



# ***Station CNS Manual***

## **PUNE INTERNATIONAL AIRPORT**

**4<sup>th</sup> Edition 2024**



## **AIRPORTS AUTHORITY OF INDIA**



## FOREWORD

Airports Authority of India provides Aeronautical Telecommunication Services in accordance with ICAO Annex 10 to the Chicago Convention. These services include Aeronautical Fixed Services, Aeronautical Mobile Services, Aeronautical Radio Navigation Services and Aeronautical Broadcasting Services. In order to achieve the objective of Aeronautical Telecommunication Services need has been felt to specify procedures, guidance and information for uniform implementation throughout India and to ensure safety of air navigation. This manual provides station specific information related to Communication, Navigation and Surveillance Services for **PUNE Airport**.

The Purpose of this document is to establish procedures, provide information and guidelines which are essential for the provision of safe and efficient Aeronautical Telecommunication Services being provided by Airports Authority of India. It is published for use and guidance of CNS personnel.

The **CNS In-Charge, PUNE Airport** will ensure that the provision of Aeronautical Telecommunication services under his jurisdiction comply with the processes, procedures and guidelines contained in this manual. Whenever there is difference between guidance, procedures and information provided by Regulatory authority and mentioned in this document, guidance and information provided by regulatory authority will prevail.

The personnel engaged in the Operation and Maintenance Management of Aeronautical Telecommunication Services at **PUNE Airport** are advised to comply with the standards and procedures given in this manual for ensuring safety in the airspace under their jurisdiction.

Anil B. Palaskar  
AGM (CNS)  
AAI, PUNE Airport



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## PREFACE

1. The Station CNS Manual is prepared and maintained by **CNS In Charge, Pune** on behalf of the Airports Authority of India for the use and guidance of CNS executives and staff of **Communication, Navigation & Surveillance (CNS), Pune Airport**. The Manual provides processes, procedures and instructions that are essential for the provision of safe and efficient Aeronautical Telecommunication services at CNS **Pune Airport**.
2. Regulatory requirement for Station CNS Manual
  - (i) As per DGCA, Air Space and Air Navigation Services Standard Advisory Circular no 03 of 2017 - Guidelines to CNS service provider for job descriptions and maintenance of training records for its technical staff, the CNS service provider shall develop a CNS Manual to demonstrate compliance with the requirements of the CAR Section 9 Series D Part I to part VI. It will also serve as a reference document with respect to the standards, conditions and level of service to be maintained for the aeronautical telecommunication services in accordance with the Civil Aviation Requirements (CARs).
  - (ii) As per Aircraft Rules 1937, (amended vide GSR No 31 [E] Dated 14/01/2015), Rule 122, each station shall have a Station CNS/ATM Manual prepared as per the Schedule IV, item 2 of the rules.
3. Accordingly, this Manual has been developed as a part of comprehensive documentation of the Aeronautical Telecommunication procedures, processes and facilities supporting conformance to organizational requirements and compliance with National Regulations and Standards & Recommended Practices of ICAO Annex 10, DOC 8071 and other ICAO documents relevant to the provision of Aeronautical Telecommunication Services at the station.
4. This Manual should be read in conjunction with the following: -
  - a) DGCA Civil Aviation Requirement [CAR] Section-9 **Air Space and Air Navigation Services Standards**, Series D NAVIGATION, LANDING AND COMMUNICATION AIDS, Section -5 Air Safety and other relevant CARs.
  - b) AAI CNS Manuals Vol. I to Vol. VIII;
  - c) ANS Procurement Manual; Manual for Procurement of Goods and Services 2018
  - d) ICAO Annex 10 (Volume I to V)-Aeronautical Telecommunication Services;
  - e) ICAO Annex 11 – Air Traffic Services;
  - f) ICAO Annex 15 – Aeronautical Information Services;
  - g) ICAO Annex 19 – Safety Management;
  - h) Doc. 8071 Vol. I - Flight Inspection Procedures for Navigation Aids;
  - i) Doc 8071 Vol. III - Flight Inspection Procedures for Surveillance system;
  - j) Doc 8126 - Aeronautical Information Services Manual;
  - k) Doc 9683 - Human Factor Training Manual;
  - l) Doc 9734 - Safety Oversight Manual; and



m) If the station is having ASMGCS operational at the station, the Doc 9830 will be applicable.

5. It is to be recognized that in the challenging aviation safety environment, necessary amendments may have to be effected in this Manual due to the following reasons:

- a) Changes/ amendments to ICAO Annexes/ Documents.
- b) Changes/ introduction of DGCA Civil Aviation Requirements (CARs)
- c) Introduction of new CNS facilities at the station.
- d) Requirements from ATS, Airlines or any other concerned agency.
- e) Change in ATS, COM and MET watch hours
- f) Change in details of personnel due to annual transfers or otherwise.
- g) Introduction of new/revised operational instructions/CNS circular

It is intended to keep this Manual up to date. Future editions of the Manual need to be brought out based on experience gained, comments & suggestions received from the users of this Manual. Views, comments & suggestions for improvement on this edition, may be sent to CNS In-Charge, CNS **Pune Airport**.

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## Chapter-1

### Document Identification and Control

#### **Title :-**

This document is identified as Station Communication, Navigational and Surveillance Manual for Pune abbreviated here after as Station CNS Manual - Pune.

#### **1. Purpose**

Purpose of this document is to establish CNS procedures and to provide Information and instructions pertaining to CNS facilities, which are essential for the provision of safe and efficient air traffic services by Airports Authority of India, Civil Enclave, Pune Airport, Pune. It is published for use and guidance of CNS Maintenance personnel posted at Pune Airport.

The CNS in-charge of the station will ensure that the processes, procedures and complied with by all concerned. It is mandatory for the CNS personal of Pune Airport to read, familiarize and follow the provisions contained in this manual.

#### **2. Responsibility for documentation, review, amendments and publication:**

The Executive Director (CNS-OM) is responsible for the approval of documentation.

The Assistant General Manager (CNS), AAI, Pune Airport is responsible for development, review and amendments of Station CNS Manual - Pune. He will ensure that the provision of CNS facilities as detailed in this are in conformity with Standards and Recommended Practices (SARPs) given in the Annexes to Convention on International Civil Aviation and National Regulations manual.

He shall ensure periodic review, update the information and issue amendments whenever it requires due to any change in the information/procedures/instructions contained in the manual necessitating the amendment or for further development of the manual so as to make it a comprehensive reference for the station CNS personnel.

#### **3. Effective Date:**

Effective date of an instruction is to be indicated at the footer of the page.

New edition if any is to be indicated on the front page as well as the effective date is to be indicated in the footer appropriately. Brief details of new edition and changes must be mentioned in the Record of Amendments.

#### **4. Change History:**

This is version 4<sup>th</sup> of Station CNS Manual; Pune Changes are indicated on 'Record of Amendments page'. Amendments – documentation being inserted in the manual must contain headers and footers that are consistent with those given in this document.



**5. Control of the manual:**

The Station CNS in-Charge will control this Manual.

**6. Distribution of the Manual:**

The Station CNS in-Charge may produce hard copies and control the distribution of these Copies as deemed appropriate.

**7. Master Copy:**

An electronic and a hard master copy of each section contained in the Manual will be held and maintained by the Station CNS in-charge.

**8. Checking Currency of Manual:**

A current copy of the Manual will be published on Airports Authority of India website [www.aai.aero](http://www.aai.aero) and on AIM-INDIA web link <https://aim-india.aai.aero/>.

**9. Enquiries :**

Enquiries/Clarifications should be addressed to:

***CNS In Charge,***  
**Airports Authority of India,**  
**Civil Enclave, Pune International**  
**Airport,**  
**Pune- 411 032.**  
**PH-020 26683232, FAX: 020-26612808**  
**Email: cnsicvapo@aai.aero**

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## CHAPTER - 02 General

### History

Pune became popular with the rise of Maratha ruler Shivaji. He spent his early childhood in Pune at Lal Mahal, a palace built by his father Shahaji, where Shivaji's mother Jijabai lived for a decade. Aurangzeb's uncle, Shahistekhan was defeated at Lal Mahal by Shivaji.

Aurangzeb named Pune as Muhiyabad after the death of Shivaji in 1680. Pune again gained importance during the period of the second Peshwa Thorala (senior) Bajirao who ruled from 1720 to 1740. The palace of the Peshwas - Shaniwarwada was built during his time. Different Peshwas constructed various monuments.



Nanasaheb Peshwa succeeded Thorala Bajirao Peshwa and ruled the Maratha kingdom from 1740 to 1761. He checked the aggressions of the Nizam and maintained peace. Nanasaheb Peshwa emphasized in urbanizing the Pune city and encouraged setting up of peths or wards in Pune. Nanasaheb Peshwa constructed Parvati Temple complex, which is known to be the pride of the Pune.



3/4



1/4





## CULTURE AND ARTS

Pune has a cosmopolitan culture as five major communities (Hindu, Muslim, Buddhist, Sikh and Jain) have resident in the city, it reflects the real culture of the India where people live together with great happiness though they are from different culture, state, language, community, etc.

Pune has lots of historic places for visiting and in nearby also like Shaniwar wada fort, Purandar fort (45 km from Pune), Singhad Fort (26 Km from Pune), Shivneri fort (Birth place of Shivaji Maharaj) Besides it a large no of non historic places like Dagdu Seth Ganpati temple. Being a hilly area, a no of places in nearby alluring tourists like Lonavala, Khandala, Lavasa City etc.

Marathi newspapers such as Prajawani, Sakal, *Loksatta*, Lokmat, Kesari, Udyacha Marathwada, Deshonnati, Pudhari, Maharashtra Times have their establishments in the city. Urdu Newspaper War-q-taza, Hindi daily Bhaskar, English dailies such as The Times of India, Indian Express, Lokmat Times, and Sakaal Times(formerly the Maharashtra Herald) have editions based in Pune, with additional local supplements.

Though mall culture is not a new concept in India, Pune has a numbers of malls worth visiting and shopping like Phoenix mall ( 0.5 Km from Pune Airport), Seasons mall, Pavallion one and Westend mall. **Pune also having international Cricket Stadium in Balewadi hosting IPL matches along with ICC matches.**

## EDUCATION

Pune is one of the old and modern educational center in Maharashtra. Pune university is one of premier university in India. Nowadays Pune is more famous for its technical and managerial educational institutes. Institutes like Symbiosis, CDAC and Fergusson college giving shape to career of a large of students from all over India.

## INDUSTRY

When the name of Pune comes and not only in India even in world, IT is the first thing comes to everyone mind. Pune is one of the greatest IT Hub after Bangalore in India, A number of multinational corporate like Infosys, Tech Mahindra, TCS are having their campus here with in the city. A number of IT Parks like EON, Hinjewadi providing job opportunity to a number of IT Techies of all over world.

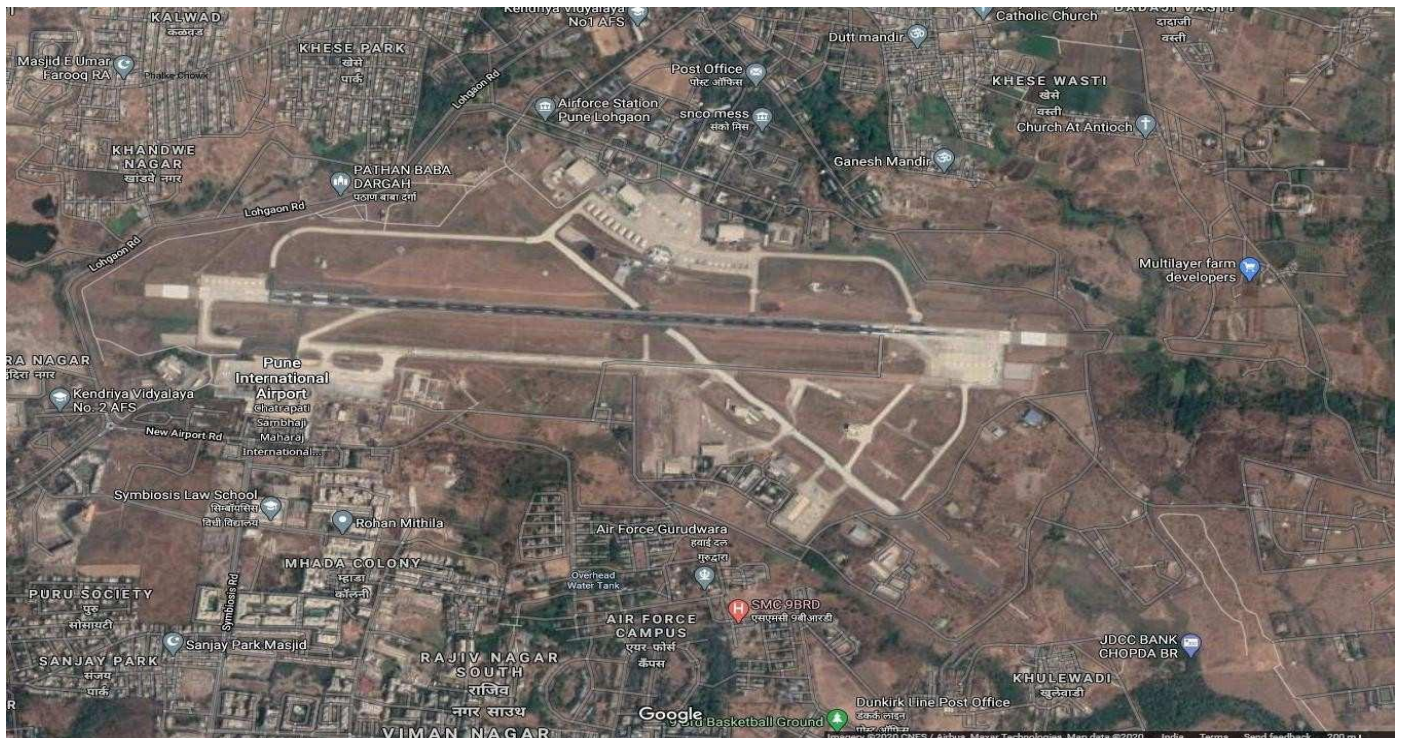
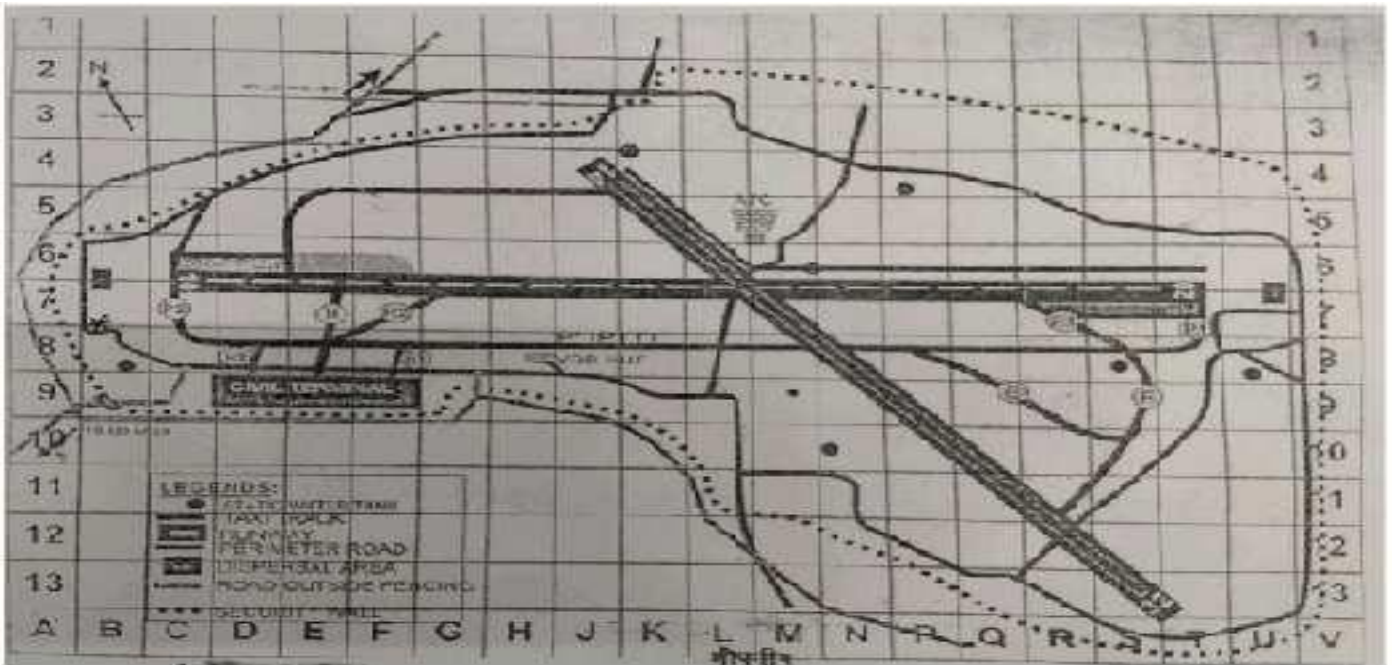
Besides it many automobile industries are having manufacturing units like Mahindra, Maruti Volkswagenand Mercedes Benz etc



**General :-**

Pune Airport is Civil Enclave, signing of MOU with Indian Air Force is under process.

