AERODROME METEOROLOGY
Checklist

Pre Visit:

Name of Aerodrome:		METAR Quality:	Regularity :	Last visit %: Now %:

Date of Last visit:		Made by whom?	

Contact(s):		Tel:		
		E-mail:		
Date of confirmed visit:		METARs Done:		1 year visit
		Warnings only received:		3 years

Visit:

1.	AERODROME DETAILS		
•	Name/s of 'audit guide':		
•	Aerodrome owner:		
•	Aerodrome operator:		
•	Who is responsible for: i) ATS?		
•	ii) Met obs:		
•	iii) Met docs:		
•	'Parent' Met Office:		
•	i) Operational hours: ii) Any extensions? iii) Observation Hours		
•	ANY **'PUBLIC TRANSPORT flights?**		
•	Runway Type	i) Instrumented?	ii) Non - Instrumented
•	Type of Approach if instrumented	i) non-precision and type etc.	

2.	OBSERVERS	
•	**Site Specific Competency Checking (Appendix A) – Competency of Observers**	
•	Is there Site Specific Competency Checking?	
•	If NO:	Point out Appendix A, para. 8
•	If YES: i) How Often?	
•	ii) Details of Competency Programme	

3. OBSERVATIONS (Before visit, check METAR regularity and quality).					
•	Observation position good?				
•	Access to balcony?				
•	When undertaken e.g. 24hr?				
•	How frequently? (public transport 30mins)				
•	Daily Register used?	Yes/No Only for training/back-up? This document is for the manual recording of actual Met Obs			
•	**If YES**…… Neat & tidy?				
•	Coding ok?				
•	Corrections listed?				
•	New books required?				
•	Any for archiving?				
•	If NO how are Obs composed & recorded				
•	AUTO METARs?				
•	**Ob distribution**	i) Within aerodrome:			
•	(only if certificated)	ii) Outside aerodrome:			
•		iii) ATIS?	VOLMET?	Auto phone message?	Phone/RT?
•	**Special Reports done?**	• If Yes, are criteria up to date? • Passed to forecaster? HOW?			
•	Aware of aircraft accident Observations?				
•	Runway State groups done?	• Who does them?			
•	**Coding Guidance**	• Availability and version? This details all of the abbreviations which the can be used on Met reports. • Other:			
•	**Emergency Met location?**	• Mark location on AIP map • Met Equipment: • Comms (Staff instructions)?			

4. INSTRUMENTS: **********MARK ALL EXTERIOR SENSORS ON ICAO CHART*********

4.1 PRESSURE

Conv. Metres to Feet: x 3.28084 Feet to Metres: x 0.3048 1mb = 28.5 ft or 8.68 metres

		Primary	Contingency 1	Contingency 2
•	Type and make:			
•	Location of SENSORS			
•	SERIAL NUMBERS			
•	WHEN LAST CALIBRATED			
•	Correction Factors available?			
•	Is QNH available to 1/10th of a Millibar?			
•	Cross-check procedures in force? (Daily?)			
•	Regional QNHs used?			

ON SITE Comparisons to be +/- 0.5mb or better. Values used: As Read/QNH?

TIME (Local)	**Met Office Check PPI**	Station:	Back-up:		

4.2 WIND		Primary	Contingency
•	TYPE of intrument/s: LAST CALIB:		
•	Location ANEMO/s (show METAR anemo)		
•	Exposure quality?		
•	Sensor height? (If METAR sensor at 7 m or below or above 13 m; is a correction applied?)		
•	**Dedicated METAR anemo?**		
•	Read out dials? Digital readouts?		
•	Inst./2min/10 min means?		
•	Are 10min means used for METAR?		
•	Gusts/lulls/dir vars		
•	Back ups?	• Windsocks? • hand held anemo?	
•	DO CORRELATION CHECK WITH WIND SOCKS:		

4.3 CLOUD		
•	Ceilometer Avbl?	TYPE: SENSOR LOCATION:
•	RANGE:	
•	If no ceilometer, How?	
•	Local feature heights annotated on VIS list?	• Check heights are referenced to official AD level.
•	Balloons/Searchlight?	
•	Cloud recognition info avbl?	

