / audit the aerodrome com ops facilities, services, documents, records and SMS of the aerodrome operators as per existing regulations as authorized by DGCAA under the rules 4(2)(a) and (5) of CAA Rules 1994. To prepare and update respective ANOs, Manuals and guidance material. • Evaluation of SOPs/Manuals/TOs etc developed by the service providers from time to time. 				

- To establish mechanism for checking of com ops procedures across the country for proper functioning in accordance with the SARPS contained in ANO-003-DRTS-1.0, ANO-004-DRTS-1.0 and ANO-006-DRTS-1.0.
- To inspect/audit every airport at least once in a year and submit the findings/non-conformance to GM TS/DAAR for approval and consequently dispatching to relevant service providers for remedial actions.
- Establish independent follow up actions with locations regarding their Corrective Action Plan for removal of findings.
- Provide assistance to the locations and respective branches regarding explanation of ANOs, ICAO standards / recommendations / guidance materials pertaining to com ops procedures.
- To inspect all relevant documents and maintenance records of the service providers as per relevant SOPs.
- To evaluate training level and experience of Com Ops officials deployed at various airports with respect to their responsibilities.
- To manage his section and maintain relevant records of inspections/audits related to his areas of responsibility.

C. SECONDARY / ADDITIONAL RESPONSIBILITIES

- To assume any other additional duty / responsibility assigned by G. M. Tech. Standards.

PART-II

D. KNOWLEDGE AND SKILL

Personal Characteristics

- Ambitious for high achievements. Also motivator for junior team members.
- Always respect team values.
- Respect time and personal commitments with others.
- A good listener and proactive in dealing with issues.
- Vigilant and give proper feedback as and when required.
- The ability to establish connections with people.
- High level of integrity, motivation, and drive to have better results.
- Good analytical and interpersonal skills.

Experience

- Minimum 15 years of working experience on com ops procedures.
OR
- In case of direct induction in PG-07 in Technical Standards Branch, the inductee will require to pass the Basic Com Ops Officers Course from CATI, audit technique courses and undergo an OJT as prescribed in CNS inspectors handbook with 12 years working experience as AM/DM Technical Standards (com ops) to qualify as CM TS(com ops).


Educational Qualifications

- A science graduate with major in Mathematics and Physics.


E. WORKING CONDITIONS

Normal office working conditions as prescribed by the Directorate of SQMS. Work requires frequent traveling for the purpose of oversight inspections/audits across Pakistan.




		CIVIL AVIATION AUTHORITY JOB DESCRIPTION		CAAF-031-HRBS-1.0
HR (C/B & BS) Branch				
Job Title:	Trade Specialist (Com)	Pay Group:	05 / 06	
Unit:	Technical Standards Branch	Reports to:	GM Technical Standards	
Location:	AAR Directorate HQCAA	Last revision Date:	Feb 2012	
PART-I				
F. JOB SUMMARY				
<p>To assist CMs of Technical Standards Branch in maintaining office record, transforming ICAO annexes into ANOs, development and updating of ANOs, Manuals, Plans etc. Compiling findings and observations into reports. To assist in follow up actions with locations regarding Improvement Action Report (IAR) and their Corrective Action Plans. To accompany and assist CM Technical Standards (Com Ops) during annual Audits (as and when required)</p>				
G. PRIMARY RESPONSIBILITIES				
<ul style="list-style-type: none"> • Preparation and updating station wise statistical data regarding findings / non compliance. • Updating Improvement Action Log in light of corrective actions plan forwarded by the service provider. • To assist in preparation of oversight inspection reports and presentations • To assist in follow up actions with locations regarding Improvement Action Report (IAR) and their Corrective Action Plans. • To assist C.M Technical Standards (Com Ops) in carrying out Audit inspections • To assist in preparation/up-dating of ANOs, manuals, SOPs, Plans and related guidance material. • Up keeping of office record and files in the area of Communication Operations. • Coordination with different sections / locations regarding oversight inspection / audit visits. 				
H. SECONDARY / ADDITIONAL RESPONSIBILITIES				
<ul style="list-style-type: none"> • To assume any other additional duty / responsibility assigned. 				
PART-II				
I. KNOWLEDGE AND SKILL				
<p><u>Personal Characteristics</u></p> <ul style="list-style-type: none"> • Well disciplined, obedient and dependable. • Sound knowledge of trade and special terminology used in Com Ops. • Eager to learn. <p><u>Experience</u></p> <ul style="list-style-type: none"> • Basic Aeronautical Fixed Service Operator (AFSO) course from CATI • Well conversant with Computer/Internet operations and has a good command on MS-Office • Short operational courses relevant to new inducted system related to AMHS etc • Minimum 8 years in Communication Operations fields in Civil Aviation Authority in case of transfer from Service provider. <p><u>Educational Qualifications</u></p> <ul style="list-style-type: none"> • F. Sc. (Pre-Engg) 				
J. WORKING CONDITIONS				
<p>Working conditions are normal for an office environment as prescribed by Directorate of SQMS.</p>				