**1. Grid Map**





## 2. Brief on Pune Airport:

Pune is the fast emerging industrial hub with some of the prestigious industries in the field of Engineering and Management. As one of the largest cities in India, Pune is a prominent location for expansion of IT and manufacturing companies. Pune has the sixth largest metropolitan economy and the sixth highest per capita income in the country. The automotive sector is prominent in Pune. Pune Airport is AAI managed Civil Enclave having 26.0 acres of Defense Land located 10 KM from Pune Railway Station having ICAO/IATA code VAPO/PNQ suitable for code C Aircraft. There are approximately 190 Scheduled Domestic operations including 4 Scheduled International Operation (Dubai, Abu Dhabi and Frankfurt). Direct Domestic connection are to Ahmadabad, Bangalore, Chennai, Delhi, Goa, Hyderabad, Indore, Jaipur, Cochin, Kolkata, Mumbai, Nagpur, Lucknow and one stop to Imphal and Guwahati, Patna and Raipur. Watch hours of this Airport are 24 Hrs. It is 9<sup>th</sup> busiest Domestic Airport among the country.

TERMINAL BUILDING BUILT UP AREA	22300 SQ. MTR.
ENTRY/EXIT GATES	DEPARTURE: 03 (01 STAFF GATE) ARRIVAL: 01
CONVEYOR BELTS	DEPARTURE:02, ARRIVAL:04
ESCALATORS	DEPARTURE:02, ARRIVAL:02
ELEVATORS	DEPARTURE:03, ARRIVAL:02
AEROBRIDGE	02 (ADDITIONAL 03 UNDERCONSTRUCTION)
NO. OF TROLLEYS	Increased from 500 to 700
CHECK- IN COUNTERS	37 CUTE COUNTERS &15*CUSS Counter IMMIGRATION : 06 (DEP) 08 (ARR) CUSTOMS : 01 (DEP) 05 (ARR)

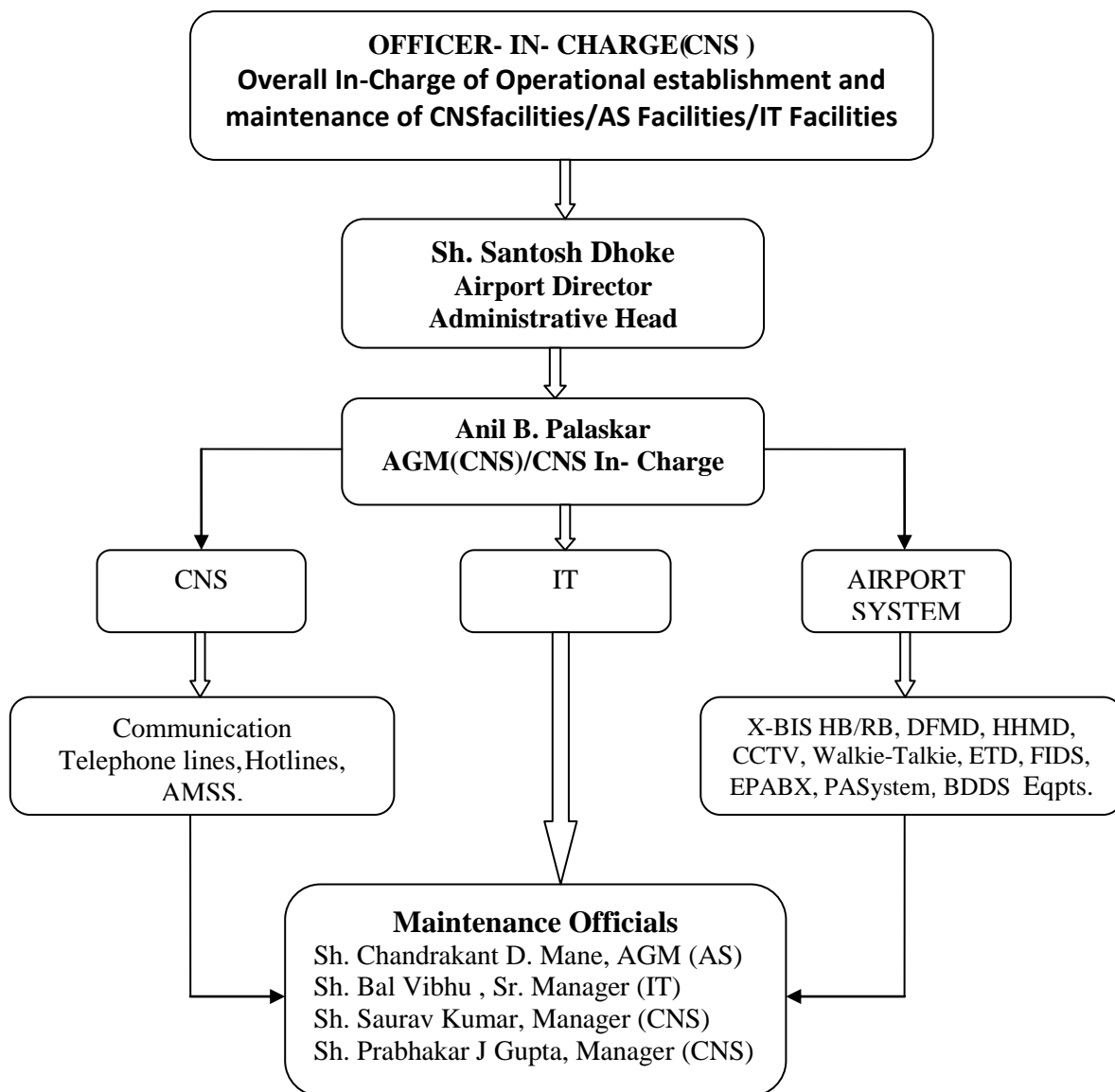
## 3. Passenger Facilities At Pune Airport

No. of Lifts	06
No. of Drinking water facility in each concourses	09
Child Care Room	01 in SHA 1
VIP Lounges	02 in check in area Dep and Arrv. Area
Retiring Room	02
Restaurant	01
No. of other F&B outlets	15 (5 in check in area) (4 in SHA GF & 6 in SHA FF)
No. of retail outlets	05
No. of Bank ATMs	00



<b>No. of CUTE Counters</b>	37nos. & 15 CUSS counters
<b>Counters of PRDs</b>	02(CUTE)
<b>Visitors/Passenger Chairs</b>	650 to 1700 (three seater chairs)
<b>Boarding Gates</b>	07
<b>No. of PBB</b>	05
<b>No. of Trolleys</b>	700
<b>No. of Escalators</b>	05

**4. CNS Organization Structure :-**





## **5. Standard Operating Procedure (SOP) on action to be completed by Shift duty personnel - for CNS/AS Facilities :**

### **EQUIPMENT ROOM**

1. Check the status of Main and Standby Power supply (Available /Not Available). In case of powersupply failure, Co ordinate with Electrical section for immediate action.
2. Check & record Mains AC supply status (Voltage & frequency) with the help of Multimeter.
3. Check earthing status of mains supply and equipment body. (Available/Not Available)
4. Switch on Air Conditioners (1 & 2), check status and confirm room temperature within limits (20°C +/-2°C).
5. Check and record the status of UPS backup power supply (Main & Standby):(i). Check status of PA Room, FIDS Server Room, CCTV Server Room .
6. Check Telephone lines & Hotline Status (Serviceable/Unserviceable) and give test call. If unserviceable then inform to BSNL and lodge complaint for restoration.
7. Check EPBAX status (Serviceable/Unserviceable) and give test call. If unserviceable then takenecessary action for restoration.
8. Check CNS CCTV system status (Serviceable/Unserviceable) & check playback and recording status. If unserviceable then take needful action for restoration.
9. Check FIDS and LED display status (Serviceable/Unserviceable) & if required update the status.
10. Carry out Daily, Weekly, Monthly & Yearly Preventive Maintenance as per approved maintenanceschedules, make necessary entries in the maintenance schedule registers & send the all reports to RHQ/CHQ by mails.
11. Above all scheduled activities, complaint received shall be noted down in CNS Log Book.
12. Make necessary entries in the Log Book and Fault Log Book register.

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## Chapter 3

### Requirement of CNS Personnel

#### 3.1 Details of CNS Personnel and their Deployment:-

<i>Sr. No.</i>	<i>Name of the Official</i>	<i>Designation</i>	<i>Deployment in Unit/Work Allotted</i>
01	Anil B. Palaskar	AGM (CNS)/CNS In Charge	<b>CNS In Charge/Unit In Charge</b> XBIS (HB/RB) / DSS / Commercial Displays/ Entertainment TV etc.
02	Chandrakant D. Mane	AGM (AS)	<b>Unit In charge</b> BDDS Equipments/ PA System / FIDS / VHF Walkie-Talkie
03	Saurav Kumar	Manager (CNS)	<b>Unit In charge</b> CCTV System/e-Gates
04	Prabhakar J. Gupta	Manager (CNS)	<b>Unit In charge</b> CCTV System/ DFMD/ HHMD/ Photocopier Machines/CNS Stores

#### 3.2 Brief Description / Role of CNS Department:

1. On operational demand by airport operator, procure and install Communication, Navigation and Surveillance (CNS) facilities at station.
2. To provide seamless services of CNS/AS facilities for the smooth and safe movement of Passengers
3. To troubleshoot and rectify the fault occurred in the CNS/AS facilities (viz. CCTV System/XBIS/DFMD/HHMD etc. during the operation.
4. To perform preventive maintenance of CNS/AS facilities at prescribed schedules (viz. daily, weekly, monthly, Half- annually, And Annually, Pre-Monsoon check, etc.)
5. To perform corrective maintenance for breakdown of any CNS/AS facilities found during operation.

#### 3.3 Responsibility and Authority:

##### 3.3.1 CNS In-charge:

(1) **Job Summary:** - Overall In Charge of CNS departments at the station. Supervision of preventive and break down maintenance of CNS/AS system facilities and associated facilities of Aeronautical Communication Station/ Airport, take initiative for timely procurement of spares, carry out associated administrative function and financial activities like preparation of annual budget, exercise of financial powers and any other function assigned to him. Under intimation to CNS DTE, RHQ/CHQ, Coordinate with airport operator administration for safe operation establishment.



## (2) Duties and Responsibilities:

### Maintenance

- To ensure main and standby channel of CNS facility always serviceable at station under his control.
- To ensure availability of preventive maintenance schedules of CNS facilities installed at the Airport and CNS circulars issued from time to time to the units.
- Carrying out corrective maintenance in case of major breakdown of facility with CNS/AS team.
- Supervision of all CNS/AS facilities Installation and its Trans-installation work.
- To coordinate and provide all operational information to RHQ/CHQ about the functioning of unit concerned.
- Coordination with Civil / Electrical Engineering wing for maintaining workable environmental conditions.
- Ensure well documented procedure exists for logging of all maintenance activities.
- Supervise all preventive maintenance and maintain records of maintenance of the facilities as per prescribed maintenance schedule.
- To supervise maintenance of all records and spares related to the Unit.
- To inspect Airport as and when required and to advise/take remedial action on the shortcomings Noticed during inspection;

### Administrative function

- Carry out interactive meeting with airport operator and CNS officials. Also take follow up-action to implement actionable points of the minutes of meeting.
- To inspect ACS /Airport as and when required and to advise/take remedial action on the shortcomings noticed during inspection.
- Takes actions to promote harmonious relation among the employee.
- Takes administrative action to maintain discipline.
  - Responsible for disposal of RTI cases related to CNS/AS.
- Follow vigilance guidelines and promote culture of honesty and transparency in discharging official functions.

### Financial Activities

- Exercises financial power as per DOP to accord administrative and expenditure sanctions to Support maintenance of CNS/AS facilities;
- Takes actions for preparation of proposals which are beyond his powers and forward to superior authorities for obtaining expeditious approval;

### Additional works

- Carry out additional works assigned to him by superior authorities.



### 3.3.2 Unit In-charge: BDDS EQPTS/PA SYSTEM/FIDS/WALKIE-TALKIE SETS

#### (1) Job Summary:

- He will be Unit In charge of all BDDS equipments & will be responsible for maintenance and upkeep of all BDDS Equipment's. Contract management of all BDDS Equipments.
- Responsible for maintenance of PA system, FIDS, procurement & maintenance of Walkie-Talkie etc & timely payment of equipments under CAMC.
- Responsible for maintenance of Audio-Visual System in New & Old Conference hall.
- Responsible for taking over of all newly installed Security Equipments in NITB from project team (as per instructions received from GM (AS), AS directorate, CHQ).

(2) Supervision of preventive and corrective maintenance of all BDDS Eqpts/PA System/FIDS/Walkie-Talkie Sets etc and carry out associated administrative functions and any other works assigned to him.