4.3 TEMPERATURE		Primary	Contingency
•	Enclosure/Instr./Screen condition/exposure:		
•	Location of thermometer SENSORS?		
•	ElectroResistanceThermometer/Humidity sensor/ Mercury?		
	i) Wet bulb or humidity sensor?		
	ii) If Wet bulb – how often is muslin changed?		
	iii) Aware of procedure when freezing?		
•	Humidity slide rule or conversion tables avbl?		
•	State of screen: Clean, position, exposure?		
•	Routine cross-checks?		

On site temp comparisons (to be WITHIN 1.0˚).

TIME	**M/O Check Thermometer**	Station	Back-up	

4.4 VISIBILITY		
•	Visiometer avbl?	Type:
•	Visometer Location?	
•	Vis Points List/Photo/Map?	
•	Vis list RANGE?	
•	iii) Vis ref. points lit at night?	
•	RVR/IRVR avbl?	
•	If HUMAN assessed WHO does them?	
•	Vis points related to any back-up VCR?	

4.5 OTHER (Airport Equipment)		
•	Present weather sensor?	Type:
•	Present weather Location?	
•	Any other Met Instrumentation ?	
•	Location ?	

5. COMMUNICATIONS (used to receive/send MET INFO)			
•	FAX numbers?	VCR:	FBU:
•	OPMET?	VCR:	FBU:
•	i) AFTN (send/receive?)	VCR:	FBU:
•	ii) letter designator:	VCR:	FBU:
•	Telephone numbers:	VCR:	FBU:
•	Internet Access?	VCR:	FBU:
•	Other Met comms facilities:		
•	Dial UP ATIS	Y/N	No:
•	Is Local Wx displayed on a web site?	Y/N	URL:

6. **DOCUMENTATION** (Received in FBU/ATC) What is on display? Are they legible & up to date?			
•	Where are Flight Briefings carried out?	ATC:	FBU:
•	ATC: What is displayed?	Local actual Local TAF Local Wx Warnings MWCR MWCB Charts METAR bulletins TAF bulletins SIGMETs Long haul OTHER:	
•	Up to date? Legible?		
•	How recvd (Metfax, phone, OPMET, INTERNET	Alphanumeric: Charts:	
•	FBU Location?		
•	FBU: What is displayed?	Local actual Local TAF Local Wx Warnings MWCR MWCB Charts METAR bulletins TAF bulletins SIGMETs Long haul OTHER:	
•	Up to date? Legible?		
•	How recvd (Metfax, phone, OPMET, INTERNET	Alphanumeric: Charts:	
•	**WARNINGS & TAFS:**		
•	i) How received from Met Office?	ATC:	FBU:
•	ii) How distributed within aerodrome?	ATC:	FBU:
•	iii) Any changes required to scope of times (UTC)?	ATC:	FBU:
•	TAF/ METAR decode avbl?	ATC:	FBU:

7. **OPERATORS** (Destinations & resident flying clubs/schools)
If completed, refer to questionnaire. Otherwise make note:

8. DISCUSSIONS		
Topics discussed: •		
•	CI AIP GEN Section Table 3.5.3.	

•	CI AIP AD 2.11 ok?	
•	Problems/queries from management/users?	
•	Report forwarding details:	Name: Position: Tel: Fax: E-mail:

9. FOLLOW UP ACTIONS

•

Appendix A - Competency of Observers

1. The observer shall be required to demonstrate competence in all aspects of meteorological observing under normal working conditions.
2. Table 1 shows all of the competencies that an observer may be required to demonstrate. The specific competencies required will be dependent on the aerodrome, type of meteorological observing equipment used and level of instrument equipage.
3. Consideration shall be given, in particular, to the observing and coding and any supplementary information required to be provided with relatively rare weather events, such as thunderstorms or snow, as well as observing backup procedures.
4. Table 2 provides additional areas that it may be desirable for an observer to have knowledge or awareness of; however this does not form part of the competence assessment.
5. Every accredited observer should be assessed on an annual basis by the Manager, or other nominated person, of the Aerodrome Met Observing Service Provider to ensure the observer's ongoing competence.
6. A record of observer competency checks shall be kept for a minimum of 12 months.
7. Observers' continued competence may also benefit from one or more of the following:

    a) The Manager, or other nominated person, of the Aerodrome Met Observing Service Provider, who assesses observer competence should periodically attend a met refresher training course to ensure that they are up to date on the latest coding requirements and observing techniques.
    b) The Aerodrome Met Observing Service Provider arranges for periodic met refresher training for all staff.
    c) Aerodrome Met Observing Service Provider staff attend a met refresher training course, on a rolling basis. As a guide, staff should attend at least once every five years.
    d) The Aerodrome Met Observing Service Provider arranges for an on site competency assessment of observers by a CAA-approved assessor.

Table 1 - Meterological Observing Competencies

Element	Tasks	Competence Assessment
Wind	1. Assess mean and gust wind speeds and direction from wind display systems including significant variations	Correctly obtain mean and extreme wind speed and direction values as required
	2. Encode wind data	Correctly encode wind data as required.
Visibility	1. Estimate the visibility	Accurately estimate visibilty using visibility points
	2. Encode visibility data	Correctly encode visibility data as required

Element	Tasks	Competence Assessment
Runway Visual Range	1. Obtain runway visual range from either human observed RVR conversion tables or using IRVR system	Correctly obtain runway visual range information as required
	2. Encode runway visual data	Correctly encode runway visual data as required
Weather	1. Recognise and record the weather types and intensities that make up the Present and Recent weather codes used in advance	Identify variations in weather types, intensities and persistence. This may be checked using exercises and observing simulations
	2. Encode weather data	Correctly encode weather data required
Cloud	1. Recognise and name cloud types relevant to METAR reports	Correctly identify all cloud types observed relevant to METARs
	2. Estimate cloud amount, total and layers	Accurately estimate cloud amount in each layer ±1 okta
	3. Estimate cloud heights	Accurately read thermometry ±30% if not using a ceilometers
	4. Encode cloud data	Correctly encode temperature data as required
Temperature	1. Read the various types of thermometers available	Accurately read thermometry to ±0.1ºC
	2. Encode temperature data	Correctly encode temperature data as required
Pressure	1. Read pressure sensors and apply instrument and pressure level corrections for QNH	Correctly read pressure sensors and apply instrument and pressure level corrections as required
Night Observations	1. Demonstrate the ability to observe during hours of darkness	Estimate cloud detail, weather conditions and visibility to an acceptable level of accuracy
To complete all observations, and on time	1. To have all the routine observations coded up in METAR format on time	Ensure routine observations are completed within the specified time limits of:
	2. To report and record all applicable special reports	T+50 begin no earlier than T+40, complete METAR by T+55 T+20 begin no earlier than T+10, complete METAR by T+25 Ensure specials are made when applicable without delay and recorded appropriately

Table 2 - Desirable additional areas of awareness and knowledge for observer

Area	Detail
Knowledge of Definitions	Observation. Aeronautical meterological report. Visibility, prevailing and minimum. Runway Visual ranges. Altitude, height, aerodrome elevation. Landing forecast (trend), aerodrome forecast, SIGMET.
Meterological observing systems	Limitations of sensors and algorithms used to determine the 'visual' elements of visibilty, present weather, cloud amount and cloud base height.
Dissemination of weather information	Knowledge of procedures for dissemination of weather information at the aerodrome. Elementary understanding of the general organisation of aeronautical telecommunications.
Supplementary information provided in METAR and local reports	Runway state report, aircraft icing and turbulence. Wind shear.
Meterological aspects of flight planning	Meterological basis for pressure-pattern flying; weather and aerodrome forecasts. Interpretation of area, route and terminal forecasts.
ATS Familiarity	Familiarity with special requirements relating to Category II and III operations particularly in respect of runway visual range and cloud base information and any other specific local requirements by aeronautical users for meterological information.
Operation of aircraft	Flight planning. Altimeter setting procedures, standard atmosphere. Effects of various weather phenomena on aeronautical operations and on aerodrome ground services.