		CIVIL AVIATION AUTHORITY JOB DESCRIPTION		CAAF-031-HRBS-1.0
HR (C/B & BS) Branch				
Job Title:	Trade Specialist (Nav-Aids)	Pay Group:	05 / 06	
Unit:	Technical Standards Branch	Reports to:	GM Technical Standards	
Location:	AAR Directorate HQCAA	Last revision Date:	Feb 2012	
PART-I				
A. JOB SUMMARY				
<p>To assist CMs of Technical Standards Branch in maintaining office record, transforming ICAO annexes into ANOs, development and updating of ANOs, Manuals, Plans etc. Compiling findings and observations into reports. To assist in follow up actions with locations regarding Improvement Action Report (IAR) and their Corrective Action Plans. To accompany and assist CM Technical Standards (Nav-Aids) during annual Audits (as and when required)</p>				
B. PRIMARY RESPONSIBILITIES				
<ul style="list-style-type: none"> • Preparation and updating station wise statistical data regarding findings / non compliance. • Updating Improvement Action Log in light of corrective actions plan forwarded by the service provider. • To assist in preparation of oversight inspection reports and presentations • To assist in follow up actions with locations regarding Improvement Action Report (IAR) and their Corrective Action Plans. • To assist C.M Technical Standards (Nav-Aids) in carrying out Audit inspections • To assist in preparation/up-dating of ANOs, manuals, SOPs, Plans and related guidance material. • Up keeping of office record and files in the area of Nav-Aids • Coordination with different sections / locations regarding oversight inspection / audit visits. 				
C. SECONDARY / ADDITIONAL RESPONSIBILITIES				
<ul style="list-style-type: none"> • To assume any other additional duty / responsibility assigned. 				
PART-II				
D. KNOWLEDGE AND SKILL				
<p><u>Personal Characteristics</u></p> <ul style="list-style-type: none"> • Well disciplined, obedient and dependable. • Sound knowledge of trade and specially terminology used in Nav-Aids. • Eager to learn. <p><u>Experience</u></p> <ul style="list-style-type: none"> • Aeronautical Radio Maintenance Course (ARM) from CATI. • Well conversant with Computer/Internet operations and has a good command on MS-Office • Short operational courses relevant to new inducted system related to Nav-Aids/electronics • Minimum 8 years in Nav-Aids fields in Civil Aviation Authority in case of transfer from Service provider <p><u>Educational Qualifications</u></p> <ul style="list-style-type: none"> • F. Sc. (Pre-Engg) 				
E. WORKING CONDITIONS				
<p>Working conditions are normal for an office environment as prescribed by Directorate of SQMS.</p>				



		CIVIL AVIATION AUTHORITY JOB DESCRIPTION		CAAF-031-HRBS-1.0
HR (C/B & BS) Branch				
Job Title:	Trade Specialist (Radar)	Pay Group:	05 / 06	
Unit:	Technical Standards Branch	Reports to:	GM Technical Standards	
Location:	AAR Directorate HQCAA	Last revision Date:	Feb 2012	
PART-I				
F. JOB SUMMARY				
<p>To assist CMs of Technical Standards Branch in maintaining office record, transforming ICAO annexes into ANOs, development and updating of ANOs, Manuals, Plans etc. Compiling findings and observations into reports. To assist in follow up actions with locations regarding Improvement Action Report (IAR) and their Corrective Action Plans. To accompany and assist CM Technical Standards (Surv) during annual Audits (as and when required)</p>				
G. PRIMARY RESPONSIBILITIES				
<ul style="list-style-type: none"> • Preparation and updating station wise statistical data regarding findings / non compliance. • Updating Improvement Action Log in light of corrective actions plan forwarded by the service provider. • To assist in preparation of oversight inspection reports and presentations • To assist in follow up actions with locations regarding Improvement Action Report (IAR) and their Corrective Action Plans. • To assist C.M Technical Standards (Surv) in carrying out Audit inspections • To assist in preparation/up-dating of ANOs, manuals, SOPs, Plans and related guidance material. • Up keeping of office record and files in the area of Surveillance • Coordination with different sections / locations regarding oversight inspection / audit visits. 				
H. SECONDARY / ADDITIONAL RESPONSIBILITIES				
<ul style="list-style-type: none"> • To assume any other additional duty / responsibility assigned. 				
PART-II				
I. KNOWLEDGE AND SKILL				
<u>Personal Characteristics</u>				
<ul style="list-style-type: none"> • Well disciplined, obedient and dependable. • Sound knowledge of trade and specially terminology used in Radar. • Eager to learn. 				
<u>Experience</u>				
<ul style="list-style-type: none"> • Aeronautical Radio Maintenance/Radar Course from CATI. • Well conversant with Computer/Internet operations and has a good command on MS-Office • Short operational courses relevant to new inducted system related to Radar/electronics • Minimum 8 years in Radar in Civil Aviation Authority in case of transfer from Service provider 				
<u>Educational Qualifications</u>				
<ul style="list-style-type: none"> • F. Sc. (Pre-Engg) 				
J. WORKING CONDITIONS				
<p>Working conditions are normal for an office environment as prescribed by Directorate of SQMS.</p>				

2.9 PURPOSE OF INSPECTION:

The primary objectives of safety oversight inspections are to observe and assess the Service Provider's adherence to standards and recommended practices related to Communication, Navigation and Surveillance (CNS) equipment and facilities described in Air Navigation Orders (ANO-001-DRTS-1.0 to ANO-006-DRTS-1.0 and ANO-008-ARTS-1.0), National Aviation Legislation, Civil Aviation Rules-1994, OEM recommended maintenance and operating procedures, OEM Manuals, Directives and other related documents.

2.9.1 INSPECTORS' PRE-REQUISITS:

Inspectors should have:

- 2.9.1.1 basic skills & knowledge required to participate as a team member in an inspection.
- 2.9.1.2 has completed On Job Training under supervision of designated CNS Inspector.
- 2.9.1.3 able to write an inspection findings accurately.
- 2.9.1.4 able to establish sound inspection follow up practices, including post inspection surveillance.

2.9.2 INSPECTION STEPS:

The inspection conducted by CNS Inspector in steps is elaborated as per follows:

- 2.9.2.1 CNS Inspectors shall prepare inspection schedules and conduct periodic inspections of CNS procedures, equipment and facilities at least once in a year to ensure that the physical characteristics, performance and maintenance of the CNS facilities meet the standards and recommended practices described in ANOs issued by Tech. Standard Br. DAAR.
- 2.9.2.2 CNS Inspectors shall conduct inspections and prepare reports fairly, truthfully and accurately with due professional care applying diligence and judgment. They shall remain impartial and objective with an evidence-based systematic process to reach reliable conclusions.
- 2.9.2.3 CNS Inspectors shall prepare inspection report indicating the deficiencies/non-conformance and submit the same to DAAR through GM (TS) for approval.
- 2.9.2.4 CNS Inspectors shall forward observations/findings on CAAF-001-ARTS-2.0 to service provider(s) for submission of their Corrective Action Plan on CAAF-002-ARTS-2.0.
- 2.9.2.5 Service providers' corrective actions should be as per follows:
 - 2.9.2.5.1 **IMMEDIATE:** Taken immediately upon identification of the inspection finding to remove an immediate threat to aviation safety.
 - 2.9.2.5.2 **SHORT TERM:** To correct a non-conformance that does not pose an immediate threat to aviation safety. Normally implemented within 30 days.
 - 2.9.2.5.3 **LONG TERM:** Identifying the cause of the problem and indicating the measures, service provider will take to prevent a

recurrence. A timetable for implementation, normally within three hundred sixty days.

