NAIROBI BULLETIN COMPILATION CENTRE

Presented by Kenya

A Bulletin is a structured package of one or more meteorological reports/messages

A bulletin compilation centre takes in the individual meteorological reports, compiles them into a bulletin, possibly transforms them into the IWXXM format, and then distributes/publishes them.

Key tasks of a BCC

- Collecting individual reports (observations, forecasts, warnings) from stations or sources.
- Verifying, formatting and packaging those reports into a bulletin.
- Encoding the bulletin in the appropriate format (in IWXXM context, often XML/GML according to
- IWXXM schemas).
- Ensuring that output is interoperable (e.g., compatible with legacy systems or modern TDCF/IWXXM systems).
- Distributing or disseminating the bulletin to downstream users or data-networks

NAIROBI COMMUNICATION CENTRE AS BCC

- Nairobi Communication centre receives and compiles AMBEX bulletin reports. There are two main reports, namely TAFS report and METARS reports.

METARS REPORT

- METARS reports are received and compiled on hourly basis. METAR messages are received from both Regional and Domestic airports. The METAR messages are received and entered into AFTN/AMHS system for compilation by the duty officer before specified cut-off times (Before 15 minutes to the hour), however, some with correct format are picked by the system automatically.
- The final compiled METARS bulletin report is generated and transmitted as a bulletin every 15 minutes to the hour (or every 45 minutes of the hour) by the AFTN/AMHS system automatically

NAIROBI COMMUNICATION CENTRE AS BCC

SYSTEM TAF CUT-OFF TIMES

- The operator should always begin entering TAFS in the Ambex data bank for compilation at particular time set by the system. If TAFS are entered before these times, the system discards them. The cut-off times are as follows:
- 0606 TAF whose cut off time is 0550
- 1212 TAF whose cut off time is 1150
- 1818 TAF whose cut off time is 1750
- 0024 TAF whose cut off time is 2350

NAIROBI COMMUNICATION CENTRE AS BCC

TAFS REPORT

- TAFS are generated from the TAFS messages received from both Regional (East Africa) and Domestic (Kenyan) airports and entered into the AFTN/AMHS system by the duty officer and some that are addressed in the correct format are picked automatically by the system before specified cut-off time.
- The final compiled TAFS bulletin report is generated by the AFTN/AMHS system after every six hours within 24hour period.

NAIROBI COMMUNICATION CENTRE AS BCC

VALIDITY

- The Ambex bulletin reports are compiled for TAFS valid 0606, 1212, 1818 and 0024 and the system cut off time is (0550z), 1150, 1750 and 2350 respectively

NAIROBI COMMUNICATION CENTRE AS BCC

Nairobi communication Centre has the responsibility of compiling and distributing TAFS and Metars in form of an Ambex bulletin from the following stations

- Nairobi – HKJK
- Eldoret – HKEL
- Mombasa – HKMO
- Dar es salaam – HTDA
- Zanzibar – HTZA
- Kilimanjaro – HTKJ
- Entebe – HUEN
- Seycheles –FSIA
- Kigali – HRYR
- Bujubura – HBBA
- Kamende – HRZA
- Mogadishu – HCMM
- Mauritius – FIMP
- Reunion - FMEE

NAIROBI COMMUNICATION CENTRE AS BCC

CODES

- Various codes are used in the TAF to facilitate Ambex compilation by the system. These are:
- FTKN32 for HKNA, HKMO AND HKEL TAFS
- FTTN32 for HTDA HTZA HKJK
- FTSC32 for FSIA
- HTBI32 for HBBA
- FTRW32 for HRYR AND HRZA
- FTUG for HUEN
- FTSI32 for HCMM

DATA MANAGEMENT / METADATA REQUIREMENTS

- IWXXM messages require consistent metadata. The system must:
- Manage WMO location indicators (CCCC), bulletin types (TTAAii), date-time stamps
- Track source vs. aggregator metadata
- Maintain up-to-date aerodrome metadata (e.g., AIXM 5.1 database of ICAO aerodromes, FIRs)
- Ensure metadata is included in:
  - Bulletin headers
  - XML metadata elements (issuing Centre, translation Centre, etc.)

NETWORK REQUIREMENTS

Item	Requirements
AMHS node	Must support **FTBP** (File Transfer Broadcast Protocol) for IWXXM
FTP/SFTP or HTTP(S)	If using WIS 2.0 testbeds or internal distribution
Max message size	Upto 4 MB (compressed) over AMHS FTBP
Max message size	Up to 4 MB (compressed) over AMHS FTBP
Compression support	GZIP compression of IWXXM XML files
Redundant connectivity	99.9%+ availability with failover (dual ISP, leased lines, etc.)
Firewall / NAT config	Permit outbound/inbound AMHS.FTB,MQTT,HTTPS as needed

OPERATIONAL & ORGANIZATIONAL REQUIREMENTS

Item	Description
24/7 system operation	Required for bulletins and alerts
IT staff training	XML, IWXXM schema, validator use, AMHS routing
Meteorological staff training	Understand IWXXM structure, error handling
Change management	Procedures for version upgrades (e.g., IWXXM 2023-1 → 2025)
Contingency procedures	Failover, backup sending centre, TAC fallback

CHALLENGES FACED BY NAIROBI AS BCC

- Receiving and compiling of MET bulletins reports for the region has some notable challenges, namely;
- Failure by member states to adhere to the fixed rigid AFTN/AMHS system compilation timelines.
- Failure by member states to submit METARS and TAFS messages completely, hence no data for particular stations for prolonged periods i.e. months to years.
- METARS and TAF messages received with errors, therefore not able to be compiled.
- METARS and TAF messages received late, therefore AFTN/AMHS system compiles and transmits them individually/apart hence may not be accessible by users (ATC and Pilots) due time scheduling.
- METARS and TAFs bulletin reports transmitted by the AFTN/AMHS system late mostly are lost within the network since no other system is available to add to the already received bulletins.

CHALLENGES FACED BY NAIROBI AS BCC

- AFTN/AMHS systems failures that affect cut-off times, hence no bulletin report is generated.
- AFTN/AMHS systems require heavy storage and retrieval space.
- States (Kenya) are required to acquire expensive AFTN/AMHS systems with necessary storage and high speeds performance.
- AFTN/AMHS system compatibility and interoperability within the region, some states are not able to receive long messages of data, hence reject bulletins.
- Duty officers' failure to intervene/enter METARS and TAFS before cut-off time.
- Duty officers need expensive training to understand and intervene on METARS and TAFS received with errors.

Questions, Comments……