#### (2) Duties and Responsibilities :

##### Maintenance

- Maintenance Supervise to ensure strict adherence to SOP and preventive maintenance schedules, their related documentation and guidelines of the CNS circulars.
- Coordinating with other agencies like Airport operator, CISF, CSO, electrical dept etc.
- Carry out annual review of preventive maintenance schedules in consultation with his subordinates.
- To go through the shift log books of maintenance staff on regular basis and take remedial measures for the problems encountered by shift duty officials.
- To visit field units regularly at least once daily.
- To assist CNS In-charge in carrying out annual evaluation of the performance of the respective equipments.
- Ensure availability of work instructions and required test equipments for carrying out monitoring and maintenance activities.

##### Financial activities

- Assisting CNS In charge in projecting budget requirements for incorporation in annual budget of CNS.
- Follow vigilance guidelines and promote culture of honesty and transparency in discharging official functions.

##### Additional works

- Carry out additional works assigned by superior authorities.

### 3.3.3 Unit In-charge: CCTV System/e-Gates unit/AAI installation in ATC, IAF.

#### (1) Job Summary: -



- Unit In charge of S-CCTV system. Responsible for smooth & uninterrupted operation of Cargo CCTV System & S-CCTV system installed in NITB.
- Contract management of CCTV system.
- Responsible for procurement of e-Gates & maintenance of the same.
- Verification of Night Shift Allowance/NH of shift duty staff.
- Responsible for the works and duties assigned by CNS In Charge.

**(2) Duties and Responsibilities:-  
Maintenance**

- Responsible and Carry out for strict adherence to SOP, their related documentation and Guidelines of CNS circulars.
- Ensuring there is a continual improvement in handling failures by doing fault analysis, improving maintenance philosophy, and taking timely corrective and maintenance action.
- Improving the effectiveness and efficiency by reducing system failure time.
- To initiate all corrective/breakdown maintenance and keep CNS In-Charge informed of the un-serviceability.
- To assist CNS In charge (Project In charge) for installation and trans-installation of new Equipment room installation.
- Monitoring the functioning of various CNS Facilities with the help of Local/Remote Control/Status Terminals.
- Attends the various complaints about the working of CNS facilities provided in IAF, ATC

**(3) Administrative Function**

- To bring into notice of CNS-in-Charge, for initiating administrative action to maintain discipline.
- Ensure upkeep of the inventory of the unit.
- Carry out additional works assigned by superior authorities.

**(4) Financial activities**

- To assist CNS-in-Charge, in projecting budget requirements CNS Systems for incorporation in annual budget of CNS.
- Follow vigilance guidelines and promote culture of honesty and transparency in discharging official functions.

3.4.4 Duty Officer: CCTV/DFMD/HHMD/CNS Store

**(i) Job Summary: -**

- Unit In charge of S-CCTV system installed in existing terminal building and responsible for smooth & uninterrupted operation of the same. Contract management of CCTV system.
- Responsible for maintenance of HHMD's.



- Responsible for new procurement & maintenance of Photocopier machines.
- Responsible for Survey Off / Disposal action of BER/Outlived equipments/materials lying in the CNS store.
- Responsible for the works and duties assigned by CNS In Charge.

## (2) Duties and Responsibilities:-

### Maintenance

- Responsible and Carry out for strict adherence to SOP, their related documentation and Guidelines of CNS circulars.
- Ensuring there is a continual improvement in handling failures by doing fault analysis, improving maintenance philosophy, and taking timely corrective and maintenance action.
- Improving the effectiveness and efficiency by reducing system failure time.
- To initiate all corrective/breakdown maintenance and keep CNS In-Charge informed of the un-serviceability.
- To assist CNS In charge (Project In charge) for installation and trans-installation of new Equipment room installation.
- Monitoring the functioning of various CNS Facilities with the help of Local/Remote Control/Status Terminals.
- Attends the various complaints about the working of CNS facilities provided in IAF, ATC

## (3) Administrative Function

- To bring into notice of CNS-in-Charge, for initiating administrative action to maintain discipline.
- Ensure upkeep of the inventory of the unit.
- Carry out additional works assigned by superior authorities.

## (4) Financial activities

- To assist CNS-in-Charge, in projecting budget requirements CNS Systems for incorporation in annual budget of CNS.
- Follow vigilance guidelines and promote culture of honesty and transparency in discharging official functions.

### **Unit -In- Charge: IT facilities, Digi Yatra, BAEP etc.**

**Sh. Bal Vibhu, SR. MANAGER (IT)**

**Reports to CNS In Charge**

**Job Summary:** - Supervision of preventive and break down maintenance of IT facilities, coordinate for projection of requirement of spares of IT facilities for their timely procurement and carry out associated administrative functions and any other works assigned to him.

**Additional works:** Carry out additional works assigned by CNS In-Charge/Airport Director time to time.

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### Duties and Responsibilities of Non Executives:

- Daily inspection/checks of Security equipments and preparation of Daily, Weekly, Monthly report send daily status report to RHQ on CNS facilities,/IT facilities , weekly report on CNS facilities on every Monday.
- Attending and resolving complaints regarding security equipments and airport systems.
- Immediately informing unit heads, if required raising complaint mails to respective CAMC unit.
- Contract Management
- Supporting to all Executives in their work as and when required.

### Contact Information of CNS personnel :-

Sr. No.	Name of the Official	Designation	Contact No.	e-Mail ID
01	Anil B. Palaskar	AGM (CNS)/CNS In Charge	9422251722	abpalaskar@aai.aero
02	Chandrakant D. Mane	AGM (AS)	9604989037	chandrakantd@aai.aero
03	Saurav Kumar	Manager (CNS)	8072892047	sauravkr@aai.aero
04	Prabhakar J. Gupta	Manager (CNS)	8904358267	pjgupta@aai.aero

### Proficiency details of CNS personnel:

S.No	Name	Designation	CNS No	Date of Birth.	Date of Joining station	Proficiency Held.	Deployment
1	ANIL B. PALASKAR	AGM (CNS)	1767	30/05/1965	01.10.2021	1,2,3,4,5,6, 8A,8C	General Duty
2	CHANDRAKANT D. MANE	AGM (Elex)	5060	01/06/1968	11/01/2012	General Proficiency	General duty
3	BAL VIBHU	Sr. Mgr. (I.T)		12/09/1988	19/06/2017	General Proficiency	General Duty
4	Saurav Kumar	Manager(CNS)	3578	21/10/1989	12/07/2016	1,2,4,5,6,7A,8A,8C	General Duty
5	Prabhakar J. Gupta	Manager (CNS)	6788	05/01/1992	31/05/2023	10A,10B,ADP, 3.	General Duty

### Legend used in Proficiency held column:

- |           |                            |                                |        |
|-----------|----------------------------|--------------------------------|--------|
| 1. HF/NDB | 2. VHF/VCCS/ Tape recorder | 3. Security & PA Systems       | 4. VOR |
| 5. DME    | 6. ILS                     | 7. RADAR A-Primary B-Secondary |        |
| 8. AMSS : | A- OPS                     | 9. Automation : A- Hardware    |        |
|           | B – Sys Admin              | B- OPS                         |        |
|           | C - Hardware               |                                |        |

### 10. HF/RT

A-RADARA

B- MWARA

### 11. ASBS

**HR Details of Non - executives:**

Sl. No	Name	Designation	DOB	Date of Joining at Station	Deployment
1.	SONAM VISHAL PATIL	Supervisor (Elex)	21/06/1992	30/12/2019	General Duty
2.	CHAITALI RAHUL GORE	Supervisor (Elex)	23/05/1990	29/06/2020	General Duty
3.	SANTOSH PAWAR	Sr. Attd (E-E)	01/06/1979	21/04/2009	CNS—Shift duty
4.	BAPU JADHAV	Sr. Attd (H.K.)	25/08/1968	12/06/2009	CNS—Shift Duty
5.	SUBHASH KAWALE	Sr. Attd (H.K.)	17/07/1971	11/10/2011	CNS—Shift Duty

**1. Smt. Chaitali Mule, Sr. Asst. (Elex) :-**

- She will be responsible for timely dispatch of Daily, Weekly and Monthly U/S report to RHQ
- Responsible for dispatch of AIMS returns.
- Responsible for SAP entry for payment action to vendors.
- Responsible for Maintaining of CAMC records of all BDDS / AS equipments under CAMC, PBG records etc. – Contract Management.
- Responsible for preparation of Duty Roster of CNS staff, Contractual Staff, IT staff and apprentice staff etc. & maintenance of attendance/Leave record of above mentioned staff.
- Responsible for Hindi (O.L.) record maintenance. Entry of all Hindi inward/outward correspondence in the register
- She will be assist in office/technical job for officers at Sr. No. 2 above as and when required in addition to her own routine assigned job.
- Responsible for the works and duties assigned by CNS In Charge.
- She will be reporting to CNS In charge.

**2. Smt. Sonam Patil, Sr. Asst. (Elex) :-**

- She will be responsible for maintenance of ETD's & their timely preventive maintenance/ payment of CAMC charges etc.
- Responsible for maintenance of CA-287 assets /CA-289 Consumable register/CNS Store Inward-Outward register.
- Responsible for maintenance of EPABX, Telephone Lines, broadband etc.
- Responsible for timely payment of BSNL bills/Mobile bills, their entry into the respective registers.
- Monitoring duties & responsibilities of all contractual and apprentice staff.
- Responsible for updating of Station CNS manual time to time as per CHQ guidelines.
- She will be assist in office work for officers at Sr. No. 1 above as and when required in addition to her own routine assigned job
- She will be assist in CCTV System related work in existing terminal building for officers at Sr. No. 4 above as and when required in addition to her own routine assigned job.
- Responsible for the works and duties assigned by CNS In Charge as & when required.
- She will be reporting to CNS In charge.



## Shift Operations :

Shift Supervisory Officer (Terminal)(All Contract Base Staff)

Daily inspection/checks of Security equipments comprising of XBIS, ETD, DFMD, HHMD, S-CCTV & Record status.

Checking and recording status of UPS and battery backup provided to equipments.

Checking and recording performance of Air-Conditioning and electrical installations.

Obtaining De-briefing reports of DATIS, SMC in coordination with IAF ATC.

Monitoring and checking and recording performance of passenger facilitation equipments like PA System, FIDS, EPABX/ Extensions and telephone lines etc.

Checking and recording performance of VHF base stations and attending/providing replacement of walkie-talkies.

Checking and recording, Extending support on Computer Maintenance / utilization of IT infrastructure.

Attending breakdowns and reporting of faults (related to all CNS installations) occurring during shift duty hours and informing G duty Officer/Unit in charges and when required.

Checking/verifying availability of test equipments, keys etc while taking over duty.

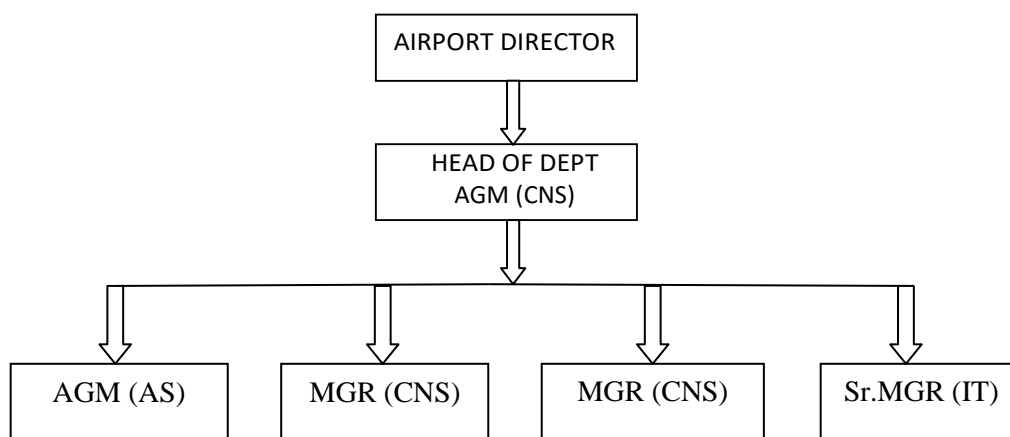
Marking/ certifying attendance of supporting staff performing duty in their shift.

To brief the next shift duty officer about the major/important development, pending un serviceability of equipments.

### Staff Strength (Sanctioned & Actual):

Particulars	Jt.GM	SM/AGM	Mgr CNS	AM/ JET	SSE/ SAE	Total	Remarks
Sanctioned	1	4	4	15	2	26	
Actual	0	2	2	0	2	06	

### Organizational Structure:





## Operational & Airlines Telephones

Sl. No.	Unit/Airlines/Agency	Telephone No.	EPABX Etn No.	Mobile No.	E-Mail ID
1	AFTN-FAX	2661 2808	200	-----	cns pune@aai.aero
2	VIP Lounge (Dep.)	2668 4371	143	-----	-----
3	VIP Lounge (Arrival)	26614031	144	-----	-----
4	CISF Control Room	2661 1975	304	-----	-----
5	Duty Terminal Manager	26685201	125	9552509847	tm_pune@aai.aero
6	Apron control	26610136	128	-----	-----
7	Deputy. Comdt. CISF	26683234	301	7262000508	Pune-apsu@cisf.gov.in casopune@aai.aero
8	ATC - (Indian Air force)	26684434	100	8527295810	<a href="mailto:Niyantaran-2@gov.in">Niyantaran-2@gov.in</a>
	SATCO Office	26611022			
9	AIR INDIA	26611536	-----	8007566688	pnq.ap@airindia.in
10	INDIGO	26610557	-----	9922021133	pradeep.deo@goindigo.in
11	SPICE JET	26615601	-----	9673332700	sm.pnq@spicejet.com
12	GO AIR	26615113	-----	7738020048	shafi.sayed@goair.in
13	VISTARA	26612029	-----	9511900559	pnq.ap@airvistara.com
14	AIR ASIA	26611067			india_pnq@airasia.com
15	Vijaya Bank Airport Ext.	26613828	-----	-----	-----



## Chapter-4

### Standards of CNS Facilities operational at Station

#### i) Facilities provided to IAFA at IAF Tower

1. VHF FM (Hand Held Sets)
2. Hot line to Apron Control

#### At RT CABIN

1. AMSS
2. ATFM
3. Value Added Hot Line to Mumbai Area Control

#### ii) TERMINAL BUILDING Facilities

1. VHF FM (BASE STATION)
2. VHF FM (Hand Held Sets)
3. VHF Rx
4. EPABX
5. **Various Airport system facilities :-**  
X-BIS, ETD, DFMD, HHMD, BDDS Equipments, S-CCTV, FIDS, PA System, Fax machines, e-Gates, Dynamic Display System, Digital Signage Systems (with Kiosk), Entertainment TV's, Digi Yatra facility,

#### iii) Radio Navigation Facilities

FACILITY WITHDRAWN: vide: C 0080/18 NOTAM A)VAPO B) 1803010000 C) PERM E)  
113.9 MHZ DVOR PUN & FREQ 1110/1173 MHZ COLOCATED DME WITHDRAWN