2.9.3 OVERSIGHT FUNCTIONS:

The following oversight functions will be covered during inspection:

- 2.9.3.1 To ensure that CNS service provider adopted policies and procedures on human factors principle.
- 2.9.3.2 To ensure that CNS service provider has developed policy and procedures for determining the capacity of CNS system.
- 2.9.3.3 To ensure that CNS service provider has deployed adequate number of experienced and qualified workforce to operate & maintain all CNS equipment.
- 2.9.3.4 To ensure that CNS service provider has developed the job description for its technical staff.
- 2.9.3.5 To ensure that CNS service provider has developed formal training program including refresher training for CNS maintenance officials.
- 2.9.3.6 To ensure that CNS service provider has developed a mechanism for implementation of OJT for CNS officials.
- 2.9.3.7 To ensure that CNS service provider has maintained training records or files for its CNS staff.
- 2.9.3.8 To ensure that CNS service provider has developed required maintenance/operational SOPs' for CNS equipment and facilities.
- 2.9.3.9 To ensure that CNS service provider has preventive/corrective maintenance plan of CNS equipment.
- 2.9.3.10 To ensure that CNS service provider maintain the preventive/corrective maintenance record of CNS equipment.
- 2.9.3.11 To ensure that procedure developed by CNS Service provider for competency continuation of CNS workforce in new CNS equipment, and updated communication procedures.

2.9.4 DUTIES OF CNS INSPECTOR:

CNS inspectors will perform following duties;

- 2.9.4.1 Develop/transform ICAO Annex's/Docs /Circulars to Air Navigation Order /Manuals and update accordingly whenever any amendment made by ICAO.
- 2.9.4.2 Initiate to amend Air Navigation Orders (ANOs) from time to time for compliance with ICAO Annexes (if required).
- 2.9.4.3 Actively guide and assist the CNS stations in preparing and developing procedures and documents.
- 2.9.4.4 Examine and analyze the operational manuals, SOPs, instructions, circulars and similar documents prepared or issued by the CNS service provider that affect the performance and maintenance of CNS facilities.
- 2.9.4.5 Conduct periodic inspections of all CNS equipment and facilities /procedures, at least once in a year to ensure that the physical characteristics, performance and maintenance of the CNS facilities meet the standards and recommended practices described in ANOs issued by Tech. Standard Br. DAAR.

- 2.9.4.6 Conduct oversight inspections and prepare Improvement Action Reports on CAAF-001-ARTS-2.0 and submit to DAAR thru GM Tech. Stds for approval and further dissemination to location/airports for their Corrective Action Plan on CAAF-002-ARTS-2.0.
- 2.9.4.7 Follow-up the corrective actions of stations and maintain Improvement Action Log on CAAF-008-ARTS-1.0 for each location.
- 2.9.4.8 Update the Inspector handbook as and when required.
- 2.9.4.9 Evaluate suggestions/ recommendation received from the auditee on CAAF-003-ARTS-1.0.
- 2.9.4.10 Participate in CNS related seminars, workshops and symposiums.
- 2.9.4.11 Develop, implement and keep records of training programs for CNS inspectors.
- 2.9.4.12 Carry out any other duty as assigned by the Director Air space & Aerodrome Regulations / GM Technical Standards from time to time on surveillance /oversight functions.

2.10 QUALIFICATION / CRITERIA FOR CNS INSPECTORS:

- 2.10.1 CNS inspector should have extensive academic and technical education as described in Job Description (JDs) of Technical Standards Branch and have progressed through positions of increased technical and supervisory responsibility in the organization. A CNS inspector will be required to have the following qualifications and professional experience:
 - 2.10.1.1 Certificate courses on electronics/communication Nav-Aids, Surveillance equipment and courses on Communication Operation from Civil Aviation Training Institute (CATI) Hyderabad.
 - 2.10.1.2 Knowledge and expertise in operation and maintenance of CNS facilities and procedures as described in JDs of Technical Standards Branch.
 - 2.10.1.3 Good verbal and writing skills in English, proficiency in preparing manuals and documents and skills in operating computers and word processing.
 - 2.10.1.4 Adequate knowledge in CNS related Air Navigation Orders, ICAO SARPs and other relevant documents.
 - 2.10.1.5 Personality to win the respect and confidence of the auditee. This would require a reasonable level of tact, understanding, firmness, impartiality, integrity and an exemplary personal conduct both in the office and at the auditee's premises.

2.11 STATION TO BE INSPECTED:

- 2.11.1 CNS inspectors will carry out inspections and safety oversight functions at the following offices/stations:
 - 2.11.1.1 All the civil airports/CNS locations in Pakistan operated by PCAA.
 - 2.11.1.2 All private airports in Pakistan.
 - 2.11.1.3 CNS maintenance units such as Electronic Engineering Depot, Karachi.
 - 2.11.1.4 Civil Aviation Training Institute, Hyderabad w.r.t. training facilities.
 - 2.11.1.5 CNS Dte. & Comm.Br.(Ops.Dte.)HQCAA.

2.12 GOVERNING DOCUMENTS:

- 2.12.1 Civil Aviation Rules (CARs 94) & Ordinance.
- 2.12.2 CNS Inspectors' Handbook (MNL-001-ARTS-2.0)
- 2.12.3 ANO-001-DRTS-1.0 on Communication, Navigation & Surveillance.
- 2.12.4 ANO-002-DRTS-1.0 on Nav-Aids.
- 2.12.5 ANO-003- ARTS-2.0 on Communication Procedures.
- 2.12.6 ANO-004-DRTS-1.0 on Communication System-Digital & Voice.
- 2.12.7 ANO-005- DRTS-1.0 on Surveillance and Collision Avoidance Systems.
- 2.12.8 ANO-006-DRTS-1.0 on Frequency Spectrum Utilization.
- 2.12.9 ANO-008-DRTS-1.0 on Certification Requirements for CNS Facility Service Providers.
- 2.12.10 ANO-009-DRTS-1.0 on Requirement of Communication Operation Manual.
- 2.12.11 Other relevant directives and instructions that may be issued from time to time by the ICAO / DGCAA or the Director AAR.

Chapter 3

INSPECTION PROCEDURES

3.1 THE ROLE OF INSPECTORS:

The tasks to be undertaken by each inspector will be assigned by the GM Technical Standards / DAAR. These tasks may include conducting interviews of various officials of the unit, section or division being inspected, reviewing documentation, observing operational status of equipment, maintenance procedures, taking observations on CAAF-004-ARTS-1.0/CAAF-005-ARTS-1.0 for preparation of inspection report and getting feedback from auditee at the conclusion of audit on CAAF-003-ARTS-1.0.

3.2 PLANNING PREPARATION OF INSPECTION:

3.2.1 The approved annual tentative plan of inspections will be forwarded to all locations in the beginning of each calendar year.

3.2.2 A formal verbal /notification of intention to perform the inspection should be forwarded to the office to be inspected at least four weeks in advance to provide adequate time for necessary preparations for the office to be inspected. This notification should specify:

3.2.1.1 The unit, section or division to be inspected;

3.2.1.2 The authority under which the inspection is conducted;

3.2.1.3 The proposed schedule;

3.2.1.4 The overall purpose of the inspection and the scope of the topics to be discussed;

3.2.1.5 The detail of officials required for interview by the inspection team and the relevant documents;

3.2.1.6 The inspection team members.

3.3 METHOD OF INSPECTION:

3.3.1 The techniques for gathering the information on which the inspection team's assessment will be made include:

3.3.1.1 Examination of documentation/records.

3.3.1.2 Physical verification of operational characteristic/ status of equipment

3.3.1.3 Interviews with CNS maintenance / operation officials, and

3.3.1.4 General observations regarding environment, safety and human factor.

- 3.3.2 The inspection team should work systematically through the items on the relevant points each and every observation should be noted. .

3.4 INTERVIEWS:

- 3.4.1 The principal way in which inspectors obtain information about the functioning of the systems is by asking question.
- 3.4.2 The persons to be interviewed should be drawn from a range of management/ supervisory operational positions.
- 3.4.3 The purpose of inspection interviews is to elicit information, not to enter into discussions.
- 3.4.4 All Inspectors should observe the following guidelines relating to the conduct of inspection interviews:
- 3.4.4.1 Listen attentively and let the speaker know you are listening.
 - 3.4.4.2 Ask 'W' questions – what, why, where, when, who, and how- these are the key words that will bring forward facts and information.
 - 3.4.4.3 Remain neutral. Do not disagree, criticize or interrupt.
 - 3.4.4.4 Utilize set of check list questions developed and updated in this handbook under CAAF-004-ARTS-1.0 & CAAF-005-ARTS-1.0

3.5 INSPECTION SCHEDULE:

- 3.5.1 A tentative schedule for inspection of CNS facilities shall be prepared in the beginning of the each year and got approved by the DAAR. Inspector shall conduct safety oversight inspection work in CNS facilities at least once a year. Surprise surveillance inspections will be carried out as and when required.

3.5.2 SUBMISSION OF REPORT:

- 3.5.2.1 Improvement Action Report shall be submitted to the Director Airspace & Aerodrome Regulations through GM Technical Standards within ten (10) working days after the inspection.

Chapter 4

TRAINING & PERSONAL ETHICS

4.1 TRAINING OF INSPECTORS:

- 4.1.1 Initial and specialized training shall be arranged for CNS Inspectors to perform safety oversight function efficiently.
- 4.1.2 Since the responsibility of Inspectors is mainly to implement the Civil Aviation Rules and regulations on CNS equipment, facilities, procedures and workforce, CNS inspectors will undergo trainings on audit techniques, FAT/SAT, courses on newly inducted CNS equipment/systems.
- 4.1.3 The newly inducted CNS Inspectors will have to undergo On Job Training (OJT). A three phased OJT shall be conducted by a trained and experienced CNS inspector as per following:
 - 4.1.3.1 **Phase 1:** The New inductee inspector will accompany CNS inspectors' team as an observer. He will only observe inspection activities of CNS Inspectors.
 - 4.1.3.2 **Phase 2:** The inductee/OJT inspector will inspect/audit the CNS facilities/procedure under supervision of a CNS inspector. He will prepare report for OJT instructor only.
 - 4.1.3.3 **Phase 3:** The inductee/OJT inspector will conduct inspection /audit independently, prepare and submit report to G.M Tech. Standard for further action.

4.2 PERSONAL ETHICS AND CONDUCT:

- 4.2.1 Inspectors are always in the public eye, they are expected to exercise good judgment and professional behavior at all times while on or off duty.
- 4.2.2 All Inspectors must observe the following rules of conduct:
 - 4.2.2.1 Report for work on time and in a condition that will permit performance of assigned duties.
 - 4.2.2.2 Maintain a professional appearance, as appropriate, during duty hours.
 - 4.2.2.3 Respond promptly to directions and instructions received from G.M Technical Standards/DAAR.
 - 4.2.2.4 Exercise courtesy and tact in dealing with co-workers and with superiors.

Chapter 5

CHECKLISTS & FORMS

5.1 CHECKLISTS:

Following checklists have been developed by technical standards branch to gather different information of auditee regarding the documentation, qualification and training of workforce, shift administration, contingency plan, communication procedures, maintenance procedures & records and verification of physical characteristics of operational equipment etc. . It helps to ensure consistency and completeness in carrying out the task of oversight inspection: Auditor may ask any other question other than these checklists.

- 5.1.1 CAAF-004-ARTS-1.0 Checklist for CATI
- 5.1.2 CAAF-005-ARTS-1.0 Checklist for airports/locations

5.2 TECHNICAL STANDARDS FORMS:

Following Technical Standards Forms are developed for smooth oversight functions of inspections and improvement in inspections.