## Chapter – 5 Technical Description of CNS Facilities

### 1. Aeronautical Fixed Telecommunication :

AMSS ( RWS) IAF, ATC	VAPO-VABB	01	—	—	01/03/2011	Hardware is provided by IAF, Pune. Software support is being provided by AAI, Pune.
-------------------------	-----------	----	---	---	------------	---

### 2 . DATIS : Withdrawn from Operation.

### 3. SECURITY EQUIPMENTS

Facility	Make/Model	Qty	Date of Commissioning	Remarks
X-BIS	NUCTECH <b>CX-60X40BI</b> TFNPA-VI-170018 TFNPA-VI-170033 TFNPA-VI-170057 TFNPA-VI-170058	04	10/2017	
	NUCTECH <b>CX-60X40BI</b> TFNPA-VI-170077 TFNPA-VI-170086 TFNPA-VI-170092	03	01/2018	
	NUCTECH <b>CX-6040D</b> TFNPA08200009 TFNPA08200015	02	10/2020	
	NUCTECH <b>CX- 100X100BI</b> TFNPB-XVI-170103 TFNPB-XVI-170134 TFNPB-XVI-170123	03	01/2018	
	NUCTECH <b>CX-100X100BI</b> TFNPB-XVI-170001 TFNPB-XVI-170007 TFNPB-XVI-170054 TFNPB-XVI-160039	04	10/2017	
	NUCTECH <b>CX-100X100DB</b> TFNPB09200015 TFNPB09200050 TFNPB09200007	03	10/2020	
ETD	Smith / DT 500	03	14/07/2007, 01/10/2007	Withdrawn from Operation
	Morpho/Intemisor3	03	18/07/2016	
		01	06/07/2018	
	Nuctech TR2000DC	02	21/01/2020	



HHMD	Garrette Superwand	15	31/10/2018	Withdrawn from Operation
	Thruscan Dx	11		
	Rapiscan	11	29/03/2017, 12/2017, 11/2018	---- do ----
WTMD	Metor-200	01	09/2004	Withdrawn from Operation
	CIEA	03	2007, 2008	
	Rapiscan Metor 6S-28	09	29/04/2016	
	Rapiscan Metor 6S	06	24/09/2018	

## S-CCTV System :

System	Server	Cameras	NAS	Year of Commissioning	Number of Cameras
CCTV-1 (IDDS)	FUJITSU	Infinova	Net App	2018	130
CCTV-II (ONLINE Micro Pvt. Ltd)	FUJITSU	Infinova	Net App	24/08/2018	98

## FAX :

Name of the Equipment & Location	Make	QTY	FREQ	POWER	Date of Installation/Commission	Remarks
Apron Control	Sharp FO-P610	01	—	—	—	Tele/fax 26610136
CNS ROOMFAX EQPT.	HP LaserJet M1319F MFP (All in One)	01	—	—	—	Tele/Fax 26612808

## C-ATFM:

AAI has drawn plans to upgrade ATM infrastructure in the country both in terms of conditional provision of automation systems and up gradation of technology which also involves shifting from ground based navigation to satellite based navigation.

AAI has drawn the concept of future India Air Navigation (FIAN), and is on the threshold of introducing Air Traffic Flow Management over busy routes, dedicated helicopter routes, providing automation systems at 35 non metro control towers, and the use of space based augmentation system (GAGAN). Pune airport commissioned this on 15/02/18

**IAF:** C-ATFM- Broadband (IAF FIRST FLOOR) BSNL no: 020-26683231



### Flight Information Display System :

FACILITY	MAKE	QTY	Date of installation	Remark
Flight Information Displaysystem	3×2 Mtrs trueColour LED Monitors	2	29.09.2016	
		40	29.09.2016	

### 1. Public Address System :

FACILITY	MAKE	QTY	Date of installation	Remark
PA System CNS EQPT. ROOM	Ahuja	01	11/2005	Installed in old terminal building Installed in North-South extended area of Old T. Bldg. Number of Speakers = 99
PA System New Departure SHA FIDS Control Room Departure Gate No.3 CISF Control Room SHA 2,Ground floor & First Floor	Bose corporation India Pvt. Ltd  DESIGN BASED	01	26/02/08  May2009	Installed in new terminal building

### 2. Other facilities :

Name of the Equipment & Location	Make	QTY	FREQUENCY	POWER	Date of Installation/Commission	Remarks
EPABX New Administrative Building	CORAL	01	-----	-----	10/08/2015	
VHF FM (BASE STATION) Apron control/Eqpt. room/ CISF	Kenwood & ICOM IC F5023	04 06	161.825M(AAI)/ 166.525M(CISF)	10W	07/01/2013 & 21/03/2016	
VHF FM (BASE STATION) Mobile	Kenwood 7160	03	161.825M/ 166.525M	10W	07/01/2013	



Walkie-Talkie	Kenwood TK2317 Kenwood TK2317 Kenwood KSC-37 ICOM IC-F 3003 ICOM IC-F 3003	15 05 02 15 40	161.825M/ 166.525M	10W	07/01/2013 18/03/2014 27/08/2010 31/03/2016 21/01/2017	
Value Added Hot Line IAF GCA	VAPO-VABB	01	—	—	2/02/2007	Between VABB ACC & VAPO IAF RADAR

**Technical Description & Functional Specification of Various CNS Facilities.**

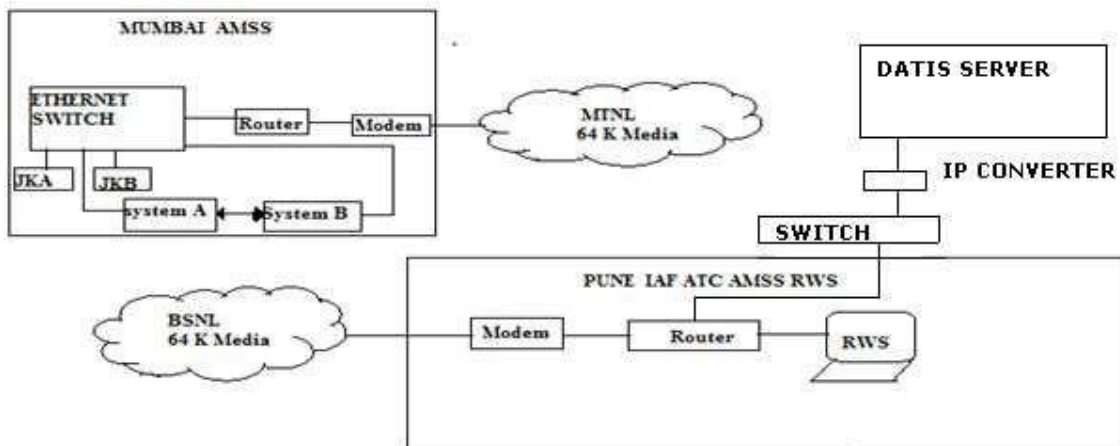
SYSTEM TYPE	TYPICAL USER	IMPACT
<b>1.COMMUNICATION SYSTEM VHF-</b> Provides two ways communication	ATC/Airlines	Controlling flow of operation
<b>2.AMSS RWS (64 kbps)</b> Through 64 kbps messages can be sent or received from any Airport of the World. It is a part of AFTN.	IAF ATC	Exchange of Flight Operations Related Messages thorough AAI (AMSS – AFTN)
<b>3.LAN/WAN</b> It is also part of Comm. System. Help’s People work together by sharing information in many digital forms.	Anyone who Communicates with others (Public) including office worker, Manager/ Professionals	Telephone and internet with wide area network access to shared information

**Automatic Message Switching System Remote Work Station (AMSS-RWS)**

A standard ICAO ground-to-ground communication system for the exchange of air traffic control messages within the Aeronautical Fixed Telecommunication Network (AFTN) between Pune Airport IAF ATC and other national & overseas airports through AMSS at Mumbai ATS Complex.

Hardware equipments belong to IAF, Pune.

**AMSS (RWS) Interconnection Diagram**





## Chapter 6

# Operation and Maintenance of CNS Facilities

- Execution of prescribed preventive maintenance schedules i.e. daily, weekly, monthly, quarterly and half yearly as applicable. Maintenance team also makes necessary entries in the records.
- Execution of special maintenance schedule i.e. pre-flight checks and pre-monsoon checks.
- Monitoring system performance with the help of various test equipment's and carry out necessary adjustments in various parameters as and when required.
- Attending the breakdown of the facility.
- Ensuring proper environmental conditions at the site where facility is installed. These conditions include temperature, dust free environment and humidity.
- Coordination with Civil/Electrical Engineering wing for maintaining proper environmental conditions.
- Maintenance of PC and accessories belonging to AAI, installed at various locations of airport.

### **Safe Operation**

System efficiency and reliability depends upon the system maintenance, environment and climatic conditions by adopting following systematic methods and proven techniques. This would enhance the life of system and continue to function with optimum efficiency and maximum reliability. This maintenance is classified as corrective maintenance, periodic maintenance and trouble shooting.

### **CORRECTIVE MAINTENANCE**

There are many corrective steps taken at regular intervals to avoid any deterioration of a system. The first step in corrective maintenance is inspection of the equipment with power off. The main elements of inspection are:

- 1) Cleanliness of equipment.
- 2) Building condition, leakage etc.
- 3) Electrical Connections (Cables & plug in modules)
- 4) Mechanical joints and linkages including switches.
- 5) Wiring condition, water vapor, heat or extreme cold can affect internal and external wiring. Look for frayed, broken or damaged wiring.
- 6) Recent modifications.
- 7) Corrosion, broken, burnt or missing parts.
- 8) Build up of dirt, moisture, insects etc.
- 9) Improper lubrication of moving parts.

After finding and correcting the trouble, appropriate adjustment procedures are followed.



Maintenance records are to be kept and as much data as possible recorded to assist in future repairs. List of normal indications and what was done to correct the fault.

Records are maintained to include actual measurements taken before and after the repair to accumulate work history. Any malfunctioning noted during maintenance is corrected and if required components replaced.

### **PERIODIC MAINTENANCE**

System efficiency and performance is monitored by checking significant signals and voltages at various levels in the system.

The purpose of daily and weekly recordings of signal parameters and voltages is done so as to compare these with previous records in order to reduce the parameter deviation from normal or other irregularities of the system performance.

The purpose of monthly and quarterly inspection is to

- Ensure that transmitters and associated systems are calibrated and optimally aligned.
- Ensure that monitors are calibrated and alarm limits are correct and operating as per specifications.
- To check warning and alarm systems are working properly as per ICAO specifications.

### **PERFORMANCE CHECKS**

Check operational status. In most cases, the information available at the test jacks (signals and voltages) is sufficient to determine if a module is functioning correctly.

- ❖ Check manual/ automatic shut down and restart.
- ❖ Voltage and current checks.

Voltages and currents are checked to verify that transmitters and associated equipment are operating properly. Low voltage readings can cause premature failures as well as changes in transmitter frequency and power output. Higher than normal voltage can also cause rapid equipment failures. High current readings indicate areas that require immediate action.

- i) Check transfer system A to B and B to A (Main to Stand By & Vice Versa)
- ii) Verify monitor alarm points. Monitor alarm points are set initially during installation. This check is to verify that the initial alarm limits have not changed.

### **TROUBLE SHOOTING:**

General guidelines to locate and trouble shoot a fault is given below: -

1. Check for signs of excessive heat.
2. Verify that all integrated circuits are seated firmly in their sockets and that there are no bent pins.
3. Check that printed circuit board edge connectors are clean and seated fully.
4. Check the ribbon cable connectors.
5. Check the power supplies. Power supplies are a very common source of problems. Low voltage/excessive ripple make it appear that an IC is bad. Measure the power supply voltages and verify that they are within specifications.



6. Using an oscilloscope verifies that the power supply output is not excessively noisy.
7. Using an oscilloscope and other test equipment's verify that clock signals, input signals and control signals are present and correct in shape and level. By doing these procedures isolate the faulty units, sub-unit and come to pin point the fault to the component level.

#### **PROCEDURE FOR LOGGING EQUIPMENT ABNORMALITY:**

1. In case the Shift Duty officer observes in the RCSE about any fault, immediate action shall be taken to find out the problem and rectify the same. The description of the fault shall be properly logged in the LogBook, the time of the fault and restoration time shall be mentioned properly.
2. All the actions taken for restoring the Fault shall be mentioned accurately in the Log Book point wise.
3. All the persons contacted (if any other agency involved, Engineering/ Elect. /Civil), the name and phonenumber of the same shall also be mentioned in the Log Book

#### **CORRECTIVE & PREVENTIVE MAINTANENCE (CNS FACILITIES) EQUIPMENT ROOM:**

Inspection/ Maintenance of various equipments and register maintained. Voice multi-channel recorder channels monitoring register.

#### **Facility Operation and Maintenance Plan**

The operation and maintenance phase start after the users have accepted the new system.

This can bedivided into two activities.

1. Ongoing operation and support
2. Maintenance

Unlike the other steps in the lifecycle these steps continue throughout the systems' useful life. Ongoing operationand support is the process of ensuring that the technical system components continue to operate correctly and thatthe users use it effectively. This responsibility lies with the technical staff taking care of machine and computer operation and a Member of the user organization ensuring that the users understand the system and use it effectively

#### **Contact Details of other Departments for complaints**

Sr. No.	Department Name	Email- ID	EPABX No. 020-26613443/ 26614009/ 26684871/ 26615540/ Duty cell Mob. No.8390094567
1.	Operations	<a href="mailto:hodopsvapo@aai.aero">hodopsvapo@aai.aero</a>	124
2.	Terminal Manager	<a href="mailto:tm_pune@aai.aero">tm_pune@aai.aero</a>	125 / 9552509847
3.	Electrical	<a href="mailto:elecspune@aai.aero">elecspune@aai.aero</a>	257 / 7058391243
4.	Civil	<a href="mailto:anils@aai.aero">anils@aai.aero</a>	221
5.	ATC	<a href="mailto:niyantran-2@aai.aero">niyantran-2@aai.aero</a>	100 / 020 26683231
6.	Navayuga (AIMS)	<a href="mailto:aimssupport@navayuga.com">aimssupport@navayuga.com</a>	9000719888, 9866819888, 9032406161