- 5.2.1 CAAF-001-ARTS-2.0 Improvement Action Report
- 5.2.2 CAAF-002-ARTS-2.0 Corrective Action Plan
- 5.2.3 CAAF-003-ARTS-1.0 Audit Feedback
- 5.2.4 CAAF-006-ARTS-1.0 Training Record of CNS Employee
- 5.2.5 CAAF-007-ARTS-1.0 Future Training Requirements for Development of Skills & Competencies
- 5.2.6 CAAF-008-ARTS-1.0 Improvement Action Log



CHECKLISTS



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR CATI

CAAF-004-ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

S #	Aspects to be audited or questions to be answered	Status Y / N / P	Comments
1	Are CAA Authorizations & Approvals available & valid for establishment of Training Institute?		
2	Whether an approved training manual of training institute is available?		
3	Does the training institute have an Organogram?		
4	Does the training Institute have any affiliation with any training Organization or professional body?		
5	Whether relevant ICAO Annexes & Documents are available with the training Institute?		
6	Whether CARs, relevant ANOs, Manuals, CAAOs, DG Directives & other Instructions available with the training Institute?		
7	Do Instructors/Trainees have access to these documents?		
8	Does the organization have a latest master copy of related ICAO Annexes and Documents?		
9	Are the trainees briefed on the latest amendments on the related subjects?		
10	Whether a master folder showing various documents available in the training institute being maintained?		
11	Does the training Institute has any agreement with other organizations/ service providers regarding training of their employees?		
12	Courses, which require OJT after completion, furnish agreement /procedure with service provider to conduct OJT?		
13	Is the training Institute using any other place/airport as base for imparting the training?		
14	If so, has the approval been obtained from HQCAA?		
15	What is the methodology for getting students Feedback on training offered, imparted and corrective actions?		
16	Are stores relating to files and records maintained in a manner that they provide safekeeping, identity, and ease of retrieval?		
17	Is the control of records satisfactory in terms of responsibility / retention / secrecy?		
18	Whether records regarding security clearance of foreign students available?		
19	Are records being maintained for each student to show the classroom training accomplished?		
20	Does the training Institute issue Certificates to trainees after passing out?		
21	Whether the Certificates issued by Institute have authorization?		
22	Whether Certificate issued by Institute recognized by Engineering university/Educational/Technical board?		



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR CATI

CAAF-004-ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

S #	Aspects to be audited or questions to be answered	Status Y / N / P	Comments
23	<p>Whether an approved training manual contains the complete information with respect to the courses conducted :</p> <ul style="list-style-type: none"> • Title of the course • Objectives of the course • Frequency of the course • Planned intake of the course • Location where course is to be conducted • Duration of the course • Eligibility criterion of the students • Phase/Subject wise course contents • Planned periods/hours for each phase/subject • Duration of each period/break • External Documents to be used • Internal Documents to be used • Study Material/Course ware to be provided to students • Number of Instructors to be used Instructors Qualification criterion • Equipment practical training • Audio/Visual training aids to be used • Simulation Devices to be used, if applicable • Logistics support details, where applicable • Details of On Job or field experience, if applicable • Details of study tour/visits, if applicable • System of progress/training reports • Type and frequency of Examinations/Skill Tests to be conducted • Number/type of questions in examinations • Pass criterion to be used for academic/ skill test, as applicable • Assessment forms/Contents of personal folders • Specimen course completion certificate to be issued • Any other relevant information 		
24	Check the instructor's academic qualification?		
25	Check the instructor's relevant specialized trainings?		
26	Whether Instructors have enough field experience?		
27	Do the instructors meet the required criteria for approval as instructor?		
28	Is the approved Job Description of every Instructor available?		
29	Are the Job description & responsibilities of each Instructor clearly defined?		



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR CATI

CAAF-004-ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

S #	Aspects to be audited or questions to be answered	Status Y / N / P	Comments
30	Is training program for each Instructor is available?		
31	Is training record of each instructor is available?		
32	Is there a process exists to ensure the up keep of the professional knowledge of the instructors through refreshers?		
33	Do the instructors keep abreast with the latest developments in CNS?		
34	Is a proper library available, which provides ready access to students the documentation, aviation books, literature etc.?		Yes/No
35	Does the Institute have a technical library?		
36	Do the trainees have access to the technical library?		
37	Are the available documents updated regularly?		
38	What best practices are being applied and / or followed in training and course designing?		
39	Does the Training Institute have an appropriate physical infrastructure: <ul style="list-style-type: none"> • Adequate number of furnished class rooms of sufficient size with modern training Aids • Suitable offices for the instructors to prepare lectures and training material etc. • Furnished laboratories and workstations • Room (s) for Administration • Standby power supply • HVAC system • Fire alarm system • Toilet(s) • Stores (s) 		
40	Check the conduct of Courses by the following: <ul style="list-style-type: none"> • Training course contents and when was it reviewed / updated?. • Are syllabus of all courses designed/conducted approved? • Lesson plans • Whether lesson plans are approved? . • Assessment reports and results. • Attendance sheets • Lecture programs 		
41	Does the training Institute have hostel facility?		
42	Are all facilities like mess, entertainment room, internet facility etc available at hostel?		
43	Are facilities of indoor games, play ground, swimming pool, tennis court etc. available?		
44	Whether facility of e-library available?		
45	Are copies of all training study material provided to the students?		
46	Are copying / printing facilities available with the Institute?		
47	Are simulators being used for conducting the trainings?		
48	If yes, are the simulators approved? And to what standard?		



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR CATI

CAAF-004-ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

S #	Aspects to be audited or questions to be answered	Status Y / N / P	Comments
49	Check the followings in the Main/Technical library: <ul style="list-style-type: none"> • Stock of books commensurate with the number of students • Satisfactory procedure of loaning books to the students • Procurement of new books • Revision status of the books available • Check that official notices, technical circulars, literatures and other requirements are circulated by the institute to the instructional staff as soon after receipt. all superseded publications are withdrawn promptly 		
50	Whether proper audio-visual training aids are available?		
51	Whether access to training institute is restricted?		
52	Whether perimeter fencing is available with adequate watch & ward for preventing incursion during training?		
53	Is fire alarm facility available with the training institute?		
54	Are sufficient numbers of fire extinguishers available?		
55	Are fire extinguishers checked regularly? Check record.		
56	Does proper coordination with local fire station exist?		
57	Is a first-aid room with proper kits and validity available?		
58	Is trained manpower available to handle safety services?		
59	Are 'No-Smoking' signs displayed at appropriate places?		
60	Are there adequate Test equipment such as oscilloscopes, multi meters, etc. available to carry out the practical training?		
61	Are all testing equipment calibrated? Check valid certificates.		
62	Whether a standard procedure for keeping test benches serviceable followed?		
63	Are Warning signs of High Voltages/Hazard displayed at various positions of test benches?		
64	Whether a defect register is maintained to log the unserviceable test equipment/benches?		
65	Does Institute have maintenance staff/facilities to recover U/S test eqpt./benches?		
66	Is maintenance of any eqpt/test bench is outsourced? Check validity of maintenance contract?		
67	Does the Institute has standby power generators?		
68	Whether the training Institute has uninterrupted power supply for test benches?		
69	Check that the following documents and records are available and/ or updated: <ul style="list-style-type: none"> • Attendance Register • The name and address of all students attending courses 		



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR CATI

CAAF-004-ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

S #	Aspects to be audited or questions to be answered	Status Y/N/P	Comments
70	Reports on intakes and results of midterm/final examinations;		
71	Are records of candidates pass out in different courses available?		
72	Whether the first aid training being conducted?		
73	Whether the fire safety training being conducted?		
74	Is fire drill carried out?		
75	Whether actual fire is extinguished in a fire drill?		
76	Are the trainees given exposure to actual equipment during the fire safety training?		
77	Whether adequate safety equipment are available for briefing /demonstration purposes?		
78	Are results of various checks of the trainees at different stages readily available?		
79	Are the classrooms equipped with adequate audio-visual aids?		
80	Whether the classrooms, Labs. have temperature control facilities?		
81	Do the trainees meet the required criteria for the subject training?		
82	Are the practical exercises for the trainees realistic?		
83	Are the clocks in the training institute properly synchronized; and in good working condition?		
84	Is there enough number of test benches/simulators		
85	Are the lighting facilities in the classrooms and laboratories satisfactory		
86	Whether the space used for instruction and practical training is properly lighted and ventilated?		
87	Does the curriculum of each training updated regularly?		
88	Is there a feed back system in place for the quantity of training?		
89	Do Service Provider and Training Institute meet regularly for improvement in training and other requirements?		
90			
91			
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96			
97			



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR LOCATIONS

CAAF-005-ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

S #	QUESTIONS	FINDINGS	ACTION REQD
1	Whether CNS Engineering manual developed by the station?		
2	Whether Communication Operation Manual developed by the station?		
3	Are the aeronautical telecommunications equipment are made in accordance with standards prescribed in Air Navigation Orders?		
4	Is the station organized and staffed well as required to carry out operational and maintenance activities?		
5	Has the station developed job descriptions for its technical / com. operational staff?		
6	Are all the functions and responsibilities of the staffs clearly defined?		
7	Does the station have workforce as per approved establishment? If deficient, Whether station approached to concerned quarter?		
8	Is minimum required number of CNS staff available at the station?		
9	Whether the approved establishment suffices the actual workforce requirement?		
10	Whether the deployment of CNS workforce is as per their JDs?		
11	Are all the maintenance / operational control positions properly manned?		
12	Whether formal training plan of each employee is available?		
13	Whether training plan covers training requirement of every individual deployed at station?		
14	Whether recurrent training of CNS officials is included in training plan?		
15	Does the training program effectively being conducted?		
16	Are the technical and operational personnel of the station adequately trained?		
17	Does the station maintain a record of training provided to its technical / operational staff? See the evidence.		
18	Whether mechanism is developed for OJT of new inductees/transferee?		
19	Does the station maintain a record of OJT provided to its technical / operational staff?		
20	Are station staff required to satisfactorily complete OJT prior to being assigned certain tasks?		
21	Do the CNS operational / maintenance officials work beyond their normal duty timing?		
22	Whether the practices such as using mobile phones, reading papers/books, listening to radios, watching TVs while working, have been developed among CNS staff which are safety hazards or might lead to safety hazards?		
23	Has the auditee established a maintenance system for its CNS personnel's training?		
24	Whether the station has maintenance / operational manuals for operation and maintenance of CNS systems / facilities?		
25	Whether the station has standard operating procedures for corrective maintenance of CNS systems / facilities?		



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR LOCATIONS

CAAF-005-ARTS-1.0

S #	QUESTIONS	FINDINGS	ACTION REQD
26	Whether the station has standard operating procedures for preventive maintenance of CNS systems / facilities?		
27	Does the station keep ANOs, manuals, circulars and guidance material in a way so that there is an easy access to those documents for each CNS official?		
28	Has the station established a system and procedures to incorporate/ amend its documents in timely manner?		
29	Does each unit engaged in CNS operations have its own standard operational procedures? (Example: SOP for ECR, Navigation Aids, Radar, Transmitting Station, AMHS, Communication Procedures etc)		
30	Does each unit responsible for maintaining certain CNS system have all maintenance manuals from the original manufacturer of the system?		
31	Does the station maintain proper records/logbooks for their CNS facilities?		
32	Does each CNS maintenance unit have proper system maintenance schedule and forms conforming to manufacturer's manual / SOPs?		
33	Whether a mechanism is developed to retain log books for a period of 3 years from the date of final entry?		
34	Does the station take proper NOTAM action prior to its schedules/ non schedule maintenance?		
35	Whether any CNS equipment is outsourced for repair /maintenance?		
36	Whether copy of valid maintenance contract is available?		
37	Ensure that maintenance record is available?		
38	Does the station have a mechanism to control the quality and safety of its services?		
39	Has the mechanism established for review and elimination of deficiencies indicated by CNS inspectors?		
40	Whether previous recommendations issued by the CNS Inspectors have been fully implemented?		
41	Does the station have enough proper test equipment and tools to perform its technical activities?		
42	Whether the station has kept their tools/ spares in proper manners?		
43	Is the methodology of defining the required test equipment and tools is developed?		
44	Are the test equipment calibrated?		
45	Confirm the calibration record of test equipment		
46	Review the calibration plan of the test equipment		
47	Is the maintenance program conducted efficiently?		
48	Does the station have all cable lay-out diagrams of its CNS facilities?		
49	Does arrangements are available for provisioning of uninterrupted power supply for every CNS facility?		
50	Does the station have suitable secondary power supply system for all; CNS equipment?		
51	Are all CNS equipment provided proper ground?		
52	Are grounding pits properly maintained?		
53	Verify /Review the flight calibration schedule & expiry date of flight calibrations?		