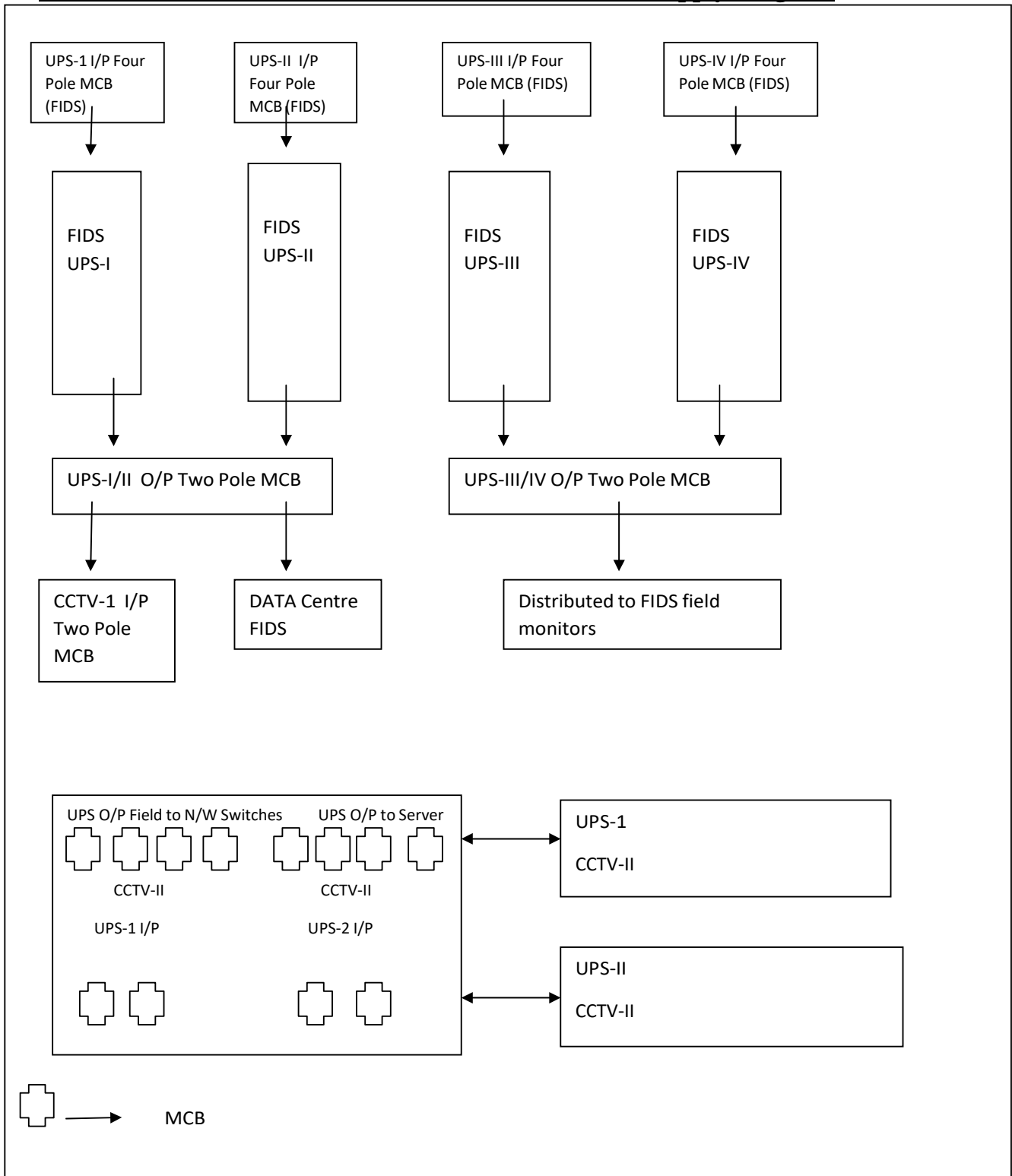
## SMU Contact details

**Special Maintenance Units (SMU)** are established at specified airports for component level repair of un-serviceable modules for various CNS facilities as per the details given below:

Sr. No.	Equipment/Facility	SMU Location	Office Contact details	Email Id	Address
1	VHF Tx/Rx Make: PAE /OTE	Chennai	044-22561542/ 044-22561540	smuvomm@aai.aero	GM-CNS, Airports Authority of India, ATS Complex, Chennai Airport, Chennai, TN-600027
2	NDB Make: SAC Model:500	Delhi	011- 24691285 011- 24621948	smuvidp@aai.aero	General Manager (CMC), SMU – NDB, AAI, RSD Complex, Safdarjung Airport, New Delhi, PIN - 110003
3	DVTR Make: Ricochet /Voxtronics	Mumbai	022- 26828100 022- 26828000	smuvabb@aai.aero	GM-CNS, SMU DVTR, Airports Authority of India, NATS Complex, SP road Sahar Mumbai Pin-400099
4	X-BIS Make: Smith Heimann Model: 6040i	Safdarjung Airport Delhi	011-24691285 011- 24620809	shamsng@aai.aero mvksai@aai.aeros mu_xbis@aai.aero gmas@aai.aero	In-Charge, SMU – XBIS, AAI, CRSD Complex,Safdarjung Airport, New Delhi-110003
5	DVR Make:Aaeon PAKO Model:IMBA-Q170-811	Mumbai	022 - 26819521, 022 - 20889951.	smuvabb@aai.aero	Jt. GM (CNS), AAI, ATS Complex, SMU Mumbai - 400099



**FIDS/CCTV-II Server Room (GF-ARRIVAL) Power Supply Diagram**





### CCTV-I Server Room (FF) Power Supply Diagram

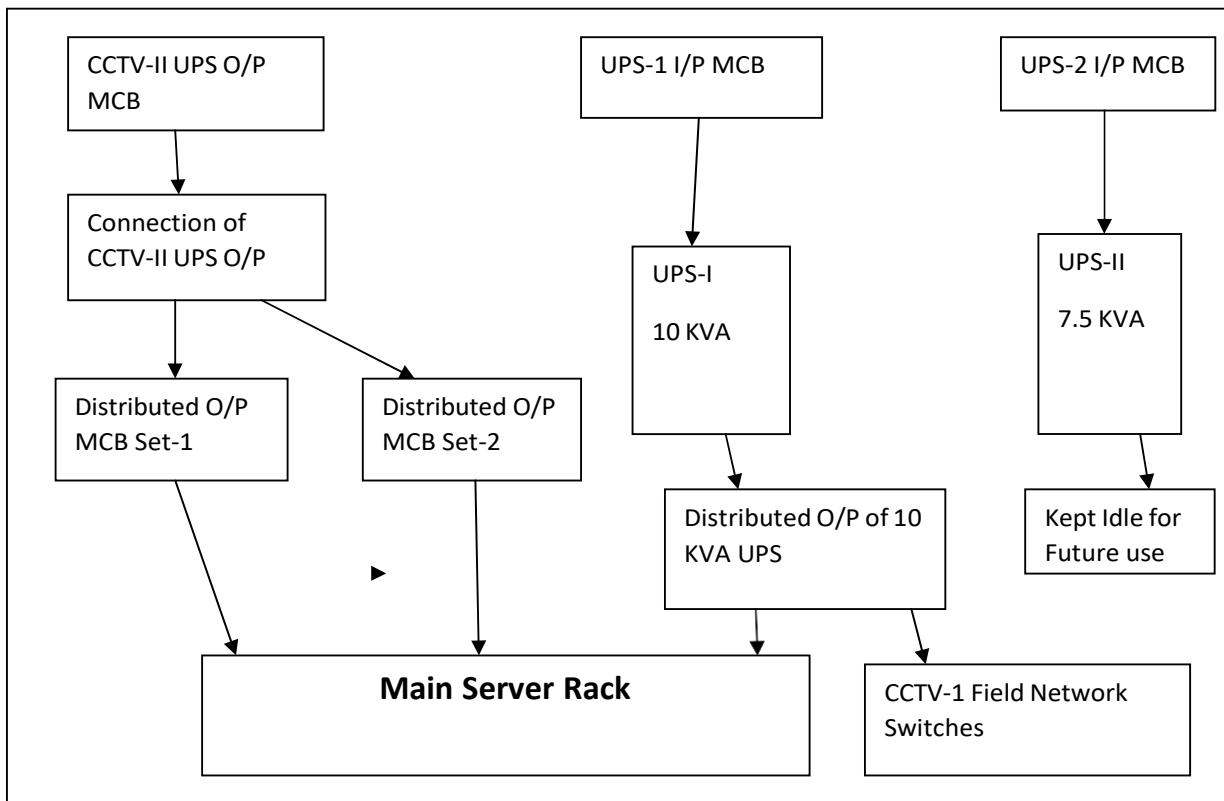
Distributed O/P of CCTV-II UPS

Connection of CCTV-II UPS O/P



10 KVA UPS-1 OUTPUT CONNECTED

DISTRIBUTED Output of 10 KVA UPS-1





## Facility Operation and Maintenance Plan

- **GENERAL PROCEDURE**

### **AMSS RWS**

Air traffic control messages within the Aeronautical Fixed Telecommunication Network (AFTN) between Pune Airport IAF ATC and other national & overseas airports through AMSS at Mumbai ATS Complex. IAF ATC is the operator.

#### **The Procedure followed to Report and Rectify Defects AMSS (RWS)**

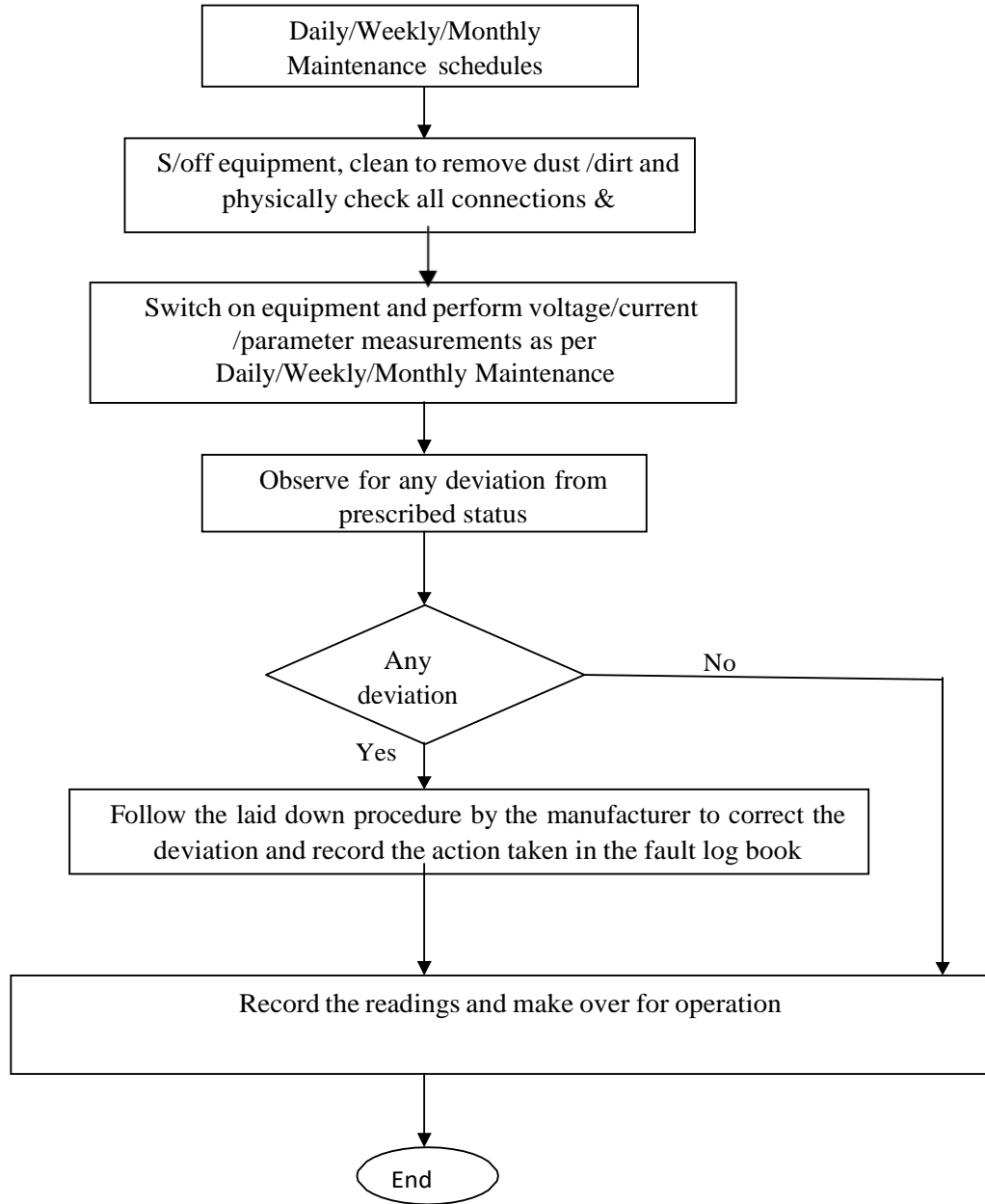
In case any abnormality observed in AMSS (RWS), ATC informs to SSO/DTO. During working hours, SSO communicates the same to General Duty maintenance team & 'G' duty team take appropriate action for rectification of faults. During night or holidays, SSO /shift duty officer tries to rectify the fault and if required, General Duty officer is contacted on phone for advice or 'G' duty officer is called to attend the problem. If the fault is due to link failure, complaint has to book with BSNL .Numbers and other details are available in CNS Equipment room.

#### **The Procedure to Detect Latent Defects**

Facility modification is carried out as and when required. If any modification is required, it is first tried in SMU for the respective facility. For any other software related matter, CNS Directorate at CHQ corresponds with vendor. As per the vendors advice changes are carried out as and when required. External Engineering expertise for any hardware / software change is taken up by CNS Directorate after the requirement is projected by CNS, Pune.

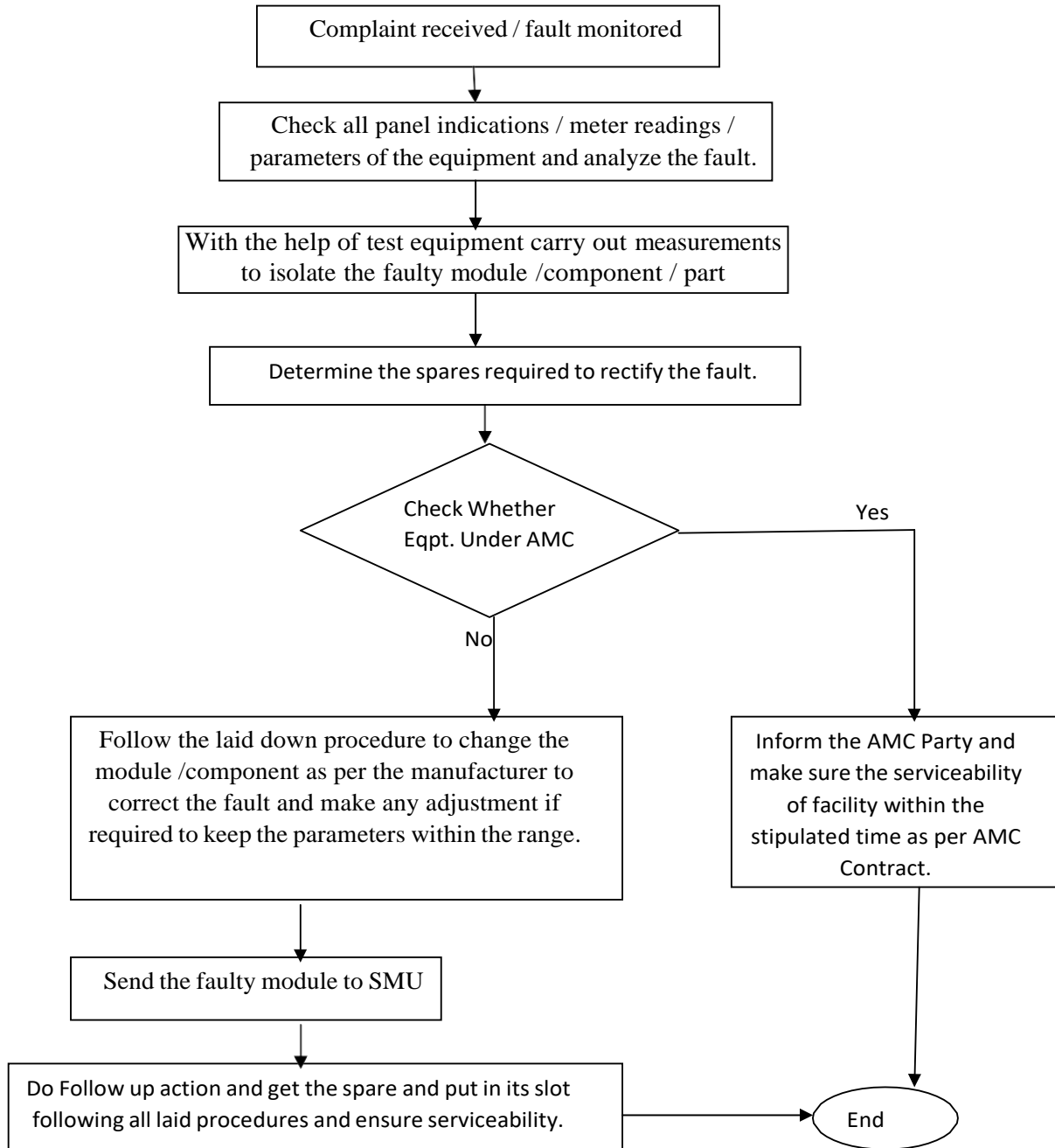


**Process Flowchart:- For Routine Maintenance**





**Break Down Maintenance**





## Chapter -7 Safety Management System

Effective Safety Management requires that safety be addressed first at the organizational level and importance of managing safety is emphasized in all explicit, systemic and practical manners.

### **AAI SAFETY POLICY**

- Safe working of Airport system at station.
- Safe Operation of Airports with priority of safety for the ATS system and Airside Operations.
- Management Responsibility for an efficient and effective Air Traffic and Airport Management System.
- Adoption of Explicit Safety Standards complying with statutory obligation & with the requirements of the Director General of Civil Aviation.
- Safety Culture to provide environment for appreciation of the importance of safety in all the activities and resultant responsibilities of each individual.
- ATS Systems, Airports Facilities and Equipments: The technologies used must fulfill specified and appropriate safety requirement.

### **THE SAFETY ROLE OF CNS WING**

- Maintenance of all CNS facilities.
- Managing the local CNS HR's for units and projects.
- Reviewing and reporting on the progress of CNS projects.
- Reviewing the status of CNS equipments and operational channels regularly for performance improvement.
- Assessing the training needs for CNS staff and arranging training.
- Procuring of spare parts for effective maintenance of equipments.
- Investigation of incident related to CNS facilities. **S-CCTV and telephone lines recordings are maintained for at least 30 days.**
- Notification of any degradation of CNS facilities.
- To provide uninterrupted services of Communication, Navigation and Surveillance (CNS) facilities for the smooth and safe movement of aircraft (over flying, departing & landing) in accordance with ICAO standards and recommended practices.
- To provide and maintain inter-unit communication facility i.e. Electronic Private Automatic Exchange Board (EPABX), Direct Telephones, Fax etc.
- To maintain the Computer systems including peripherals like printers, UPS etc. provided in various sections connected as standalone as well as on Local Area Network (LAN).
- To maintain AMSS RWS to exchange of messages over Aeronautical Fixed Telecommunication Network (AFTN)
- To maintain navigational equipments communication facilities like VHF (SMC and ATIS).
- To co-ordinate with telephone service providers for provision and smooth functioning of auto telephones/ hotlines/ data circuit.



## Chapter-8

### Test Equipments Status of Test Eqpt & Major Maintenance Accessories

S · N o.	Type of Test Equipment	Make & Model No.	Usable Freq. Range.	Year of Supply	Service-ability	Last calibration
<b>Oscilloscope</b>						
1.	Digital RealTime Oscilloscope	Tektronics TDS-220	100MHz 1GS/s	Mar'01	SVC	-----
2.	Digital Storage Oscilloscope	Tectronics TDS2022B	200MHz 2GS/s	27.02.2009	SVC	18/11/2016
<b>REQUENCY COUNTER</b>						
1.	Frequency Counter	Philips PM6669	10to 1.1GHz	Dec-91	SVC	-----
2.	Frequency Counter	LG Ele FC-7150	1.5GHz	Oct-99	SVC	16/11/2016
<b>Signal Generator</b>						
1.	Signal Generator	ROHDEX& SCHWAR SML-02	9KHz to 2.2gHz	29.10.2009	SVC	18/11/2016
<b>DIGITAL MULTIMETER</b>						
1.	Digital Multimeter	Aplab APPA305	Not applicable	15.11.2011	SVC	19/11/2016
2.	Digital Multimeter	HCL HIL-2605	Not applicable	Not Available	SVC	-----
3	Digital Multimeter	MASTECH M830BZ	Not applicable	Not Available	U/S	-----
<b>WATTMETER</b>						
1	Peak Power Meter	Boonton Elex. Corpn. 4531	10KHz 100GHz	24.12.2001	SVC	-----
2.	Thruline wattmeter	Bird Elex. Corpn. 43	100- 250Mhz	Not available	SVC	-----
<b>MEGGER</b>						
1.	Megger (500V)	MotwaneH-100	Not applicable	Dec-91	SVC	-----
2.	Digital Earth Resistance Tester	WACO	Not applicable	March 2012	SVC	19/11/2016

NOTE:- These Test Equipments are not in use at Pune station.



As per CNS directorate/CHQ letter no. CMC/General/02 dated 10-01-2007, all the coordination among CMC, SMUs and station for repair and return of un-serviceable/faulty modules/cards has to be made by email as per the detail given below:-

- a) Faulty module/Card to be dispatched to the respective SMU and intimation to be given by e-mail as per Performa CMC-01 and a brief of fault report.
- b) SMU on receipt of faulty Card/module shall raise Site Anomaly Report (SAR) and acknowledge receipt to the station in the Performa CMC-02
- c) After repair of card and testing by a competent officer of SMU for proper functioning the same shall be dispatched to the station and intimation given as per Performa CMC-03
- d) On receipt of the card station will test in the circuit and intimate SMU in the Performa CMC-04 to close the SAR. However, if the card/module is not OK, the same will be returned to SMU with same SAR and as per the above procedure.



## Chapter-9 Interruption to Service

### 1. Details of the procedure to be followed when operation of CNS/ATM facility is interrupted:

Most of the CNS facilities provided at station are under Indian Air force having standby unit in place which takes over in case of un-serviceability of main unit. However, in case if there is total failure of service, maintenance personnel of concerned units are immediately intimated on phone and NOTAM action is initiated by Indian Air force. NOTAM is either time bound, permanent or with an estimated time. If the facility is restored before expiry of estimated time, NOTAMC is taken and if the facility is estimated to be U/S beyond estimated time, NOTAMR is taken indicating revised estimated time for restoration of the facility.

**Procedure for restoration to CNS facility in case of complete failure/breakdown of service**  
**the term “interrupted” means that, during its hours of operation, a CNS facility/service:**

- (i) has failed and is not available to users; or
- (ii) has been withdrawn from service for the purpose of either scheduled or unscheduled maintenance at a time that the service is required by users;
- (iii) is operating outside its performance parameters (i.e. a fault has occurred which affects its technical performance or integrity such that the service has to be withdrawn at a time that the service is required by users;
- (iv) but, does not include facility faults that have not resulted in the CNS facility / service being inoperable or unusable.

#### (a) Taking facility out of operation:

NOTAM action taken due to failure of service.

NOTAM action during major maintenance and Air calibration.

NOTAM action is initiated by Indian Air Force and Information is forwarded by the same as station is Civil Enclave.

#### b) After restoration of facility, putting back it into operation:

NOTAM is withdrawn and information provided to all by Indian Air Force.

**Procedure to be followed for notifying local air traffic service authorities and other stakeholders for non-availability and availability of the facility:**

Pune Airport being the Civil Enclave, most of the CNS facilities provided at station are under Indian Air force. All the procedure for notifying local air traffic service authorities and other stakeholders for non-availability and availability of the facility is done by Indian Air force.

**Acceptable Recovery Time:**

Early Restoration of facilities in case of Breakdown:

- Within 30 Minutes in case of stand-by equipment or spare modules are available in the station.
- Within 3 days if the required spares are available for the equipment locally.
- Within 30 days if the U/S modules / PCBs are to be sent to some external agency / SMU.

**Procedure to be followed for notifying Aeronautical Information services for non-availability and availability of the facility:**

Pune station is Civil Enclave all CNS facilities affecting aircraft operation are provided by Indian AIRFORCE at this station.

**Procedure to be followed for reporting/notifying any blocking or interference:**

Pune station is Civil Enclave all CNS facilities affecting aircraft operation are provided by Indian AIRFORCE at this station.



## Chapter 10 Procedures

- **PROCEDURE IN HANDLING THE OPERATIONAL COMPLAINTS PURPOSE:**

Aim of this procedure is to handle the complaints originated by control tower, Airlines, and others in respect of various Airport system equipments.

**RESPONSIBILITY:** CNS in charge and duty officer.

**REFERENCE:** Provision and maintenance of CNS facilities

All operational related complaints of CNS facilities are to be brought to the notice of either duty officer or CNS in charge or both depending upon the severity of the complaint.

In case the particular complaint is not resolved within the reasonable time, i.e. within 30 min from the start of complaint.

All duty officers are there to attend the complaint in shortest possible time and CNS in charge is to provide necessary instructions, spares etc. as required to bringing up the facility to normal operating condition.

In case of prolonged un-serviceability i.e. more than four hours duration, same is to be intimated to RHQ-GM (CNS-WR).

Project the requirement of components/cards or diverting the spares from different stations or shifting the serviceable modules/cards from concerned SMU etc. through RHQ/ CHQ.

CNS in charge is to speed up the process of obtaining spares/ modules for early restoration of the facility.

Proper log entry to be made with regard to sequence of actions during and along the un-serviceability period of the facility.

**PURPOSE:** Aim of this procedure is to handle all types of civil, electrical and any other complaints originated by the duty officer of operational units.

**SCOPE:** This SOP is useful in raising, alerting and resolving the complaints in quickest duration.

**RESPONSIBILITY:** Electrical and Civil Department is responsible for attending the complaints in shortest possible period.

**REFERENCE:** contact numbers of various agencies involved at the airport for operational complaint including civil and electrical is provided in the manual.

**DISTRIBUTION:** All unit- in-charges.

All types of civil, electrical and other misc. type of complaints are lodged with the respective department depending upon its nature.



Apart from above duty officer can directly lodge a complaint to the concerned department as per the details of contact numbers given in the manual so as to alert them for immediate attention.

If the complaint persists more than the required and reasonable time, then it is the duty officer's responsibility to bring it to the notice to CNS in charge.

CNS In-charge will handle the problem with the higher authorities to resolve the same either by way of corresponding them in a way through mail or through a written complaint with an intimation to Airport Director.

Duty officers are to keep track of the complaint if it is in progress.

Duty officer is to communicate the completion report of complaint and serviceability of same to CNS incharge.

Proper log entry to be made with regard to sequence of actions during and along the complaint period till its rectification

### **PROCEDURE FOR HANDLING INTERRUPTIONS TO SERVICE**

**PURPOSE:** Aim of this procedure is to intimation to RHQ/CHQ in the event of occurrence of major failure of CNS Airport System facilities.

**SCOPE:** This procedure is useful in timely dissemination of the information to the all concerned.

**RESPONSIBILITY:** Station In-charge (CNS) **REFERENCE:** CNS circular 2 of 2006 intimation of Major failure of CNS facilities, to be used if the acceptable recovery time of a service is exceeded.

Immediate intimation shall be given to RHQ/CHQ in the event of occurrence of major failure of Airport System by the Station-In charge (CNS) to the operational control room indicating the date, time and nature of occurrence through FAX/Letter/Tel./email.

Duty officer is responsible to intimate the failure of the CNS facility to the Station In-charge (CNS) in case of major failure along with the details of failure and likely duration of restoration of facility and requirement of spares etc. if any.

On receiving the information from the Duty officer, Station In-charge (CNS) is responsible to intimate the same to for further onward intimation to CHQ.

Serviceability of facility to be informed to all concerned once the facility is put in to operation and necessary debriefing report also to be taken.

### **PROCEDURE FOR PURCHASE OF MAJOR/MINOR & OTHER STORES**

**PURPOSE:** Aim of this procedure is to purchase and procure the stores which are of operational importance for smooth maintaining of the facilities at Pune Airport.

**SCOPE:** This procedure is useful in raising the demand, obtaining approval etc. either from local authorities or from RHQ/CHQ.



**RESPONSIBILITY:** CNS In-charge.

**REFERENCE:** Delegation of Powers **DISTRIBUTION:** CNS In-Charge.

There are inward/ outward registers are to be maintained by the CNS Stores i.e. AAI-287 (Fixed Assets), AAI-289 (Consumables).

It is the responsibility of the CNS in charge to maintain centralized stores inward/outward register. Duty officers have to raise the requisition/demand along with the proper justification in writing to the CNS in charge for procurement action.

CNS in charge is responsible in obtaining the approval of authorities for purchase of stores as demanded by Duty officer and provide the same after purchase.

CNS in charge is responsible for local purchase of stores with-in the limit as per the DOP against the local purchase powers.

Items/ spares which have reflected in the budget scheme needs to be procured through call of quotation/tenders after financial concurrence.

Stores which have not reflected in budget scheme and required to be procured due to urgent operational requirement and cost of such item is more than APD/DGM (Level) DOP, sanction is to be obtained either from RHQ or from CHQ as the case may be.

Dispatch of stores either to CRSD/ SMU/ OEM or to any other station is the responsibility of CNS in charge in proper packing, insuring and approval. Also, he is responsible for release of stores which are received from outside stations.

### **PROCEDURE FOR HANDLING OF VVIP FLIGHTS**

**PURPOSE:** Aim of this procedure is to follow the instruction laid down for smooth handling of VVIP flights operating at Airport,

**SCOPE:** This procedure is useful in better understanding and implementing during the VVIP movement.

**RESPONSIBILITY:** Station-In-Charge (CNS)/Duty officers

**REFERENCE:** As per CHQ letter No. ED/ATM/2010/V1.01-VVIP-SOPA

**DISTRIBUTION:** Duty officer/ Station-In-Charge (CNS)

CNS Duty officers shall check all Airport System facility records to this effect shall be maintained by CNS in-charge/Duty officer. (As per the check list)

CNS department shall keep a record of the status of various CNS facilities half an hour before the ETA/ETD of the VVIP flight.