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR LOCATIONS

CAAF-005-ARTS-1.0

S #	QUESTION	FINDINGS	ACTION REQD
54	Review the flight calibrations report. Ensure the availability of calibration record?		
55	Is any SOP available for routine checkup/inspection of unmanned CNS system by technical staff?		
56	Does the station have flight calibration procedures for its Nav. Aids?		
57	Does the station have remote status monitoring and control system of navigational aids in ECR and respective ATS control centers?		
58	Are the procedures established for ensuring that information on the operational status of navigational aids is promptly forwarded to appropriate ATS units?		
59	Does a mechanism established to analyze performance of CNS systems and communication channels?		
60	Does the station (promptly/ regularly) inform Headquarter/EED regarding system performance?		
61	Does the station have any mechanism for assessing, monitoring and evaluating the time taken for responding to system failures that occurred?		
62	Does the station have SOP for retention of Radar data and records of ATS voice communications?		
63	Does the station have SOP for replay of preserved Radar data?		
64	Verify the tools and authority/ability of personnel for replaying the preserved data.		
65	Verify that the preserved Radar data are stored in a secure, fire proof and electromagnetic safe location?		
66	Does the station properly maintain the monitor thresholds in navigation equipments?		
67	Do the aerodrome markings for holding points meet the required criteria to safeguard the sensitive and critical areas of navigation aids?		
68	Does the station have redundant mast lighting system (obstruction indicators) over CNS system antennas?		
69	Does the OBs lights being checked periodically?		
70	Do the top level technical and operational officials inspect CNS facilities and sites to oversee the functionalities?		
71	Are the antenna mast and guys properly erected?		
72	Are the antenna masts painted regularly?		
73	Do they keep records of such internal inspections and corrective measures?		
74	Are the AFTN/AMHS messages priorities maintained properly and messages being handled in accordance with priority classification?		
75	Are the AFTN/AMHS messages delivered timely?		
76	When associated with a VOR, DME coverage shall be at least that of the VOR to the extent practicable. 960 MHz to 1215 MHz. The interrogation and reply frequencies shall be assigned with 1MHz spacing between channels.		
77	Means shall be provided at each transponder site for the automatic monitoring and control of the transponder in use.		



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR LOCATIONS

CAAF-005-ARTS-1.0

S #	QUESTION	FINDINGS	ACTION REQD
78	Is the working environment at CNS facilities of the station satisfactory?		
79	Whether the station has sufficient / suitable enough space for their CNS equipment / facilities?		
80	Are F _o lamps of TDME serviceable?		
81	Is Side band power of odd and even, USB/LSB balanced?		
82	Are monitors upper & lower limit of Course and Clearance transmitters set according to ANO-002-DRTS-1.0?		
83	Are output voltages of Power Supplies of TDME balanced?		
84	Whether Oscilloscope of DME is serviceable?		
85	Whether the station has sufficient / proper arrangements to meet the human factor requirements?		
86	Is the equipment in proper environmental conditions?		
87	Verify the glare/sealing of buildings.		
88	Whether the buildings where CNS equipments are installed have surge and lightening protections?		
89	Whether the buildings where CNS equipment is installed are equipped with fire alarm and extinguishing systems?		
90	Whether adequate lights are available?		
91	Whether Noise level is acceptable at site for proper working?		
92	Whether proper Heating, Ventilation, Air-conditioning is provided?		
93	Whether Humidity is controlled?		
94	Is temperature/humidity logger is available at each CNS equipment site?		
95	Are the critical areas of CNS facilities protected?		
96	Is Access to CNS critical area controlled?		
97	Are the facilities located in aerodrome area frangible?		
98	Are the marking of CNS obstacle in conformance with established standards?		
99	Are the equipments in proper technical conditions?		
100	In case of service interruption, does the CNS workforce is capable to resolve the problem and restore the service?		
101	Review the service interruption procedure?		
102	Verify the measures for alerting the CNS staffs.		
103	Verify the staff's access cards/Verify the proper access roads.		
104	Whether proper vehicle equipped with marking, light beacon, two way communication, and enough reflective safety jackets is available?		
105	Are enough necessary spares are available at site?		
106	Verify Availability / access to spare parts.		
107	Whether the number of channels (PRIM-SEC) is available?		
108	Is Fax available as secondary means of communication?		
109	Whether 121.5 MHZ (guard frequency) is available which is mandatory for International/ alternate to international airports?		
110	Whether the transit time is less than 5 Minutes?		



CIVIL AVIATION AUTHORITY
SAFETY OVERSIGHT INSPECTION
CNS AUDITOR'S CHECKLIST
FOR LOCATIONS

CAAF-005-ARTS-1.0

S #	QUESTION	FINDINGS	ACTION REQD
111	Whether contact established on hotlines/DSCs circuits within 15 seconds?		
112	Whether automatic recording of DSCs/ hotlines is being carried out?		
113	Whether up-to-date record of current NOTAMs is available with expiry dates?		
114	Whether the discrete communication with control tower and fire station is available?		
115	Whether all fire vehicles are equipped with R/T sets?		
116	Whether the communication of tower with fire vehicles is 5/5?		
117	Whether any interference on operational frequencies is being observed?		
118	Whether the communication system/DSCs lines are protected?		
119	Whether the aerodrome emergency plans in APS manual is included?		
120	Whether the gird map and hotlines/ R/T sets are available in OCC?		
121	Whether any mechanism is available for retention of messages for 30 days?		
122	Whether the behavior and response of operator on board is acceptable?		
123	Whether the accent of duty telephone operator is clear?		
124	Whether the important telephone numbers PTCL, NTC, CAA and local administration are available at operator console?		
125	Whether current flight data is available with flight enquiry?		
126	Whether telephone lines including 114 lines are on recording with CLI facility?		
127	Is PA system effectively covering all areas?		
128	Is the fire staff aware of phonetic/ abbreviations/ readability scales?		
129	Whether hot lines/ telephones available in emergency response centre/OCC are being checked daily and proper log book is being maintained		
130	Whether 121.5 MHZ (guard frequency) is available which is mandatory for International/ alternate to international airports?		
131	Whether the transit time is less than 5 Minutes?		
132	Whether contact established on hotlines/DSCs circuits within 15 seconds?		
133	Whether automatic recording of DSCs/ hotlines is being carried out?		
134	Whether up-to-date record of current NOTAMs is available with expiry dates?		
135	Whether the discrete communication with control tower and fire station is available?		
136	Whether all fire vehicles are equipped with R/T sets?		
137	Whether the communication of tower with fire vehicles is 5/5?		
138	Whether any interference on operational frequencies is being observed?		