Movement of VVIP aircraft shall be monitored by Duty officer from departure to arrival to ensure that all facilities are serviceable. The CNS in charge shall ensure that Duty officers are present to ensure that all facilities are serviceable when VVIP flight is in the Pune station.



Duty officer shall be ensuring that all facilities are serviceable. However, if for any reason he is unable to supervise the VVIP flight, he shall intimate to the Station In-Charge (CNS).

### Record Systems Related to Maintenance of Facilities

Periodic maintenance of various CNS facilities on daily/ weekly/ fortnightly/ monthly/ quarterly/ half yearly and yearly basis as applicable is carried out as per the maintenance schedule prescribed by AAI CHQ and records are maintained in Periodic Maintenance (PM) register of the respective equipment/system. The registers/documents maintained for various CNS facilities are tabulated and are given on the next three pages. In addition to above fault log book of each equipment/ system is being maintained by the station which indicates nature of fault, remedial action taken and time taken to rectify the fault. Log book for each unit/duty officer is also maintained indicating activities and action taken during his/ her shift. These records are maintained and stored as per CHQ guidelines contained in ED CNS (O&M) Circular No. 1 of 2006 which is given below: -

No.	Nature of document	Preservation period of records
1.	Routine Maintenance Schedules	
	a) Daily, Weekly, Monthly	One Year
	b) Quarterly, Half yearly & Yearly	Five Years
2	Fault Log	Throughout the life of facility
3	Shift Log book & COM returns	One Year
4	Test equipment calibration records	Five consequent reports
5	Flight Inspection reports & data	
	Commissioning report & data recordings	Throughout the life of facility
	b) Regular & special flight inspection reports	Five consequent reports



## Chapter-11 Procedure for change

### Procedure for change of facility:

Facility is changed if its life span is completed or new and effective technology available. The following procedure is followed for change of the facility

- i) Experts will check the life span & serviceability of the equipment
- ii) CHQ approval needed for the change of facility in consultation with RHQ for which station makes SCARS.

### Change management requirements

1. The Safety Requirements for “Change Management” are applicable to all:
  - Services and products provided by AAI that may affect operational safety
  - Organizational changes
  - All AAI employees; and
  - Contractors working for or on behalf of AAI, who undertake activities, which may directly or indirectly affect the safe operations of airport systems.
2. These Safety Requirements define the minimum requirements for Change Management and outline the processes to be used to conduct safety assessments required for change management.
3. All changes to ATM, CNS and Airside Operations of airport:
  - service levels
  - procedures
  - equipment or
  - Organizational structures

### Which will affect the:

- Performance
- Function or
- Technical specification of a system or service; or facility; or
- Organizational changes affecting safety accountabilities

### Must be assessed to determine the safety magnitude of the change by using SCARS Form (AAI-SAF-103)

4. Where a proposed change will not result in any change to the items mentioned above, or the change is of a routine maintenance or administrative nature, the normal routine change process may be used in lieu of the SCARS form.
5. Where the SCARS form indicates a Minor change a Safety Statement must be recorded in the SCARS form.



6. Where the SCARS form indicates a Moderate change, a Safety Statement must be recorded in the SCARS form and a HAZLOG Register must be developed.
7. Where the SCARS form indicates a Major change a Safety Plan and a Safety Case must be prepared and a HAZLOG Register for this change must be developed.
8. It is a requirement that all safety activities are formally documented and that the documentation is kept for a period as defined by the Corporate Document Management System. An official file must be maintained:
  - For all SCARS forms
  - To record activities associated with HAZLOG registers; and
  - To record all Safety Plans and Safety Cases prepared and associated correspondence.
9. All Safety Plans and Safety Cases must be sent to and reviewed by Aviation Safety Directorate, CHQ prior to implementation of any change.

The lifecycle of the Project/Change has four distinct phases. These lifecycle phases are:

1. **Change Initiation, Concept, & Design** – covering the task associated with a new project or change to existing Projects/Changes and includes concept development, requirement specification and project/task initiation.
2. **Project Implementation & transition** – covering the tasks associated with transitioning a new system/facility or changes to an existing Project/Change while maintaining operational integrity and standards applicable to the existing Project/Change.
3. **Operations and Support** – which are all tasks needed to operate the system, facility or service to the agreed performance and functional standards.
4. **Withdrawal / Decommissioning** – activities associated with withdrawal of facilities systems or services. These activities must include requisite safety consultation and transitioning activities.

**Safety assessment shall be carried out for each lifecycle phase of the Project/change as per the change management process given in this manual**

#### **Design Requirements**

1. The design of airports, facilities, systems, software, airspace, maps and procedures used in the delivery of services or maintenance of equipment, must be consistent with all relevant industry standards, and should aim to reduce the potential for error and risk.
2. A Statement of Requirement or Specifications shall be produced when systems are being developed, reviewed, or when a system is modified.
3. The Statement of Requirement shall be approved and signed-off by the stake holders.
4. Designs must be duly authorized / approved by the relevant authority against a clearly defined operational and/or functional specification. Design can include:



- Facilities
- Procedures and Practices
- Data and Documentation
- Support; and
- Work stations.

5. Functional, operational, performance and technical specifications must be:

- Defined and known
- Developed in consideration of safety objectives
- Formally coordinated agreed by all stakeholders; and
- Documented, and maintained in a manner that meets legislative, regulatory and other statutory requirements. The above-mentioned requirements also apply to procurement policy in developing tender specifications, and in selecting the lowest compliant tender.

## **ROLE OF VARIOUS DIRECTORATES, AIRPORTS OR STATIONS**

### **1. Role of Airports/Stations**

Projects are often initiated at Corporate Headquarters level; however, a critical element of any Safety Management System is the ability of the “Field Operators and Managers” to assess the possible impact on safety BEFORE the change becomes operational. Consequently, the SMS is designed so that all small and medium changes are assessed and accepted at the Unit/Local level, and all major changes are accepted at the CHQ level. The appropriate “Service Delivery Manager” or Project Manager is responsible for:

- compliance with the safety requirements
- the integrity and quality of safety documents
- ensuring that the required approvals are obtained prior to any implementation; and
- Ensuring that the risk controls detailed in the documentation are appropriate and in place, and that the risks identified are reviewed and updated following the project/change implementation.

**2. Role of Service/Operational Directorates** It is the role of the applicable service delivery Directorates (ATM, CNS, Aerodrome Operations, Engineering and Planning etc.) to resource, conduct the necessary safety assessments, and approve the changes.

**3. Role of Aviation Safety Directorate** It is the role of the Aviation Safety Directorate to assist other Directorates by the provision of safety subject matter expertise (SME) and to review the safety processes conducted. The ED (Aviation Safety) is responsible for:

- Reviewing Safety Plans and Safety Cases; and
- Endorsing Safety Plans and Safety Cases following satisfactory review.

### **Safety Assessment Process**

1. The SCARS form is used to determine the safety magnitude of the change by assessing the likely impact of the change in terms of size and safety outcome of the change.

2. If the safety magnitude is **Minor**:



A Safety Statement is completed in the SCARS form by the initiator of the change and it is accepted (signed off) by the Manager having the safety accountability for that area, e.g.:

- GM (Aerodrome) / ATS-in-Charge / Airport Director for an ATS change
- GM (CNS) / CNS-in-Charge / Airport Director for a CNS equipment changes
- GM (Operations) / GFS-in-Charge / Airport Director for changes in airside operations of the airport.

3. If the safety magnitude is assessed as **Moderate**:

A Safety Statement is completed in the SCARS form by the initiator of the change and it is accepted (signed off) by the Manager having the safety accountability for that area and The HAZLOG Register is also completed and the report from HAZLOG is attached to the SCARS form for sign-off by relevant Manager.

4. If the safety magnitude is assessed as **Major**:

A Safety Plan and a Safety Case must be prepared and a HAZLOG Register for this change must be developed. These documents are accepted by Managers at CHQ level

### SCARS Form

1. The SCARS form must be used for changes to service levels, procedures or equipment, airport infrastructure / operations which will affect the performance, functional or technical specification of a system or service; and organizational changes affecting safety accountabilities.
2. Where the proposed change will not result in any of the items mentioned above or the change is of a routine maintenance or administrative nature, the applicable change process may be used in lieu of the SCARS.
3. Where a change process is used in lieu of the SCARS, a Safety Statement must be prepared. The Safety Statement must provide AAI management with sufficient information to demonstrate that safety has been considered, and the change presents minimal or no safety issues.
4. The SCARS form is designed to assist users to evaluate the change proposal, in order to determine what type of safety assessment and reporting is required.
5. The SCARS form must be completed at the start of a change process, to ensure that the safety assessment requirements of the change are identified and the relevant documents are prepared.

### SCAR Outcomes

1. Where the outcome of the SCARS form indicates a Minor change, a Safety Statement must be included in the SCARS form.
  - The Safety Statement or justification included in the SCARS must provide AAI management with sufficient information to demonstrate that safety has been considered, and the change presents minimal or no safety issues.
  - The appropriate Manager may direct a Safety Case to be developed even though the outcome of the SCARS indicates a **Minor** Change.
2. Where the SCARS indicate a **Moderate** change, a HAZLOG Register for this change must be developed.
3. Where the SCARS indicate a **Major** change, the HAZLOG Register for this change must be developed and a Safety Case should also be prepared.

### Safety Plan

1. Where the outcome of the SCARS indicates that a Safety Case is required, a Safety Plan must first be prepared.
2. Safety Plan preparation must commence early in the project/change life cycle, and be updated as



appropriate during the course of the project/change implementation.

3. A Safety Plan may be a stand-alone document or incorporated into a Project Plan.
4. The Safety Plan (or Project Plan if Safety Plan is incorporated) must detail the
  - scope of the change in operational and organizational context
  - assumptions, constraints and dependencies influencing the safety outcome of the project/change
  - responsibilities, titles and names of the people managing the project/change
  - consultation and communication arrangements for the project/change
  - safety management activities to provide the safety assurance of the project/change
  - timelines and milestones
  - resources and facilities required
  - training and education requirements
  - review process; and
  - approval authorities and requirements for the resultant safety documentation.

### **Safety case**

1. Officials preparing Safety Cases should have completed AAI's Safety Management Training course, or an equivalent safety management training course, or be approved by the ED (Aviation Safety).
2. Safety Cases must provide AAI management and the regulator, when required, with the safety management arrangements necessary to assure the safety of the change.
3. Safety Cases must be updated during the course of the project/proposal implementation.
4. Safety Cases must detail the:
  - scope of the change in operational and organizational context
  - validation of any assumptions, constraints and dependencies affecting the safe outcome of the project/change
  - responsibilities, titles and names of the people managing the project/change
  - consultation and communication arrangements for the project/change; and
  - outcomes of the safety management activities prescribed in the Safety Plan including the: hazard identification and risk management activities, tools, procedures and standards used to provide safety assurance, for normal and abnormal modes of operation
  - ✓ HAZLOG Register Report detailing the identified hazards and risk controls/safety requirements, including their status
  - ✓ acceptance by the appropriate level of management of the various levels of risk associated with each hazard
  - ✓ arrangements for any training and education requirements
  - ✓ timelines and milestones for the ongoing safety management of the change pre and post implementation
  - ✓ argument that, when implemented with the identified controls, the proposed change will be adequately safe; and
  - ✓ arrangements and timing for the Post Implementation Review (PIR) of the change following implementation.



### Safety Document Overview

1. All Safety Plans and Safety Cases must be reviewed by Directorate of Aviation Safety in coordination with the regulator (DGCA).
2. Where recommendations from the review(s) are not included in the final documentation, justification for this must be provided to the reviewer.
3. Where the Safety Plan forms part of the Project Plan, the review must demonstrate the above requirements have been met.
4. Safety Plans and Safety Cases must be presented for review to Directorate of Aviation Safety sufficiently in advance to allow changes to be made to the document where required from the review.

### Post Implementation Review

1. A Post Implementation Review of the safety aspects of a change detailed in a Safety Case must be completed and documented.
2. The Post Implementation Review must be conducted in accordance with the timeline specified in the Safety Case and no later than twelve months after the change becoming operational.
3. The Post Implementation Review must include:
  - the review of the HAZLOG Register(s) relating to the change
  - the arrangements for the ongoing management of hazards / controls
  - details of any new safety issues identified resulting from the change; and
  - details of any safety lessons learnt.

### Control of Contracted Activities

1. To ensure that the level of safety of Airports Authority of India is not eroded or compromised by the products, inputs and supplies provided by external agencies or contractors including sub-contractors, the Airports Authority of India shall:
  - Establish SMS requirement for contractors or sub-contractors
  - Establish a procedure to write SMS requirement into the contracting process
  - Establish SMS requirement in the bidding documentation; and
  - If necessary, write requirements on hazard identification and risk management processes into bidding documentation and notify contractors and sub-contractors in writing.
2. The above requirement shall also be included in the contract agreement and tender specifications. Using ISO Certification ensures that organization supplier or contractors have appropriate quality management system in place.
3. Contractor or external workers undertaking activities which may impact on operational integrity or safety shall prior to commencement of work, be provided with induction training which at minimum identifies the safety related considerations of the work, and/or their safety accountabilities.

### Change Management at Licensed Airports

1. Rule 83 (2) of Aircraft Rules 1937 requires that while an aerodrome license is in force, no alteration to the landing area or to the building or to the other structure of the aerodrome, which may affect the safety of aircraft operation shall be undertaken without prior approval of the regulator (DGCA).
2. The following information and documents are required to be submitted to DGCA to obtain prior



approval of the project or change:

- Brief description of Project or Change
  - A copy of Aerodrome License
  - Project/Change initiator or originator
  - Civil Aviation Requirements affected by the project or change
  - Duration of the project and effect on the operations
  - Construction agencies details
  - Relevant project designs/drawings
  - Relevant CAR compliance check list
  - Safety Assessment Report
  - Certificate from Engineering Directorate to ensure that building does not: To generate wind shear across runway
- ✓ Create anomalies in radiated signal; or
- ✓ create light distractions to pilots and air traffic controllers

### **Management of Unlicensed Airports**

All process and procedures for Change Management as detailed in this chapter shall be followed and all documents shall be kept for a period as defined by the Document Management System; however, there is no need for seeking prior approval from DGCA before making a change. These documents should be available for examination and records if the aerodrome at a later date decides to obtain Aerodrome License.

#### **Procedure for Commissioning of New Infrastructure**

Inspection of new project or facility by a team of concerned executives of project and/or user department to ensure that the design, functional, operational and technical specifications have been met for the project or facility.

Ensure compliance with national regulatory requirements for the new project or facility and document deficiencies, if any and complete the relevant CAR compliance check list and action plan to remove those deficiencies.

Carry out “All-Phases Safety Assessment”, if not carried out earlier or “Implementation phase safety assessment” using the attachments and following the guidelines contained in the Corporate Safety Management System Manual and transfer all residual risk duly accepted by the relevant authority in the Operational Risk Assessment (ORA).

Develop a transition plan considering the complexity of the project or facility taking in accounts the transitioning risk and mitigating them. Also ensure that the integrity of the system is not compromised during transition, while maintaining the current standard. Document the role and responsibility of all stake holders in the transition plan.

Conduct trial operation under the supervision of key officials. Both normal and abnormal mode of operations should be tested during the trial operations.



Submit all relevant documents about the new project or facility to DGCA for their approval (For Licensed Aerodromes only) for commissioning of the facility or project.

The project or facility is notified in AIP India, after DGCA's approval and necessary changes are also made in the Aerodrome Manual.

The project or facility is commissioned and is monitored by the key officials for the first 48 hours for teething troubles, if any.

After 48 hours, the facility or project should be specially monitored by the user department for a period of 90 days for any new hazard and the functioning and efficacy of existing controls. Suitable risk control should be implemented of any identified hazard.

Conduct post implementation review after six months, but not later than 12 months, to provide assurance that the safety requirements continued to be met in the operation.

Project or facility is put into the use for normal operations and routine monitoring and maintenance procedures shall be followed.



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## Chapter-12 Document Control

This document will be under the control of CNS In Charge Pune Airport. An electronic and hard master copy of each chapter in the manual will be held and maintained by the CNS Directorate.

### Document Management

Safety Plans and Safety Cases must be managed as controlled documents and organizational records.

#### **THE FOLLOWING DOCUMENTS ARE USED BY CNS IN PUNE:**

1. CHQ CNS Manuals Vol. 1 to 7 (Ed. 2006) – copy to be made.
2. AIP India (6<sup>th</sup> Ed.), Amendments.
3. Guidelines for Telephones (as on 01.08.2003).
4. AAI D.O.P. (effective July 2008).
5. CNS Circular issued by ED (CNS), CHQ.
6. AAI Material Management Manual (2006).
7. AERADIO.
8. NOTAM summary from NOF.
9. CHQ / RHQ Circulars.

#### **THE FOLLOWING EXTERNAL DOCUMENTS ARE USED BY CNS IN PUNE**

ICAO Annexure –

- a. 10 (Volume 1, 2 & 3) DOC 8971
- b. DOC 4444
- c. STATE SAFETY PROGRAMME INDIA
- d. AIP India



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## Chapter-13 Quality Control

Maintaining the acceptable levels of safety requires standardization and quality assurance in every subsystem of Aeronautical Telecommunication System at one end and maintaining harmony with the ICAO standards and recommended practices at the other. To ensure high level of availability, reliability and integrity in operation of the CNS systems quality maintenance by proficient, trained skilled personal is required. Pune Airport ensures that each maintenance personnel are competent and holds the qualifications consistent with those specified by AAI Corporate Headquarters and the requirement of the Station by sending the nomination to RHQ/CHQ. Appropriately trained and Assessed as proficient, through a proficiency examination, to maintain a particular model of CNS System is actively participated by the station in the previously held open proficiency examinations.

Lower MTBF signifies the degree and quality of maintenance.

Pune Airport keeps the record of kinds of facility or facilities for which the technical personnel are authorized to perform those functions and upon attaining the proficiency the personnel are deployed to the unit concerning to the attained training.

ISO Certification is under progress by Operational Department, Pune Airport. Pune Airport is maintained and run by Airports Authority of India.. The responsibility of Airports Authority of India at this airport is to provide all services like CNS, Engineering (Electrical, Civil), Operations, Security etc **except ATC services. ATC Services are provided by Indian Air force.**

The Facilities are guarded by **CISF** 24X7 Hrs



## Chapter-14 Security

### **Security of CNS/ATM Facilities inside Airport: -**

Pune Airport is Civil Enclave of Airports Authority of India. Guarded on 24X7 Hrs. basis by CISF.CCTV system is monitored by CISF 24X7 Hrs.

### **CNS Information Security Policy:-**

To safeguard information pertaining to CNS/ATM, CNS directorate under ED (O&M) has defined a security policy and published as a document with name” Information Security Policy for CNS/ATM Infrastructure Version No. 1.0 with Document ID:**AAI/ANS/CNS/OM/2018/180508-CNSIS-V1.0** on 08/05/2018.It provides guidelines to access and deal with security levels of various CNS ATM infrastructure to maintain high levels of protection against malicious attacks in form of Cyber-attacks as well as manual intrusions.



## **Annexure**

# **Maintenance Schedule**



**AIRPORT AUTHORITY OF INDIA CIVIL ENCLAVE, PUNE**

**DAILY MAINTAINCE CHECK FOR ETD**

1. Morpho (Itemiser 3E) – 04 qty
2. Smith Ionscan 500DT – 03 qty
3. Nuctech – 02 qty

S no.	CHECKS / DATE	Expected Status	Date											
1	Power Supply Voltage	230+20V												
2	Neutral-Earth Voltage	<3V												
3	Cleanliness of Environment	Satisfactory												
4	Environment Cleanliness	Satisfactory												
5	Status of Equipment	OK												
6	Verification Test	OK												
7	Bake out performed	Yes / No												
8	Printer paper ckd	OK												
9	Check system Date & Time	OK												
10	UPS operation on battery checked													
11	Signature													

Remarks:

Date:

Signature of Officer-in-Charge



**AIRPORT AUTHORITY OF INDIA CIVIL ENCLAVE, PUNE**

**DAILY CHECK DEMD**

1. Rapiscan Metor 6s – 14 qty
2. CIEA – 04 qty

S No.	Observation / Parameters	Typical value	Date / Observed value										
01	Mains Power Supply	220-230V											
02	Cleanliness of site	OK											
03	Operation of DFMD/WTMD	OK											
04	Display light bar	OK											
05	Zone display	OK											
06	Audio alarm	OK											

Remarks:

Date:

Signature of Unit In-Charge

**Name:**

**Desig:**



**AIRPORT AUTHORITY OF INDIA CIVIL ENCLAVE, PUNE**

**DAILY CHECK OF HHMD**

**Make / Model:**

1. Rapiscan Meteor 28 – 11 qty
2. Garrente Superwand Thruscan Dx – 15 qty

S No.	Parameters Checked	Date							
		Normal Status	Observed Status	Observed Status	Observed Status	Observed Status	Observed Status	Observed Status	Observed Status
01.	Physical check of HHMD	OK							
02.	Audio alarm	OK							
03.	Visual indication LED	OK							
04.	PTT switch	OK							

( )  
 SIGNATURE OF DUTY OFFICER  
**NAME:**  
**DESIG:**

Signature of Unit In-Charge  
**Name:Desig:**




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**AIRPORT AUTHORITY OF INDIA CIVIL ENCLAVE, PUNE**
**WEEKLY CHECK DFMD**

Name of Station: Pune  
 Make: RAPISCAN / CEIA

Date:  
 Model:

S No.	Observation / Parameters	Typical value	Observed Value
01	Remote status	OK	
02	Program code	1-13,21-32	
03	Sensitivity	0-99	
04	Volume	0-9	
05	Frequency	F1-F5	
06	Low speed	1-6	
07	High speed	1-6	
08	Min. volume	0-9	
09	Tone	1-14	

(  
**SIGNATURE OF DUTY**  
**OFFICER NAME:**  
**DESIG:**

Signature of Unit In-Charge  
**Name: Desig:**



**AIRPORT AUTHORITY OF INDIA CIVIL ENCLAVE, PUNE**

**WEEKLY MAINTENANCE SCHEDULE - ETD**

Name of Station: Pune

Date:

1. Make: Morpho (Itemiser 3E)
2. Smith Ionscan 500DT
3. Nuctech

S No.	Parameters checked	Normal Status	Observed Value	Remarks
01	Bake – out	Done / OK		
02	Cleaning of inlet area	Clean		
03	Dust filter	OK		
04	Flow input filters	Dust free and intact		
05	Pump filters	Dust free, white in color		
06	UPS check on battery	Working OK on battery backup		

( )  
**SIGNATURE OF DUTY**  
**OFFICERNAME:**  
**DESIG:**

Signature of Unit In-Charge  
**Name:Desig:**



**AIRPORT AUTHORITY OF INDIA CIVIL ENCLAVE, PUNE**

**MONTHLY MAINTENANCE OF HHMD**

Name of Station: Pune

Date:

Equipment Name: HHMD

Make / Model: Rapiscan &amp; Garrette

S No.	Parameters checked	Normal Status		
01	Battery voltage			
02	Battery condition			
03	Sensitivity			
04	Battery charger			
05	HHMD cleanliness			
06	Check of coil, PCB, connector etc.			
07	Remarks			

( )  
**SIGNATURE OF DUTY OFFICER NAME:**  
**DESIG:**  
 Signature of Unit In-Charge  
 Name: Desig:



**AIRPORT AUTHORITY OF INDIA CIVIL ENCLAVE, PUNE**

**MONTHLY MAINTENANCE DFMD**

Name of Station: Pune  
Make: Rapiscan / CEIA

Date:  
Model: Metor 6s

S No.	Observation / Parameters	Typical value	Observed Value
01	Cleanliness of DFMD/WTMD	OK	
02	Neutral Earth voltage	0-5V	
03	Sensitivity check		

( )  
**SIGNATURE OF DUTY  
OFFICER NAME:  
DESIG:**

Signature of Unit In-Charge  
Name: Desig:



## List of all CNS Circulars issued by CHQ/ RHQ/ Local Station:

Sr. No.	CNS Circular No.	Subject
01	02 of 2019	Guidelines - VHF TX, RX, Antn
02	10 of 2020	Procurement of Goods and Services ...
03	09 of 2020	<a href="#">Management of CNS and AS Facilities at RCS...</a>
04	08 of 2020	AFTN/AMHS Connectivity for Non-AAI Users
05	07 of 2020	SOP to be followed for DGCA Oversight Audits
06	06 of 2020	SOP for Conducting CNS Training ... Online...)
07	05 of 2020	SOP for Conducting Practical & Viva Exam
08	04 of 2020	Intimation of Failures/Degradation of...Facilities
09	03 of 2020	Guidelines for Choice of Media for the ...)
10	02 of 2020	Internal Investigation of CNS Incidents...
11	01 of 2020	Check list of CNS Manuals and Circular
12	15 of 2019	Available in Public Documents>CNS Documents
13	14 of 2019	Procedure to Conduct Competency Checks
14	13 of 2019	Superseded by 03/2020
15	12 of 2019	Guidelines for Regulatory Clearance
16	11 of 2019	Guidelines for CNS Mast Works
17	10 of 2019	Cyclone Preparedness and Response
18	09 of 2019	Documentation and Preservation of ...Records
19	08 of 2019	Maintenance of Radio Nav. Aids Sites ...)
20	07 of 2019	SOP for Internal Performance Monitoring...)
21	06 of 2019	Maintenance and Calibration of Test Equip ...
22	05 of 2019	Periodical on the Job check of ATSEP
23	04 of 2019	Standardization of e-mail IDs in CNS Department
24	03 of 2019	Utilization of CNS Module on AIMS Portal
25	02 of 2019	Provisioning of CNS and other Documents
26	01 of 2019	Checklist of CNS Circular
27	07 of 2018	Critical and Sensitive Area Dimensions
28	06 of 2018	SOP for Issuance of Four Letter Location Indicator
29	04 of 2018	SOP for Opening and Closing of Watch
30	03 of 2018	Guidelines for Preparation of Station CNS Manual
31	02 of 2018	Standardized Debriefing Proforma
32	01 of 2018	Checklist of CNS Circular
33	01 of 2017	Policy for Card/Module Level Failures
34	05 of 2016	SOP for Checking the Efficacy of Installations



35	04 of 2016	SOP for CCTV and Access Control
36	03 of 2016	Significant Degradation/Failure of CNS Facilities
37	02 of 2016	Guidelines for Choice of Media
38	03 of 2015	Operation of EQPT beyond Tentative Life Span
	02 of 2015	Prior Inspection of CNS-ATM Equipment
	01 of 2015	Guidelines for Procurement through NIT/NIQ
	05 of 2014	Renewal of Certification/Approval of CNS Facilities
	04 of 2014	Preservation and Replaying of Recording Media
	03 of 2014	Superseded by 04/2020
	02 of 2014	ILS Maintenance Schedule
	01 of 2014	Management of CNS Stores
	04 of 2013	Use of Mobiles in ATS Operational Area
	03 of 2013	Installation & Maintenance of Bird Control Spikes
	02 of 2013	Operational Status of Radio Navigational Aids
	01 of 2013	Management of CNS Stores
	06 of 2012	Use of Anti-Static Devices
	05 of 2012	Provision of Fire Detection and Alarm Systems
	04 of 2012	Empanelment of OJT Instructors
	01 of 2011	Guidelines for Provision of Power Supply
	02 of 2009	Pre-monsoon Checks of CNS facilities
	01 of 2009	Procurement of Spares and Equipments
	01 of 2008	Maintenance of Navigational Aids Site
	07 of 2004	Operation of DVOR/DME (HP
	06 of 2004	Identification Signal of ILS Localizer
	05 of 2004	Normarc ILS General Maintenance
	04 of 2004	Disposal of Old / Dismantled Equipment
	03 of 2004	AFS - GND-GND Communications
	02 of 2004	VOLMET Broadcasts Service
	01 of 2004	Automatic recording of Surveillance Data
	07 of 2003	Radar Systems – Backup Capabilities
	06 of 2003	ATS Communication – Backup Capabilities
	05 of 2003	Use of Standard Language for in ATS
	04 of 2003	Time in Air Traffic Services
	03 of 2003	Info on the Operational Status of Navl Aids
	02 of 2003	VOR Aerodrome Check Points



## Abbreviations:

➤ AAI	Airports Authority of India
➤ ACS	Aeronautical communication station
➤ AFTN	Aeronautical Fixed Telecommunication Network
➤ AM	Asst. Manager
➤ AMC	Annual Maintenance Contract
➤ AMSS	Automatic Message Switching system
➤ APD	Airport Director
➤ ATC	Air Traffic Control
➤ BCAS	Bureau of Civil Aviation Security
➤ CHQ	Corporate Head Quarters
➤ CIP	Commercially Important Person
➤ CISF	Central Industrial Security Force
➤ CNS	Communication Navigation and Surveillance
➤ CPMS	Corporate Planning and Management System
➤ CRSD	Central Radio Stores Depot
➤ DFMD	Door Frame Metal Detector
➤ DME	Distance Measuring Equipment
➤ DVOR	Doppler Very High Frequency Omni Range
➤ E/M	Equipment Mechanic
➤ EPABX	Electronic private automatic Branch Exchange
➤ ETA	Expected Time of Arrival
➤ ETD	Explosive trace detector.
➤ FIU	Flight Inspection Unit
➤ GCA	Ground Control Approach
➤ HHMD	Hand Held Metal Detector
➤ IAF	Indian Air Force
➤ ICAO	International Civil Aviation Organization
➤ ID	Identity
➤ MT	Motor Transport
➤ NOTAM	Notice to Airmen
➤ OIC	Officer-in-Charge
➤ PA System	Public Address System
➤ PIC	Photo Identity Card
➤ RCU	Remote Control Unit
➤ RED	Regional Executive Director
➤ RHQ	Regional Head Quarters
➤ SM	Senior Manager
➤ SMU	Special Maintenance Units
UTC	Universal Coordinated Time