TECHNICAL STANDARDS FORMS



**CIVIL AVIATION AUTHORITY
CNS SAFETY OVERSIGHT AUDIT
IMPROVEMENT ACTION REPORT**

CAAF-001-ARTS-2.0

TECHNICAL STANDARDS BRANCH (DAAR)

AIRPORT/STATION

SECTION

DATE OF INSPECTION

NON CONFIRMANCE WITH

INSPECTION AREA	FINDING NO	FINDINGS	REMARKS (IF ANY)

Note --- The corrective action plan on prescribed form (CAAF-002-ARTS-2.0) should be submitted by the service provider within 30 day.



**CIVIL AVIATION AUTHORITY
CORRECTIVE ACTION PLAN**

CAAF-002-ARTS-2.0

TECHNICAL STANDARDS BRANCH (DAAR)

AIRPORT/STATION

SECTION

DATE OF INSPECTION

SERVICE PROVIDER REFERENCE No

TO BE FILLED BY AUDITEE

**AUDITOR'S
REMARKS**

INSPECTION AREA	FINDING NO	CAP	ETC	FINDING		SIGN
				CLSD	OPEN	


NAME _____ DESIGNATION _____ Signature _____ DATE _____

Note 1 — CAP should be submitted by GM/APM/Chief of School/OI/C EED.

Note 2 -- CAP should be specific and in detail.

Note 3 --- CAP should be realistic and have Estimated Time of Completion. It may be broken down into short-, medium and long-term actions.

CAP = Corrective Action Plan, ETC = Estimated Time of Completion, CLSD = Closed, SIGN = Signature

	CIVIL AVIATION AUTHORITY CNS SAFETY OVERSIGHT AUDIT AUDIT FEEDBACK FORM	CAAF-003-ARTS-1.0	
YEAR OF INSPECTION			
AIRPORT/STATION		SECTION	
OBSERVATIONS		RATING	
Has the station been intimated regarding the oversight visit / audit well in time?	YES	NO*	
Has an auditor briefed the purpose of oversight visit in the opening meeting?	YES	NO*	
Level of Audit procedures	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
Level of Audit Techniques	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
Level of Auditor's/Inspector's behavior	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
Has the Auditor covered all areas of inspection during audit?	YES	NO*	
Are auditor's/Inspector's questions relevant to the subject audit?	YES	NO*	
Was sufficient time given to the auditee to explain his/her views during inspection / audit?	YES	NO*	
Is Audit beneficial for the improvement of operation and maintenance level of location?	YES	NO*	
Has an auditor/Inspector explained the observations/finding in closing meeting?	YES	NO*	
Has an auditor/inspector suggested some Corrective Actions on the observations/findings?	YES	NO*	
Has auditor /inspector explained the procedure to submit Corrective Action Plan in the closing meeting?	YES	NO*	
*EVERY "NO" RATING NEEDS COMMENTS:			
SUGGESTIONS FOR IMPROVEMENT:			
Rating Criteria			
<input type="text" value="1"/>	Excellent	<input type="text" value="2"/>	Very Good
<input type="text" value="3"/>	Good		
Optional			
(Name)		(Designation)	



CIVIL AVIATION AUTHORITY TRAINING RECORD OF CNS EMPLOYEE

CAAF-006-ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

AIRPORT / LOCATION		SECTION			
NAME OF EMPLOYEE			DESIGNATION		
CAA NUMBER			RECORD UPDATED ON		
S. NO.	TRAINING/COURSES ATTENDED	DURATION		NAME OF INSTITUTION (Country name in case of Foreign Training)	DATES OF OJT (Copy of OJT Certificates should be attached)
		FROM	TO		

(SIGNATURE / SEAL)

Head of Unit / APM / GM
Date: _____

(SIGNATURE OF EMPLOYEE)



CIVIL AVIATION AUTHORITY
FUTURE TRAINING REQUIREMENTS FOR
DEVELOPMENT OF SKILLS AND COMPETENCIES

CAAF-007-ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

AIRPORT / LOCATION		SECTION	
NAME OF EMPLOYEE		DESIGNATION	
CAA NUMBER		RECORD UPDATED ON	

S.NO.	TRAINING/COURSES REQUIRED	NAME OF INSTITUTION WHERE THIS TRAINING IS OFFERED (Country name in case of Foreign raining)	JUSTIFICATION

(SIGNATURE / SEAL)
Head of Unit / APM / GM
Date: _____

INTENTIONALLY LEFT BLANK



**CIVIL AVIATION AUTHORITY
CNS SAFETY OVERSIGHT AUDIT
IMPROVEMENT ACTION LOG**

CAAF-008 -ARTS-1.0

TECHNICAL STANDARDS BRANCH (DAAR)

AIRPORT/STATION

SECTION

FILE REFERENCE No

INSPECTION AREA	FINDING		DESCRIPTION OF FINDING	CORRECTIVE ACTIONS SUBMITTED BY AUDITEE	DATE	STATUS	CLOSING DATE	ENCL #	SIGN
	NO	DATE							

INSTRUCTIONS, DUTIES AND RESPOSIBILITIES:

1. Log will be maintained by Trade staff and signed by respective inspector.
2. Finding statement should be complete, if required use extra lines.
3. Next finding should start from next line